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KEC

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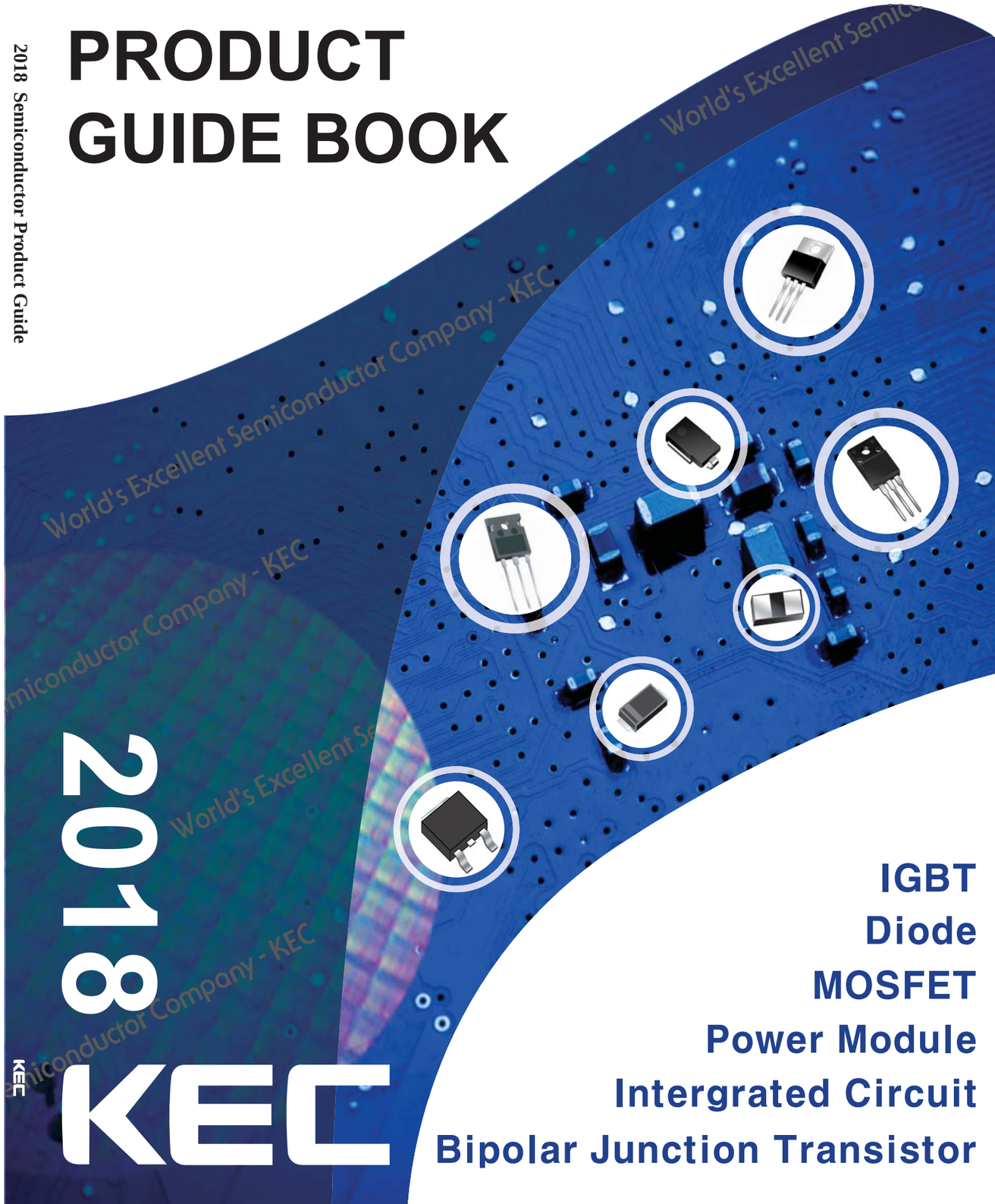
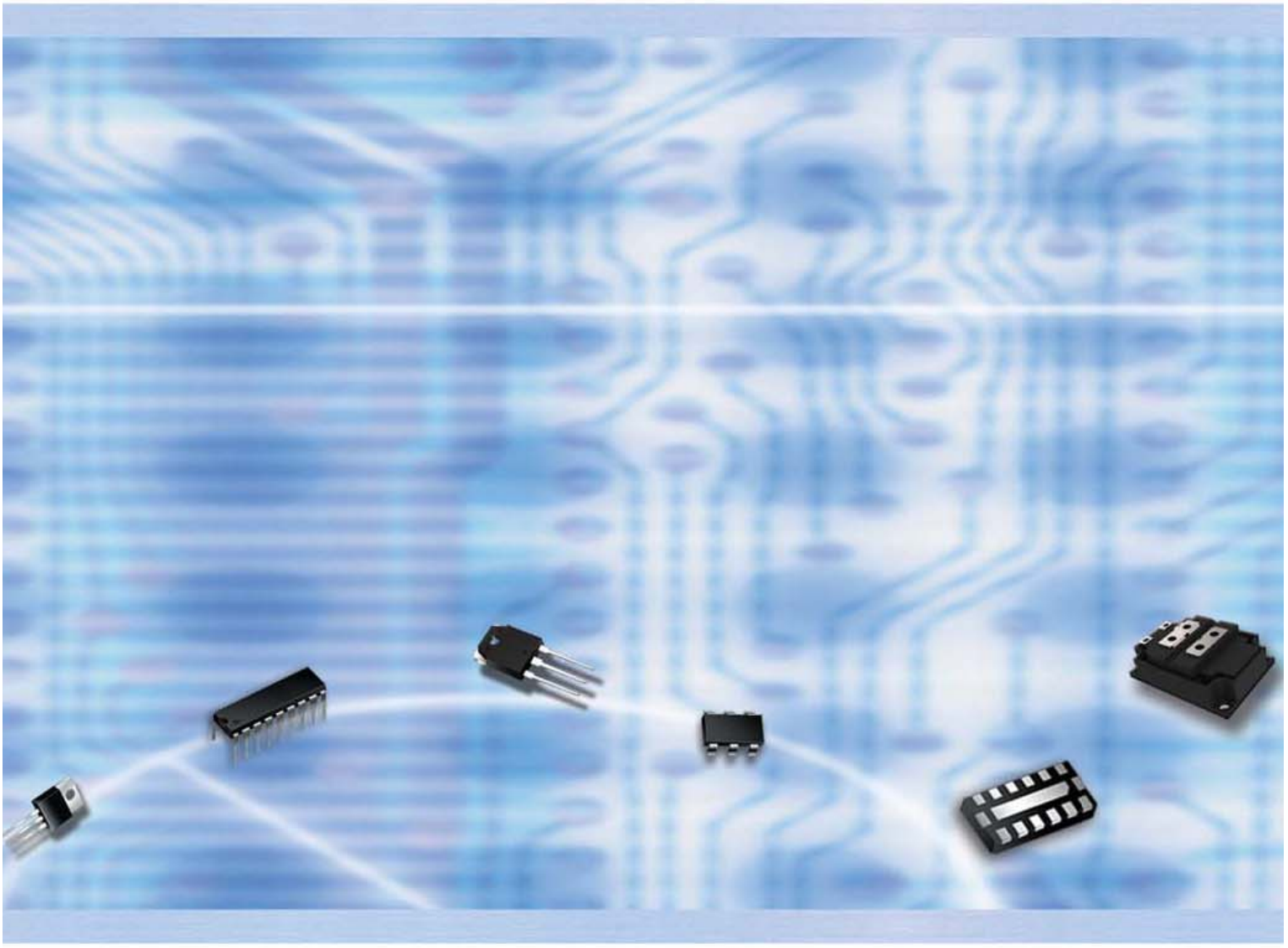
2018 Semiconductor Product Guide

SEMICONDUCTOR PRODUCT GUIDE BOOK





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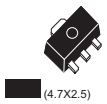
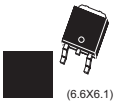
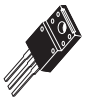
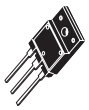
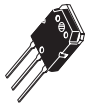
PNP Transistor(V_{CEO} : -12V ~ -65V)

V_{CEO}	I_C	VSM (Unit: mm) (1.2 X0.8)	ESM (1.60X0.85)	TESV (1.6 X1.2)	TES6 (1.6 X1.2)	USM (2.0X1.25)	USV (2.0X1.25)	US6 (2.0X1.25)	TSM (2.9X1.6)	TSV (2.9X1.6)	TS6 (2.9X1.6)	SOT-23 (2.93X1.3)
-12V	-500mA		KTA2012E					KTX321U KTX213U				
	-1.5A					KTA1532U						
-20V	-200mA	KTA2013V										
	-1A								KTA1531T			
	-1.5A								KTA1532T			
	-3A								KTA1535T			
	-5A								KTA1536T			
-25V	-1.5A											MPS8550S
-30V	-100mA											
	-500mA					KTA2015					KTX111T	KTA1505S KTC9012S MMBTA63
	-800mA											KTA1298 KTC8550S
	-1.5A											
	-2A								KTA1544T			
	-3A								KTA1542T			
-40V	-200mA											KN3906S 2N3906S
	-600mA											KN4403S
-45V	-100mA					BC857W						BC857 BC860
	-200mA											
	-800mA											BC807
-50V	-150mA	KTA2014V	KTA2014E		KTX101E KTX102E KTA701E	KTA2014		KTA701U KTA711U KTA712U KTX101U				KTA1504S KTC9015S
	-500mA											
	-1A								KTA1551T			
	-2A											
	-3A								KTA1552T			
-60V	-600mA					KTN2907AU						KTN2907AS
	-1A											
	-3A											
	-5A											
-65V	-100mA											BC856

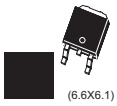
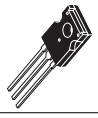
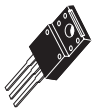
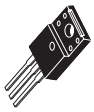
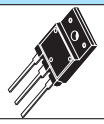
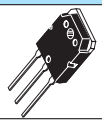
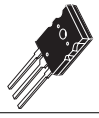
PNP Transistor(V_{CEO} : -12V ~ -65V)

SOT-89	DPAK	TO-92	TO-92L	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)
 (4.7X2.5)	 (6.6X6.1)						
KTA1001							
	KTA1242D		KTA1241				
		BC558					
		KTA1270					
KTA1664		KTA1271					
KTA1663							
		KTA1282	KTA1273				
				KTB772	KTA1658		
		2N3906					
		KN4402 KN4403					
		BC557					
		KTA539					
		BC327					
		KTA1266					
		KTA200					
KTA1666	KTA1718D		KTA1281	KTA1715			
KTB1124			KTB985				
		KN2907A KTN2907A					
KTA1668		MPS751					
	KTA1040D				KTA1046 KTB1366 KTB1424		
	KTA1385D			KTB1151			
		BC556					

PNP Transistor(V_{CEO} : -80V~ -600V)

V_{CEO}	I_C	VSM (Unit: mm) (1.2 X0.8)	ESM (1.60X0.85)	TESV (1.6 X1.2)	TES6 (1.6 X1.2)	USM (2.0X1.25)	USV (2.0X1.25)	US6 (2.0X1.25)	TSM (2.9X1.6)	TS6 (2.9X1.6)	SOT-23 (2.93X1.3)	SOT-89 (4.7X2.5)
-80V	-400mA											KTA1662
	-500mA									KTX711T	MMBTA56	
	-1A											KTB1260
	-4A											
	-7A											
-100V	-1A											
	-2A											
	-3A											
	-5A											
	-6A											
	-25A											
-120V	-800mA											KTA1661
	-1A											
	-1.2A											
	-5A											
	-10A											
-140V	-10A											
	-12A											
-150V	-50mA											
	-600mA										2N5401S	
	10A											
-160V	-1A											
	-1.5A											
-180V	-1.5A											
	-2A											
-230V	-1A											
	-15A											
-250V	-50mA											
-300V	-50mA											
	-100mA											
	-500mA										MMBTA92	
-400V	-100mA											
	-500mA											
	-2A											
-600V	-1A											

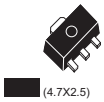
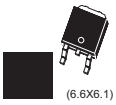
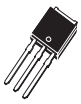
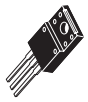
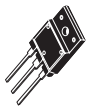
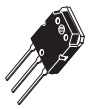
PNP Transistor(V_{CEO} : -80V~ -600V)

DPAK	TO-92	TO-92L	TO-126	TO-220IS	TO-220IS(1)	TO-3P(H)IS	TO-3P(N)	TO-3P(L)
 (6.6X6.1)								
		KTA1274						
				KTB1368				
				KTB1370				
		KTA1572						
		KTB2234		TIP32CF				
				TIP32CF				
KTA1042D				KTA1049 KTB1367	KTA1050			
				TIP42CF				
							TIP36C	
		KTA1023						
KTA1045D			KTB631K					
			KTA1704					
				KTB1423				
						KTB778	KTB688	
							KTA1695A	
							KTB817	
		KTA1024	KTA1360					
	2N5401C							
							KTB2530	
KTA1225D		KTA1275						
			KTA1700	KTA1659				
				KTA1659A				
				KTB1369				
				KTA1837				
							KTA1962A	KTA1943N
	BF423					KTA1943		
	BF421							
			KTA1381					
	MPSA92							
		KTA1277	KTA1703					
KTA1862D								
			KTA1807A					

NPN Transistor (V_{CEO} : 10V ~ 30V)

V_{CEO}	I_C	VSM (Unit: mm) (1.2 X0.8)	ESM (1.60X0.85)	TESV (1.6 X1.2)	TES6 (1.6 X1.2)	USM (2.0X1.25)	USV (2.0X1.25)	US6 (2.0X1.25)	TSM (2.9X1.6)	TSV (2.9X1.6)	TS6 (2.9X1.6)
11V	500mA		KTC4072E		KTC802E						
20V	200mA	KTC4074V									
	300mA							KTC814U			KTC812T
	1A								KTC3531T		
	1.5A								KTC3532T		
	3A								KTC3535T		
	5A										
25V	1.5A										
30V	100mA										
	400mA										
	500mA					KTC4076				KTC611T	KTC811T KTX111T
	800mA										
	1.5A										
	2A								KTC3544T		
	3A								KTC3542T		

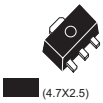
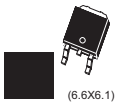
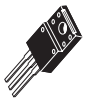
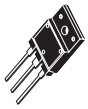
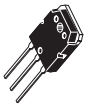
NPN Transistor (V_{CEO} : 10V ~ 30V)

SOT-23	SOT-89	DPAK	TO-92	TO-92L	IPAK(1)	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)
(2.93X1.3)	 (4.7X2.5)	 (6.6X6.1)							
KTC2875 KTD1304			KTC2874 KTD1302						
		KTC3072D							
MPS8050S									
BC848			BC548 BC549						
MMBTA517									
KTC3876S KTC9013S MMBTA13			BC517 KTC3202						
KTC3265 KTC8050S	KTC4376		KTC3203						
	KTC4375								
			KTC3210	KTC3205					
						KTD882	KTC4369		

NPN Transistor (V_{CEO} : 40V ~ 100V)

V_{CEO}	I_C	VSM (Unit: mm) (1.2 X0.8)	ESM (1.60X0.85)	TESV (1.6 X1.2)	TES6 (1.6 X1.2)	USM (2.0X1.25)	USV (2.0X1.25)	US6 (2.0X1.25)	TSM (2.9X1.6)	TSV (2.9X1.6)	TS6 (2.9X1.6)
40V	200mA				2N2904E						
	600mA					KTN2222AU					
	2A										
45V	100mA					BC847W					
	200mA										
	500mA										
	800mA										
50V	150mA	KTC4075V	KTC4075E	KTX401E KTC601E	KTC801E KTC811E KTC812E KTX101E KTX102E	KTC4075 KTC4666	KTX402U	KTC801U KTC811U KTC812U KTX101U			
	1A								KTC3551T		
	2A										
	3A								KTC3552T		
60V	1A										
	3A										
	4A										
	5A										
65V	100mA										
80V	400mA										
	500mA										KTX811T
	1A										
	3A										
	4A										
	5A										
	8A										
100V	1A										
	2A										
	3A										
	5A										
	6A										
	7A										
	25A										

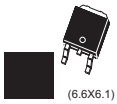
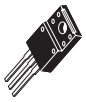
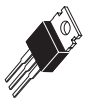
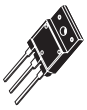
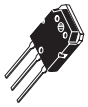
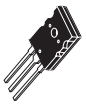
NPN Transistor (V_{CEO} : 40V ~ 100V)

SOT-23	SOT-89	DPAK	TO-92	TO-92L	TO-126	TO-220IS	TO-3P(H)IS	TO-3P(N)
(2.93X1.3)	 (4.7X2.5)	 (6.6X6.1)						
KN3904S 2N3904S			KN3904 2N3904					
KTN2222AS KN4401S			KN2222A KN4401 KTN2222A					
					KTC3964			
BC847 BC850			BC547					
			KTC815					
			KTC200					
BC817			BC337					
KTC3295 KTC3875S KTC9014S			KTC3112 KTC3198		KTC3114			
	KTD1003			KTD1028				
	KTC4379	KTC2815D		KTC3209	KTC2814			
	KTD1624			KTD1347				
	KTC4378		MPS651 KTC1008	KTD863				
		KTC2020D KTC2825D KTC2030D				KTC2026 KTD2058 KTD2424 KTC2036		
					KTD1411	KTC1003		
		KTC5103D			KTD1691			
BC846			BC546					
	KTC4374			KTC3227				
MMBTA06								
	KTD1898			KTD1863 KTC1006				
						KTD2092		
						KTD1414 KTD2060 KTC2027		
						KTD2066		
						KTD1937		
	KTC3573			KTC3572				
		MJD112 MJD117		KTD2854				
						TIP31CF		
		KTC2022D				KTC2028 KTD1413 KTD2059		
						TIP41CF		
						KTD1415		
								TIP35C

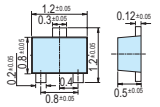
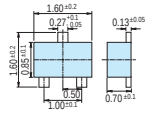
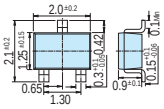
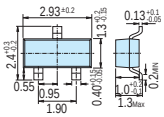
NPN Transistor (V_{CEO} : 120V ~ 800V)

V_{CEO}	Ic	VSM (Unit: mm) (1.2 X0.8)	ESM (1.60X0.85)	TESV (1.6 X1.2)	TES6 (1.6 X1.2)	USM (2.0X1.25)	USV (2.0X1.25)	US6 (2.0X1.25)	TSM (2.9X1.6)	TS6 (2.9X1.6)	SOT-23 (2.93X1.3)	SOT-89 (4.7X2.5)
120V	800mA											KTC4373
	1A											
	1.2A											
	10A											
140V	10A											
	12A											
150V	50mA											
	10A											
160V	600mA										2N5551S	
	1A											KTC4380
	1.5A											
180V	1.5A											
	2A											
230V	1A											
	15A											
250V	50mA											
300V	50mA											
	100mA								KTC3207T			
	200mA											
	500mA										MMBTA42	
400V	300mA										MMBTA44	PXTA44
	1.5A											
	5A											
	8A											
	12A											
530V	1.5A											
800V	3A											

NPN Transistor (V_{CEO} : 120V ~ 800V)

DPAK	TO-92	TO-92L	TO-126	TO-220IS	TO-220AB	TO-3P(H)IS	TO-3P(N)	TP-3P(L)
 (6.6X6.1)								
		KTC1027						
KTC2025D			KTD600K					
			KTC2803					
						KTD998	KTD718	
							KTC4468	
							KTD1047	
		KTC3206	KTC3423					
							KTD1530	
	2N5551 2N5551C							
		KTC3228						
KTC2983D			KTC2800	KTC4370				
				KTC4370A				
				KTD2061				
				KTC4793				
							KTC5242A KTC5200N	KTC5200
	BF422							
	BF420							
		KTC3207	KTC3503	KTC3229				
			KTC4217					
	MPSA42							
	MPSA44							
	KTC3003		MJE13003	MJE13005DF				
					MJE13005D			
				MJE13007F				
	KTC3003HV							
				KTC5027F				

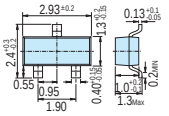
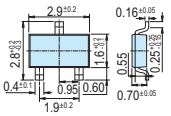
▣ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTA2013V	U□	◑	KTC4074V	T□	-20	-200	100	120	400	-5	-2	-0.3	-100	-10	80	-	-10	-1	VSM	
KTA2014V	S□	◑	KTC4075V	L□	-50	-150	100	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4074V	T□	◑	KTA2013V	U□	20	200	100	120	400	5	2	0.25	100	10	80	-	10	1		
KTC4075V	L□	◑	KTA2014V	S□	50	150	100	70	700	10	1	0.25	100	10	80	-	10	1		
KTA2012E	SZ	○	KTC4072E	LZ	-12	-500	100	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10	ESM	
KTA2014E	S□	○	KTC4075E	L□	-50	-150	100	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4072E	LZ	◑	KTA2012E	SZ	12	500	100	270	680	2	10	0.25	200	10	-	320	2	10		
KTC4075E	L□	○	KTA2014E	S□	50	150	100	70	700	6	2	0.25	100	10	80	-	10	1		
KTA2015	Z□	○	KTC4076	W□	-30	-500	100	70	240	-1	-100	-0.25	-100	-10	-	200	-6	-20	USM	
BC857W	3□	◑	BC847W	1□	-45	-100	100	125	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
KTA2014	S□	○	KTC4075	L□	-50	-150	100	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC4076	W□	○	KTA2015	Z□	30	500	100	70	240	1	100	0.25	100	10	-	300	6	20		
BC847W	1□	◑	BC857W	3□	45	100	100	110	800	5	2	0.6	100	5	-	300	5	10		
KTC4075	L□	○	KTA2014	S□	50	150	100	70	700	6	2	0.25	100	10	80	-	10	1		
KTC9012S	BB□	◑	KTC9013S	BC□	-30	-500	※350	96	246	-1	-50	-0.25	-100	-10	150	-	-6	-20	SOT-23	
KTA1505S	AZ□	○	KTC3876S	W□	-30	-500	150	70	400	-1	-100	-0.25	-100	-10	-	200	-6	-20		
KTC8550S	BL□	◑	KTC8050S	BK□	-30	-800	※350	100	300	-1	-50	-0.5	-500	-50	-	120	-5	-10		
KTA1298	I□	○	KTC3265	E□	-30	-800	200	100	320	-1	-100	-0.4	-500	-20	-	120	-5	-10		
KTC9015S	BE□	◑	KTC9014S	BD□	-50	-150	※350	100	600	-5	-1	-0.3	-100	-10	60	-	-10	-1		
KTA1504S	AS□	○	KTC3875S	AL□	-50	-150	150	70	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC3876S	W□	○	KTA1505S	AZ□	30	500	150	70	400	1	100	0.25	100	10	-	300	6	20		
KTC9013S	BC□	◑	KTC9012S	BB□	30	500	※350	96	246	1	50	0.25	100	10	140	-	6	20		
KTC3265	E□	○	KTA1298	I□	30	800	200	100	320	1	100	0.5	500	20	-	120	5	10		
KTC8050S	BK□	◑	KTC8550S	BL□	30	800	※350	100	300	1	50	0.5	500	20	-	120	5	10		
KTC3875S	AL□	○	KTA1504S	AS□	50	150	150	70	700	6	2	0.25	100	10	80	-	10	1		
KTC9014S	BD□	◑	KTC9015S	BE□	50	150	※350	100	1000	5	1	0.25	100	10	60	-	10	1		

Note) ※ : Package Mounted on 99.5% Alumina 10×8×0.6㎜, □ : h_{FE} Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

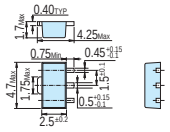
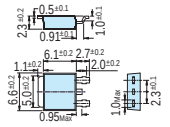
▣ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)					Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	Max.	V_{CE} (V)	I_C (mA)		
MPS8550S	**BJ□**	○	MPS8050S	BH□	-25	-1500	※350	85	300	-1	-100	-0.5	-800	-80	100	200	-	-10	-50	SOT-23	
KN3906S	**ZAA**	◑	KN3904S	ZCA	-40	-200	※350	60	-	-1	-0.1	-0.4	-50	-5	-	250	-	-20	-10		
KN4403S	**ZWA**	◑	KN4401S	ZUA	-40	-600	※350	30	-	-1	-0.1	-0.75	-500	-50	200	-	-	-10	-20		
BC860	**4□**	◑	BC850	2□	-45	-100	※350	125	475	-5	-2	-0.65	-100	-5	-	150	-	-5	-10		
BC857	**3□**	◑	BC847	1□	-45	-100	※350	125	800	-5	-2	-0.65	-100	-5	-	150	-	-5	-10		
BC807	**5□**	○	BC817	6□	-45	-800	※350	100	630	-1	-100	-0.7	-500	-50	80	-	-	-5	-10		
BC856	**3□**	○	BC846	1□	-65	-100	※350	125	475	-5	-2	-0.65	-100	-5	-	150	-	-5	-10		
MMBTA56	**ANX**	○	MMBTA06	ADX	-80	-500	※350	100	-	-1	-10	-0.25	-100	-10	50	-	-	-1	-100		
2N5401S	**ZE**	◑	-	-	-150	-600	※350	60	240	-5	-10	-0.5	-50	-5	100	-	300	-10	-10		
MMBTA92	**YV**	○	MMBTA42	AAX	-300	-500	※350	40	-	-10	-10	-0.5	-20	-2	50	-	-	-20	-10		
MPS8050S	**BH□**	◑	MPS8550S	BJ□	25	1500	※350	85	300	1	100	0.5	800	80	100	190	-	10	50		
BC848	**1□**	○	-	3□	30	100	※350	110	800	5	2	0.6	100	5	-	300	-	5	10		
KN3904S	**ZCA**	○	KN3906S	ZAA	40	200	※350	40	-	1	0.1	0.3	50	5	-	300	-	20	10		
KN4401S	**ZUA**	◑	KN4403S	ZWA	40	600	※350	20	-	1	0.1	0.75	500	50	250	-	-	10	20		
BC847	**1□**	○	BC857	3□	45	100	※350	110	800	5	2	0.6	100	5	-	300	-	5	10		
BC850	**2□**	◑	BC860	4□	45	100	※350	200	800	5	2	0.6	100	5	-	300	-	5	10		
BC817	**6□**	○	BC807	5□	45	800	※350	100	630	1	100	0.7	500	50	100	-	-	5	10		
BC846	**1□**	○	BC856	3□	65	100	※350	110	450	5	2	0.6	100	5	-	300	-	5	10		
MMBTA06	**ADX**	○	MMBTA56	ANX	80	500	※350	100	-	1	10	0.25	100	10	100	-	-	2	10		
2N5551S	**ZF**	◑	-	-	160	600	※350	80	250	5	10	0.2	50	5	100	-	300	10	10		
MMBTA42	**AAX**	○	MMBTA92	YV	300	500	※350	40	-	10	10	0.5	20	2	50	-	-	20	10		
MMBTA44	**APX**	◑	-	-	400	300	※350	50	200	10	10	0.5	10	1	20	-	-	10	10		
KTC3207T	**LX□**	◑	KTA1073T	SX□	300	100	900▲	50	150	10	20	1	10	1	50	-	-	10	20	TSM	

Note) ※ : Package Mounted on 99.5% Alumina 10× 8× 0.6mm, ▲ : Package mounted on a ceramic board (600mm²×0.8mm), □ : h_{FE} Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

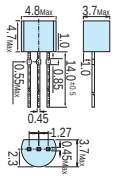
▣ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)					Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (A)	P_C (W)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	Max.	V_{CE} (V)	I_C (mA)		
KTA1664	R□	○	KTC4376	P□	-30	-0.8	1@	100	320	-1	-100	-0.7	-500	-20	-	120		-5	-10	SOT-89	
KTA1663	H□	○	KTC4375	G□	-30	-1.5	1@	100	320	-2	-500	-2	-1.5A	-30	-	120		-2	-500		
KTA1668	J□	○	KTC4378	T□	-60	-1	1@	60	200	-2	-50	-0.7	-500	-50	-	150		-10	-50		
KTA1662	F□	○	KTC4374	E□	-80	-0.4	1@	70	240	-2	-50	-0.4	-200	-20	-	120		-10	-10		
KTB1260	Q□	○	KTD1898	Z□	-80	-1	1@	70	400	-3	-100	-0.4	-500	-50	-	100		-5	-50		
KTA1661	D□	○	KTC4373	C□	-120	-0.8	1@	80	240	-5	-100	-1	-500	-50	-	120	-5	-100			
KTA1759	AA□	◑	-	-	-400	-0.1	1@	50	300	-10	-10	-0.5	-20	-2	-	-	-	-	-		
KTC4376	P□	○	KTA1664	R□	30	0.8	1@	100	320	1	100	0.5	500	20	-	120		5	10		
KTC4375	G□	○	KTA1663	H□	30	1.5	1@	100	320	2	500	2	1.5A	30	-	120		2	500		
KTC4378	T□	○	KTA1668	J□	60	1	1@	100	320	2	50	0.5	500	50	-	150		10	50		
KTC4374	E□	○	KTA1662	F□	80	0.4	1@	70	240	2	50	0.4	200	20	-	100		10	10		
KTD1898	Z□	○	KTB1260	Q□	80	1	1@	70	400	3	500	0.4	500	20	-	100		10	50		
KTC4373	C□	○	KTA1661	D□	120	0.8	1@	80	240	5	100	1	500	50	-	120	-	5	100		
KTC4380	G2	◑	-	-	160	1	1@	160	320	5	200	1.5	500	50	-	100	-	5	200		
PXTA44	AP	◑	-	-	400	0.3	1@	50	200	10	10	0.5	10	1	-	-	-	-	-		
KTA1242D	-	◑	-	-	-20	-5	1★	100	320	-2	-500	-0.5	-3A	-75	-	170	-	-2	-500	DPAK	
KTA1040D	-	○	KTC2020D	-	-60	-3	1★	100	300	-5	-500	-1.0	-2A	-200	-	30	-	-5	-500		
KTA1042D	-	○	KTC2022D	-	-100	-5	-	70	240	-5	-1000	-2.0	-4A	-400	-	30	-	-5	-1A		
KTA1045D	-	◑	KTC2025D	-	-120	-1	1★	100	320	-5	-50	-0.4	-500	-50	-	110	-	-10	-50		
KTA1225D	-	◑	KTC2983D	-	-160	-1.5	1★	70	240	-5	-100	-1.5	-500	-50	-	100	-	-10	-100		
KTC3072D	-	◑	-	-	20	5	1★	120	700	2	500	0.4	3A	60	-	100	-	6	50		
KTC2020D	-	○	KTA1040D	-	60	3	1★	100	300	5	500	1.0	2A	200	-	30	-	5	500		
KTC2030D	-	◑	-	-	60	3	1★	150	250	5	500	1.0	2A	200	-	30	-	5	500		
KTC2825D	-	◑	-	-	60	3	1★	200	400	2	100	0.5	2A	100	-	150	-	10	50		
KTC2022D	-	◑	KTA1042D	-	100	5	-	70	240	5	1000	2.0	4A	400	-	30	-	5	1A		
KTC2025D	-	◑	KTA1045D	-	120	1	1★	100	320	5	50	0.4	500	50	-	130	-	10	50		
KTC2983D	-	◑	KTA1225D	-	160	1.5	1★	70	240	5	-	1.5	500	50	-	100	-	10	100		

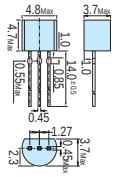
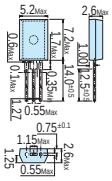
Note) @: Package Mounted on Ceramic Substrate (250mm²×0.8t), ★ : Ta=25℃, □ : hFE Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

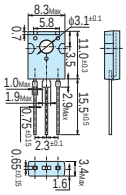
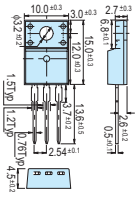
▣ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
BC558	-	BC548	-30	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10	TO-92	
KN4403	-	KN4401	-40	-600	625	30	-	-1	-0.1	-0.4	-150	-15	200	-	-10	-20		
BC557	-	BC547	-45	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC327	-	BC337	-45	-800	625	100	630	-1	-100	-0.7	-500	-50	-	100	-5	-10		
KN2907A	-	KN2222A	-60	-600	625	75	-	-10	-0.1	-0.4	-150	-15	200	-	-20	-50		
MPS751	-	MPS651	-60	-1A	625	60	200	-2	-50	-0.7	-500	-50	-	150	-10	-50		
BC556	-	BC546	-65	-100	625	110	450	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BF423	-	BF422	-250	-50	625	50	-	-20	-25	-0.6	-30	-5	60	-	-10	-10		
BF421	-	BF420	-300	-50	625	50	-	-20	-25	-0.6	-30	-5	60	-	-10	-10		
BC548	-	BC558	30	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC549	-	-	30	100	625	110	800	5	2	0.6	100	5	-	300	5	10		
KN3904	-	-	40	200	625	40	-	1	0.1	0.2	10	1	-	300	20	10		
KN2222A	-	KN2907A	40	600	625	35	-	10	0.1	0.3	150	15	300	-	20	20		
KN4401	-	KN4403	40	600	625	20	-	1	0.1	0.4	150	15	250	-	10	20		
BC547	-	BC557	45	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC337	-	BC327	45	800	625	100	630	1	100	0.7	500	50	-	100	5	10		
MPS651	-	MPS751	60	1A	625	100	320	2	50	0.5	500	50	-	150	10	50		
BC546	-	BC556	65	100	625	110	450	5	2	0.6	100	5	-	150	5	10		
BF422	-	BF423	250	50	625	50	-	20	25	0.6	30	5	60	-	10	10		
BF420	-	BF421	300	50	625	50	-	20	25	0.6	30	5	60	-	10	10		

▣ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)					Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	Max.	V_{CE} (V)	I_C (mA)		
KTA1270	-	KTC3202	-30	-500	625	70	240	-1	-100	-0.25	-100	-10	-	200	-	-6	-20	TO-92	
KTA1271	-	KTC3203	-30	-800	625	100	320	-1	-100	-0.7	-500	-20	-	120	-	-5	-10		
KTA1282	-	KTC3210	-30	-2A	625	100	320	-2	-500	-2	-1.5A	-30	-	120	-	-2	-500		
KTA539	-	KTC815	-45	-200	625	70	240	-1	-50	-0.5	-150	-15	100	-	-	-10	-10		
KTA1266	-	KTC3198	-50	-150	625	70	240	-6	-2	-0.3	-100	-10	80	-	-	-10	-1		
KTA200	-	KTC200	-50	-500	625	70	240	-2	-50	-0.25	-100	-10	-	200	-	-6	-20		
2N5401C	-	-	-150	-600	625	60	240	-5	-10	-0.5	-50	-5	100	-	300	-10	-10		
MPSA92	-	MPSA42	-300	-500	625	40	-	-10	-10	-0.5	-20	-2	50	-	-	-20	-10		
KTC3202	-	KTA1270	30	500	625	70	400	1	100	0.25	100	10	-	300	-	6	20		
KTC3203	-	KTA1271	30	800	625	100	320	1	100	0.5	500	20	-	120	-	5	10		
KTC3210	-	KTA1282	30	2A	625	100	320	2	500	2	1.5A	30	-	120	-	2	500		
KTC815	-	KTA539	45	200	625	70	240	1	50	0.4	150	15	100	-	-	10	10		
KTC200	-	KTA200	45	500	625	70	240	2	50	0.25	100	10	-	300	-	6	20		
KTC3198	-	KTA1266	50	150	625	70	700	6	2	0.25	100	10	80	-	-	10	1		
KTC1008	-	-	60	1A	625	100	320	2	50	0.5	500	50	-	150	-	10	50		
2N5551	-	-	160	600	625	80	250	5	10	0.2	50	5	100	-	300	10	10		
2N5551C	-	-	160	600	625	80	250	5	10	0.2	50	5	100	-	300	10	10		
MPSA42	-	MPSA92	300	500	625	40	-	10	10	0.5	20	2	50	-	-	20	10		
MPSA44	-	-	400	300	625	50	200	10	10	0.5	10	1	-	-	-	-	-		
KTA1273	-	KTC3205	-30	-2A	1W	100	320	-2	-500	-2	-1.5A	-30	-	120	-	-2	-500	TO-92L	
KTA1274	-	KTC3227	-80	-400	1W	70	240	-2	-50	-0.4	-200	-20	-	100	-	-10	-10		
KTA1572	-	KTC3572	-100	-1A	1W	150	450	-5	-500	-0.18	-500	-50	-	100	-	-10	-50		
KTA1023	-	KTC1027	-120	-800	1W	80	240	-5	-100	-1	-500	-50	-	120	-	-5	-100		
KTA1024	-	KTC3206	-150	-50	1W	70	240	-5	-10	-0.8	-10	-1	-	120	-	-30	-10		
KTA1275	-	KTC3228	-160	-1A	1W	60	320	-5	-200	-1.5	-500	-50	15	50	-	-5	-200		
KTA1277	-	-	-400	-500	1W	60	200	-5	-100	-1	-100	-10	-	-	-	-	-		
KTC3205	-	KTA1273	30	2A	1W	100	320	2	500	2	1.5A	30	-	120	-	2	500		
KTD863	-	-	60	1A	1W	60	320	2	50	0.5	500	50	-	150	-	10	50		
KTC3227	-	KTA1274	80	400	1W	70	240	2	50	0.4	200	20	-	100	-	10	10		
KTD1863	-	-	80	1A	1W	70	400	3	500	0.4	500	20	-	100	-	10	50		
KTC3572	-	KTA1572	100	1A	1W	150	500	10	250	0.12	500	20	-	100	-	10	50		
KTC1027	-	KTA1023	120	800	1W	80	240	5	100	1	500	50	-	120	-	5	100		
KTC3206	-	KTA1024	150	50	1W	70	240	5	10	0.5	10	1	-	120	-	30	10		
KTC3228	-	KTA1275	160	1A	1W	60	320	5	200	1.5	500	50	20	100	-	5	200		
KTC3207	-	-	300	100	1W	30	150	10	20	1	10	1	50	-	-	10	20		

▣ General Purpose Transistor

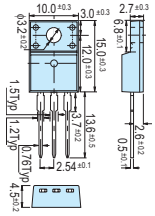
Type No.	AEC-Q	Complementary	Max. Ratings				h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (A)	P_C★ (W)	P_C☆ (W)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTB772	○	KTD882	-30	-3	1.5	10	100	400	-2	-1A	-0.5	-2A	-200	-	80	-5	-100	TO-126	
KTB1151	○	KTD1691	-60	-5	1.5	20	160	400	-1	-2A	-0.3	-2A	-200	-	-	-	-		
KTB631K	○	KTD600K	-120	-1	1.5	8	100	320	-5	-50	-0.4	-500	-50	-	110	-10	-50		
KTA1704	◑	KTC2803	-120	-1.2	1.5	20	100	320	-5	-50	-0.4	-500	-50	-	110	-10	-50		
KTA1360	◑	KTC3423	-150	-0.5	1.5	-	70	240	-5	-10	-0.8	-10	-1	-	120	-30	-10		
KTA1700	◑	KTC2800	-160	-1.5	1.5	10	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTA1381	◑	KTC3503	-300	-0.1	1.5	7	60	200	-10	-10	-0.6	-20	-2	-	150	-30	-10		
KTA1703	◑	-	-400	-0.5	1.5	10	60	200	-5	-100	-1	-100	-10	-	-	-	-		
KTD882	◑	KTB772	30	3	1.5	10	100	400	2	1A	0.5	2A	200	-	90	5	100		
KTD1691	○	KTB1151	60	5	1.5	20	160	400	1	2A	0.3	2A	200	-	-	-	-		
KTD600K	○	KTB631K	120	1	1.5	8	100	320	5	50	0.4	500	50	-	130	10	50		
KTC2803	◑	KTA1704	120	1.2	1.5	20	100	320	5	50	0.4	500	50	-	110	10	50		
KTC3423	◑	KTA1360	150	0.5	1.5	5	70	240	5	10	0.5	10	1	-	120	30	10		
KTC2800	◑	KTA1700	160	1.5	1.5	10	70	240	5	100	1.5	500	50	-	100	10	100		
KTC3503	◑	KTA1381	300	0.1	1.5	7	60	200	10	10	0.6	20	2	-	150	30	10		
KTC4217	◑	-	300	0.2	1.5	10	60	200	10	10	0.6	20	2	-	70	10	10		
KTA1658	◑	KTC4369	-30	-3	-	15	70	240	-2	-500	-0.8	-2A	-200	-	100	-2	-500	TO-220IS	
KTA1046	○	KTC2026	-60	-3	2	25	100	300	-5	-500	-1	-2A	-200	-	30	-5	-500		
KTB1366	○	KTD2058	-60	-3	2	25	60	200	-5	-500	-1	-2A	-200	-	9	-5	-500		
KTB1368	○	KTD2060	-80	-4	-	25	40	240	-5	-500	-1.7	-3A	-300	-	9	-5	-500		
KTB1370	◑	-	-80	-7	-	30	70	240	-1	-1A	-0.5	-4A	-400	-	10	-4	-1A		
KTB1367	◑	KTD2059	-100	-5	-	30	40	240	-5	-1A	-2	-4A	-400	-	5	-5	-1A		
KTA1049	○	KTC2028	-100	-5	-	30	70	240	-5	-1A	-2	-4A	-400	-	30	-5	-1A		
KTC4369	◑	KTA1658	30	3	-	15	70	240	2	500	0.8	2A	200	-	100	2	500		
KTC2026	○	KTA1046	60	3	2	25	100	300	5	500	1	2A	200	-	30	5	500		
KTC2036	◑	-	60	3	2	20	150	250	5	500	1	2A	200	-	30	5	500		
KTD2058	○	KTB1366	60	3	2	25	60	200	5	500	1	2A	200	-	3	5	500		
KTC1006	◑	-	80	0.8	1	100	-	-	2	150	0.7	500	20	-	-	-	-		
KTC2027	◑	-	80	4	-	25	40	240	5	500	1.5	3A	300	-	30	5	500		
KTD2060	○	KTB1368	80	4	-	25	40	240	5	500	1.5	3A	300	-	8	5	500		

Note) ★ : Ta=25℃, ☆ : Tc=25℃

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

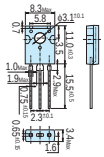
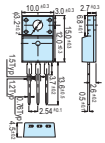
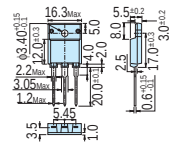
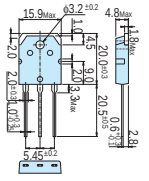
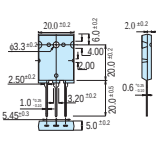
Bipolar Junction Transistor

▣ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (A)	P_C★ (W)	P_C☆ (W)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
TIP32CF	○	TIP31CF	-100	-3	2	25	10	50	-4	-3A	-1.2	-3A	-375	3	-	-10	-500	TO-220IS	
TIP42CF	◑	TIP41CF	-100	-6	2	25	15	75	-4	-3A	-1.5	-6A	-600	3	-	-10	-500		
KTA1659	◑	KTC4370	-160	-1.5	-	20	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTA1659A	◑	KTC4370A	-180	-1.5	-	20	70	240	-5	-100	-1.5	-500	-50	-	100	-10	-100		
KTB1369	◑	KTD2061	-180	-2	-	20	70	240	-10	-400	-1	-500	-50	-	100	-10	-400		
KTA1837	◑	KTC4793	-230	-1	2	20	100	320	-5	-100	-1.5	-500	-50	-	70	-10	-100		
KTC2028	◑	KTA1049	100	5	-	30	70	240	5	1A	2	4A	400	-	30	5	1A		
KTD2059	◑	KTB1367	100	5	-	30	40	240	5	1A	2	4A	400	-	12	5	1A		
TIP31CF	◑	TIP32CF	100	3	2	25	10	50	4	3A	1.2	3A	375	3	-	10	500		
TIP41CF	◑	TIP42CF	100	6	2	25	15	75	4	3A	1.5	6A	600	3	-	10	500		
KTC1003	◑	-	60	4	-	30	30	150	5	1A	1	4A	400	-	8	5	500		
KTC3229	◑	-	300	0.1	2	-	30	200	10	20	1	10	1	75	95	20	20		

Note) ★ : Ta=25°C, ☆ : Tc=25°C

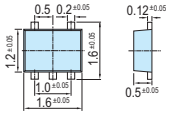
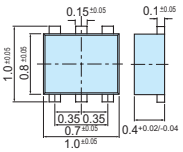
▣ Audio Power Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (A)	P_C★ (W)	P_C☆ (W)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTA1700	○	KTC2800	-160	-1.5	1.5	10	70	240	-5	-100	-1.5	-500	50-	-	100	-10	-100	TO-126	
KTC3964	◑	-	40	2	1.5	500	500	-	1	400	0.5	300	1	-	220	2	100		
KTC3114	◑	-	50	0.15	1.5	600	-	3600	6	2	0.25	100	10	100	250	10	10		
KTC2800	○	KTA1700	160	1.5	1.5	10	70	240	5	100	1.5	500	50	-	100	10	100		
KTC4370	◑	KTA1659	160	1.5	-	20	70	240	5	100	1.5	500	50	-	100	10	100	TO-220IS	
KTC4370A	◑	KTA1659A	180	1.5	-	20	70	240	5	100	1.5	500	50	-	100	10	100		
KTD2061	◑	KTB1369	180	2	-	20	70	240	10	400	1	500	50	-	100	10	400		
KTC4793	◑	KTA1837	230	1	2	20	100	320	5	100	1.5	500	50	-	70	10	100		
KTB778	◑	KTD998	-120	-10	-	80	55	160	-5	-1A	-2.5	-5A	-500	-	10	-5	-1A	TO-3P(H)IS	
KTD998	◑	KTB778	120	10	-	80	55	160	5	1A	2.5	5A	500	-	12	5	1A		
TIP36C	◑	TIP35C	-100	-25	-	125	55	160	-5	-1.5A	-1.8	-15A	-15A	3	-	-5	-1A	TO-3P(N)	
KTB688	◑	KTD718	-120	-10	-	80	55	160	-5	-1A	-2.5	-5A	-500	-	10	-5	-1A		
KTA1695A	◑	KTC4468	-140	-10	-	100	55	-	-4	-3A	-0.5	-5A	-500	-	20	-12	-500		
KTB817	○	KTD1047	-140	-12	-	100	60	200	-5	-1A	-2.5	-5A	-500	-	15	-5	-1A		
KTB2530	◑	KTD1530	-150	-10	-	100	15K	30K	-4	-7A	-2.5	-7A	-700	-	50	-12	-2A		
KTA1943N	◑	KTC5200N	-230	-15	-	150	55	160	-5	-1A	-3	-8A	-800	-	30	-5	-1A		
KTA1962A	◑	KTC5242A	-230	-15	-	130	55	160	-5	-1A	-3	-8A	-800	-	30	-5	-1A		
TIP35C	◑	TIP36C	100	25	-	125	55	160	5	1.5A	1.8	15A	1.5A	3	-	5	1A		
KTD718	◑	KTB688	120	10	-	80	55	160	5	1A	2.5	5A	500	-	12	5	1A		
KTC4468A	◑	KTA1695	140	10	-	100	55	-	4	3A	0.5	5A	500	-	20	12	500		
KTD1047	○	KTB817	140	12	-	100	60	200	5	1A	2.5	5A	500	-	15	5	1A		
KTD1530	◑	KTB2530	150	10	-	100	15K	30K	4	7A	25	7A	700	-	50	12	2A		
KTC5200N	◑	KTA1943N	230	15	-	150	55	160	5	1A	3	8A	800	-	30	5	1A		
KTC5242A	◑	KTA1962A	230	15	-	130	55	160	5	1A	3	8A	800	-	30	5	1A		
KTA1943	◑	KTC5200	-230	-15	-	150	55	160	-5	-1A	-3	-8A	-800	-	30	-5	-1A	TO-3P(L)	
KTC5200	◑	KTA1943	230	15	-	150	55	160	5	1A	3	8A	800	-	30	5	1A		

Note) ★ : Ta=25°C, ☆ : Tc=25°C

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

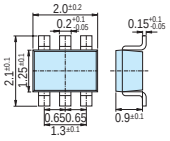
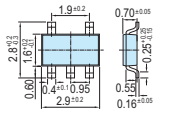
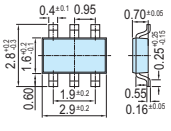
▣ Complex General Purpose Transistor

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTC601E	L□	◑		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1	TESV	
KTA701E	S□	◑		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	TES6	
KTC802E	LZ	◑		12	500	200	270	680	2	10	0.25	200	10	-	320	2	10		
KTC801E	L□	◑		50	150	200	120	400	6	2	0.3	100	10	80	-	10	1		
KTC811E	V□	◑		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTC812E	W□	◑		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTX101E	B□	◑		±50	±150	200	120	400	±6	±2	+0.25 -0.3	±100	±10	80	-	±10	±1		
KTX102E	D□	◑		±50	±150	200	120	400	±6	±2	-0.3 +0.25	±100	±10	80	-	±10	±1		

Note) □ : h_{FE} Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

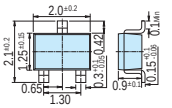
▣ Complex General Purpose Transistor

Type No	Mark	AEC-Q	Internal Circuit	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTA701U	S☐	◑		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1	US6	
KTA711U	E☐	◑		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTA712U	F☐	◑		-50	-150	200	120	400	-6	-2	-0.3	-100	-10	80	-	-10	-1		
KTC801U	L☐	○		50	150	200	120	400	6	2	0.25	100	10	80	-	10	1		
KTC811U	V☐	◑		50	150	200	120	400		2	0.3	100	10	80	-	10	1		
KTC812U	W☐	◑		50	150	200	120	400	6	2	0.3	100	10	80	-	10	1		
KTX101U	B☐	○		±50	±150	120	400	-	±6	±2	±0.25	±100	±10	-	-	-	-		
KTC611T	L☐	◑		30	500	900▲	70	240	1	100	0.25	100	10	-	300	6	20	TSV	
KTX111T	B☐	◑		±30	±500	900▲	70	240	±1	± 100	±0.25	±100	±10	-	300	±6	±20	TS6	
KTC811T	L☐	◑		30	500	900▲	70	240	1	100	0.25	100	10	-	300	6	20		

Note) ▲ : Package mounted on a ceramic board (600mm²×0.8mm), ☐ : hFE Grade

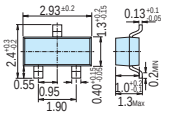
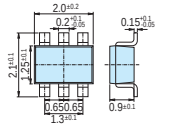
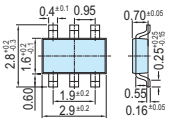
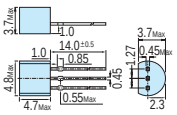
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Low Noise Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}			$V_{CE(sat)}$ (V)			NF (dB)					Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Max.	V_{CE} (V)	I_C (mA)	Rg (kΩ)	f (kHz)		
KTC4666	T□	-	-	-	50	150	200	3600	6	2	0.25	100	10	0.5◇	6	0.1	10	0.1	USM	

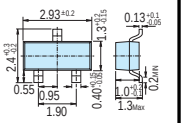
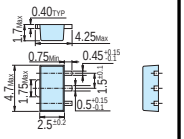
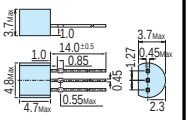
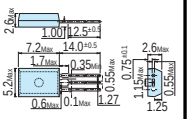
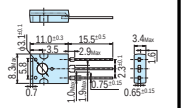
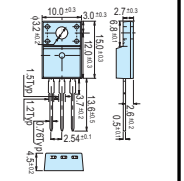
Note) ◇ : Typ, □ : h_{FE} Grade

▣ Audio Muting Transistor

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)			R_{ON} (Ω)				Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Typ.	V_{CE} (V)	I_C (mA)	Typ.	f (kHz)	I_B (mA)	V_{IN} (V)		
KTC2875	M□	-	-	20	300	150	350	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	SOT-23	
KTD1304	MAX	-	-	20	300	200	200	800	2	4	0.25	100	10	60	10	1	0.6	1	1	0.3		
KTC814U	H□	-		20	300	200	350	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	US6	
KTC812T	M□	-		20	300	900▲	350	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	TS6	
KTC2874	-	-	-	20	300	625	200	1200	2	4	0.3	30	3	30	6	4	-	-	-	-	TO-92	
KTD1302	-	-	-	20	300	625	200	800	2	4	0.25	100	10	60	10	1	0.6	1	1	0.3		

Note) ▲ : Package mounted on a ceramic board (600mm²×0.8mm), □ : h_{FE} Grade

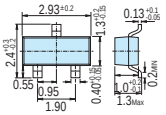
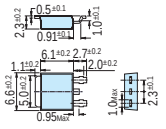
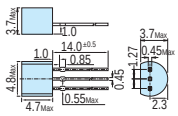
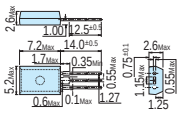
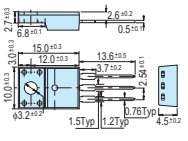
▣ High h_{FE} Transistor

Type No.	Mark	AEC-Q	Max. Ratings			h_{FE}					$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Typ.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTC3295	T□	◑	50	150	150	600	-	3600	6	2	0.25	100	10	100	250	10	10	SOT-23	
KTD1003	L□	◑	50	1A	@1W	800	1500	3200	5	300	0.3	500	5	150	250	10	500	SOT-89	
KTC3112	-	-	50	150	625	600	-	3600	6	2	0.25	100	10	100	250	10	10	TO-92	
KTD1028	-	-	50	1A	1W	800	1500	3200	5	300	0.3	500	5	150	250	10	500	TO-92L	
KTD1411	-	◑	60	4	15	2000	-	-	2	1	1.5	3	30	-	-	-	-	TO-126	
KTD2092	-	◑	80	3A	25W☆	500	-	1500	1	500	0.35	1A	10	-	140	5	1A	TO-220IS	
KTD2066	-	◑	80	5A	30W☆	500	-	1500	1	1A	0.35	3A	30	-	130	5	1A		
KTD1937	-	◑	80	10A	40W☆	500	-	1500	1	1A	0.35	5A	50	-	70	5	1A		

Note) @ : Mounted on Ceramic Substrate (250㎟×0.8t), □ : hFE Grade, ☆ : Tc=25℃

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

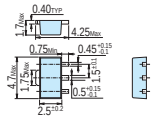
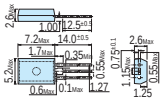
▣ Darlington Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}			$V_{CE(sat)}$ (V)			f_T (MHz)			Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	V_{CE} (V)	I_C (mA)		
MMBTA63	AGX	◑	-	-	-30△	-500	350	5000	-5	-10	-1.5	-100	-0.1	125	-5	-10	SOT-23	
MMBTA517	UA	◑	-	-	30	400	350	30000	2	100	1	100	1	220	2	100		
MMBTA13	AIX	◑	-	-	30△	500	350	5000	5	10	1.5	100	0.1	125	5	10		
MJD117	-	◑	MJD112	-	-100	-2A	20W ☆	1000	-3	-2A	-2	-2A	-8	25	-10	-750	DPAK	
MJD112	-	◑	MJD117	-	100	2A	20W ☆	1000	3	2A	2	2A	8	25	10	750		
BC517	-	-	-	-	30	500	625	30,000	2	100	1	100	1	220◇	5	10	TO-92	
KTB2234	-	-	KTD2854	-	-100	-2A	1W	2000	-2	-1A	-1.5	-1A	-1	50◇	-2	-500	TO-92L	
KTD2854	-	-	KTB2234	-	100	2A	1W	2000	2	1A	1.5	1A	1	50◇	2	500		
KTB1424	-	◑	KTD2424	-	-60	-3A	25W ☆	3000	-2	-1A	-1.5	-3A	-30	-	-	-	TO-220IS	
KTB1423	-	◑	-	-	-120	-5A	30W ☆	1000	-3	-500	-2	-3A	-12	-	-	-		
KTD2424	-	◑	KTB1424	-	60	3A	25W ☆	3000	2	1A	1.5	3A	30	-	-	-		
KTD1414	-	○	-	-	80	4A	25W ☆	2000	2	1A	1.5	3A	6	-	-	-		
KTD1413	-	○	-	-	100	5A	25W ☆	2000	2	3A	1.5	3A	3	-	-	-		
KTD1415	-	◑	-	-	100	7A	30W ☆	2000	3	3A	1.5	3A	6	-	-	-		

Note) △:V_{CES}, ◇ : Typ, ☆ : Tc=25℃
@ : Package mounted on a FR4 board (Cu area : 645mm², glass epoxy, t=1.6mm)

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

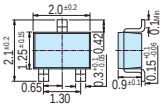
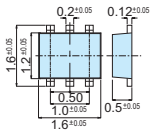
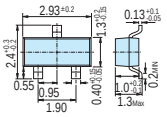
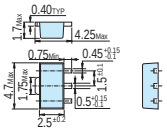
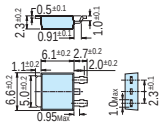
▣ Strobo Flash Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)			Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (A)	@ P_C (W)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (A)	I_B (mA)	Typ.	V_{CE} (V)	I_C (mA)		
KTA1001	K□	○	-	-	-20	-3	1	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	SOT-89	
KTA1241	-	◑	-	-	-20	-5	1W	100	320	-2	-500	-0.5	-3	-75	170	-2	-500	TO-92L	

Note) @ : Mounted on Ceramic Substrate (250㎟×0.8t), □ : hFE Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

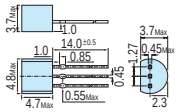
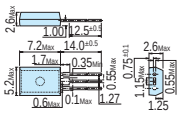
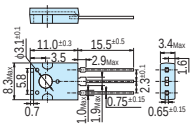
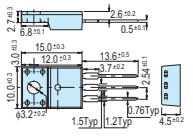
▣ Switching Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}			$V_{CE(sat)}$ (V)			f_T (MHz)	t_{on} (ns)	t_{off} (ns)	t_d (ns)	t_r (ns)	t_{stg} (ns)	t_f (ns)	Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Max.	Max.	Max.	Max.	Max.	Max.	Max.	
KTN2907AU	ZH	◑	KTN2222AU	ZG	-60	-600	100	300	-10	-150	-1.6	-500	-50	200	45	100	10	40	80	30	USM	
KTN2222AU	ZG	○	KTN2907AU	ZH	40	600	100	300	10	150	1.0	500	50	250	-	-	10	25	225	60		
2N2904E	ZC	◑	-	-	40	200	200	300	1	10	0.3	50	5	300	-	-	35	35	200	50	TES6	
2N3906S	ZA	○	2N3904S	ZC	-40	-200	※350	300	-1	-10	-0.4	-50	-5	250	-	-	35	35	225	75	SOT-23	
KTN2907AS	ZH	◑	KTN2222AS	ZG	-60	-600	※350	300	-10	-150	-1.6	-500	-50	200	45	100	10	40	80	30		
2N3904S	ZC	○	2N3906S	ZA	40	200	※350	300	1	10	0.3	50	5	300	-	-	35	35	200	50		
KTN2222AS	ZG	○	KTN2907AS	ZH	40	600	※350	300	10	150	1.0	500	50	300	-	-	10	25	225	60		
KTA1666	W□	◑	KTC4379	U□	-50	-2A	@1W	240	-2	-500	-0.5	-1A	-50	120◇	100◇	-	-	-	1,000◇	100◇	SOT-89	
KTB1124	X□	◑	KTD1624	Y□	-50	-3A	@1W	400	-2	-100	-0.7	-2A	-100	150◇	70◇	-	-	-	450◇	35◇		
KTC4379	U□	◑	KTA1666	W□	50	2A	@1W	240	2	500	0.5	1A	50	120◇	100◇	-	-	-	1,000◇	100◇		
KTD1624	Y□	○	KTB1124	X□	50	3A	@1W	400	2	100	0.5	2A	100	150◇	70◇	-	-	-	650◇	35◇		
KTA1718D	-	◑	KTC2815D	-	-50	-2A	☆ 10W	240	-2	-500	-0.5	-1	-50	100	100◇	-	-	-	1,000◇	100◇	DPAK	
KTA1385D	-	○	KTC5103D	-	-60	-5A	☆ 15W	400	-1	-2A	-0.3	-2	-200	-	1,000	-	-	-	2,500	1,000		
KTA1862D	-	◑	-	-	-400	-2A	☆ 10W	180	-5	-100	-0.5	0.5	-100	18	200◇	-	-	-	1,800◇	400◇		
KTA1807D	-	◑	-	-	-600	-1A	☆ 20W	120	-5	-100	-1.0	-0.3	-60	28	500	-	-	-	5,000	500		
KTC2815D	-	◑	KTA1718D	-	50	2A	☆ 10W	240	2	500	0.5	1	50	100	100◇	-	-	-	1,000◇	100◇		
KTC5103D	-	○	KTA1385D	-	60	5A	☆ 15W	400	1	2A	0.3	2	200	-	1,000	-	-	-	2,500	1,000		

Note) ◇ : Typ, ☆ : Tc=25℃, ※ : Package Mounted on 99.5% Alumina 10×8×0.6㎜, @ : Mounted on Ceramic Substrate (250㎟×0.8t), □ : hFE Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

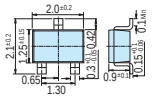
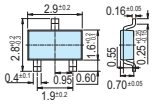
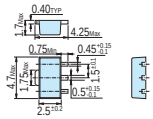
▣ Switching Transistor

Type No.	Mark	AEC-Q	Complementary	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T	t_{on}	t_{off}	t_r	t_{stg}	t_f	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	(MHz)	(μs)	(μs)	(μs)	(μs)	(μs)		
														Min.	Max.	Max.	Max.	Max.	Max.		
2N3906	-	-	2N3904	-40	-200	625	100	300	-1	-10	-0.4	-50	-5	250	0.07	0.3	0.035	0.225	0.075	TO-92	
KTN2907A	-	-	KTN2222A	-60	-600	625	100	300	-10	-150	-1.6	-500	-50	200	0.045	0.1	0.04	0.08	0.03		
2N3904	-	-	2N3906	40	200	625	100	300	1	10	0.3	50	5	300	0.07	0.25	0.235	0.2	0.05		
KTN2222A	-	-	KTN2907A	40	600	625	100	300	10	150	1.0	500	50	300	0.035	0.3	0.025	0.025	0.06		
KTC3003	-	-	-	400	1.5A	625	9	38	2	500	3.0	1.5A	500	4	1.1	4.7	-	4.0	0.7		
KTC3003HV	-	-	-	530	1.5A	625	20	40	10	400	2.5	1.5A	500	4	◇1.1	◇3.7	-	◇3.0	◇0.7		
KTA1281	-	-	KTC3209	-50	-2A	1W	70	240	-2	-500	-0.5	-1A	-50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1	TO-92L	
KTB985	-	-	KTD1347	-50	-2A	1W	100	400	-2	-100	-0.7	-2A	-100	◇150	◇0.07	◇0.5	-	◇0.45	◇0.035		
KTC3209	-	-	KTA1281	-50	2A	1W	70	240	2	500	0.5	1A	50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1		
KTD1347	-	-	KTB985	50	3A	1W	100	400	2	100	0.5	2A	100	◇150	◇0.07	◇0.7	-	◇0.65	◇0.035		
KTA1715	-	◑	KTC2814	-50	-2A	☆10W	70	240	-2	-500	-0.5	-1A	-50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1	TO-126	
KTC2814	-	◑	KTA1715	50	2A	☆10W	70	240	2	500	0.5	1A	50	◇100	◇0.1	◇1.1	-	◇1.0	◇0.1		
MJE13003	-	◑	-	400	1.5A	☆20W	9	38	2	500	3.0	1.5A	500	4	1.1	4.7	-	4.0	0.7		
MJE13003HV	-	◑	-	530	1.5A	☆20W	20	40	10	400	2.5	1.5A	500	4	◇1.1	◇3.7	-	◇3.0	◇0.7		
MJE13005DF	-	○	-	400	5A	☆30W	18	35	5	1A	1.0	4A	1A	4	0.15	5.8	-	5	0.8	TO-220IS	
MJE13007F	-	◑	-	400	8A	☆40W	15	50	5	2A	2.0	5A	1A	4	1.6	3.7	-	3.0	0.7		
KTC5027F	-	◑	-	800	3A	☆40W	15	40	5	200	2	1.5A	300	◇15	0.5	3.3	-	3.0	0.3		

Note) ◇ : Typ, ☆ : Tc=25℃

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

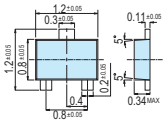
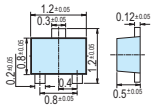
▣ Low $V_{CE(sat)}$ Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)			Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (A)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Typ.	V_{CE} (V)	I_C (mA)		
KTA1532U	**2A**	◑	-	-	-12	-1.5	※200	270	680	-2	-200	-0.2	-500	-25	400	-2	-200	USM	
KTA1531T	**SA□**	◑	KTC3531T	HA□	-20	-1	900▲	120	400	-2	-50	-0.3	-500	-50	180	-10	-50	TSM	
KTA1532T	**SB**	◑	KTC3532T	HB	-20	-1.5	900▲	200	560	-2	-100	-0.18	-750	-15	210	-2	-300		
KTA1535T	**SD**	◑	KTC3535T	HD	-20	-3	900▲	200	560	-2	-500	-0.165	-1.5A	-30	160	-2	-500		
KTA1536T	**SE**	◑	-	HE	-20	-5	900▲	200	560	-2	-500	-0.30	-3A	-60	140	-2	-500		
KTA1544T	**SN**	◑	KTC3544T	HN	-30	-2	900▲	200	560	-2	-100	-0.6	-1.5A	-75	150	-10	-50		
KTA1542T	**SH**	◑	KTC3542T	HH	-30	-3	900▲	200	560	-2	-500	-0.23	-1.5A	-30	380	-10	-500		
KTA1551T	**SK**	◑	KTC3551T	HK	-50	-1	900▲	200	560	-2	-100	-0.43	-500	-10	420	-10	-300		
KTA1552T	**SL**	○	KTC3552T	HL	-50	-3	900▲	200	560	-2	-100	-0.2	-1A	-50	360	-10	-500		
KTC3531T	**HA□**	◑	KTA1531T	SA□	20	1	900▲	120	400	2	50	0.3	500	50	180	10	50		
KTC3532T	**HB**	◑	KTA1532T	SB	20	1.5	900▲	200	560	2	100	0.2	750	15	210	2	300		
KTC3535T	**HD**	◑	KTA1535T	SD	20	3	900▲	200	560	2	500	0.15	1.5A	30	180	2	500		
KTC3544T	**HN**	◑	KTA1544T	SN	30	2	900▲	200	560	2	100	0.4	1.5A	75	150	10	50		
KTC3542T	**HH**	◑	KTA1542T	SH	30	3	900▲	200	560	2	500	0.18	1.5A	30	450	10	500		
KTC3551T	**HK**	◑	KTA1551T	SK	50	1	900▲	200	560	2	100	0.19	500	10	420	10	300		
KTC3552T	**HL**	◑	KTA1552T	SL	50	3	900▲	200	560	2	100	0.12	1A	50	380	10	500		
KTC3573	**G5**	◑	-	-	100	1	500	200	500	10	250	1.0	200	1	100	10	50	SOT-89	

Note) ▲ : Package mounted on a ceramic board (600mm²×0.8mm), □ : hFE Grade, ※ : Package Mounted on 99.5% Alumina 10×8×0.6㎜

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

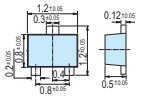
▣ General Purpose Junction Field Effect Transistor

Type No.	Mark	AEC-Q	Max. Ratings			I_{DSS} (uA)			G_V (dB)					Package	Outline (Unit : mm)
			V_{GDO} (V)	I_G (mA)	P_D (mW)	I_{DSS}	V_{DS} (V)	V_{GS} (V)	Typ.	V_{DD} (V)	Cg (pF)	R_L (kΩ)	f (kHz)		
KTK597TV	F☐	◑	-20	10	100	150~350	5	0	-3	4.5	15	1	1	TVSM	
KTK598TV	B☐	◑	-20	10	100	140~350	2	0	1.4~2.7	2	5	2.2	1		
KTK597V	F☐	◑	-20	10	100	150~350	5	0	-3	4.5	15	1	1	VSM	

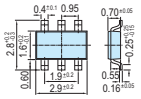
Note) ☐ : I_{DSS} Grade,

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ RF Junction Field Effect Transistor

Type No.	Mark	AEC-Q	Max. Ratings			y_{fs} [mS]				I_{DSS}[uA]				Ciss[PF]		Package	Outline (Unit: mm)
			V_{GDO} (V)	I_G (mA)	P_C (mW)	Typ.	V_{DS} (V)	V_{GS} (V)	f (KHz)	Min.	Max.	V_{DS} (V)	V_{GS} (V)	Typ.	f (MHz)		
KTK498V	K1	-	-40	10	100	0.13	10	0	1	40	100	10	0	1.7	1	VSM	

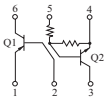
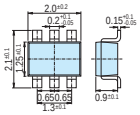
▣ General Purpose Transistor + Switching Diode

Type No	Mark	AEC-Q	Internal Circuit	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTX711T	T7	◑		-80	-500	900 ▲	100	250	-1	-100	-0.25	-100	-10	100	-	-2	-10	TS6	
				V_R	80V	-	I_O	200mA	-	V_F	0.72V	-	-	-	-	-	-		
KTX811T	T8	◑		80	500	900 ▲	100	250	1	-100	0.25	-100	-10	100	-	2	10		
				V_R	80V	-	I_O	200mA	-	V_F	0.72V	-	-	-	-	-	-		

Note) ▲ : Package mounted on a ceramic board (600mm²×0.8mm)

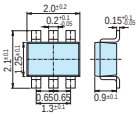
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ General Purpose Transistor + BRT

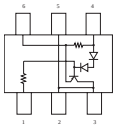
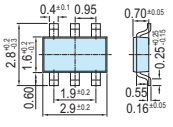
Type No	Mark	AEC-Q	Internal Circuit	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
KTX213U	BH	◑		-12	-500	200	270	680	-2	-10	-0.25	-200	-10	-	260	-2	-10	US6	
				V_O	50V	-	I_O	100mA	-	R_1	47kΩ	-	R_2	47kΩ	-	-	-		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ General Purpose Transistor + S-MOSFET

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings				I_{DSS} (μA)			V_{th} (V)				$R_{DS(ON)}$ (Ω)			Package	Outline (Unit: mm)
				V_{DS} (V)	V_{GSS} (V)	I_D (mA)	P_D (mW)	Max.	V_{DS} (V)	V_{GS} (V)	Min.	Max.	V_{DS} (V)	I_D (mA)	Max.	V_{GS} (V)	I_D (mA)		
KTX321U	BR	-		30	±20	100	150	1	30	0	0.5	1.5	3	0.1	7	2.5	10	US6	
				V_{CEO}	-12	-	I_C	-500	-	-	-	-	-	-	-	-			

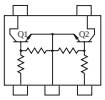
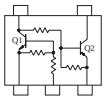
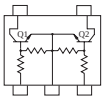
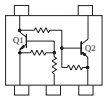
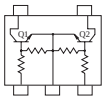
▣ Current Regulating Device

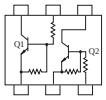
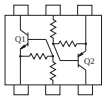
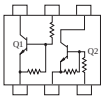
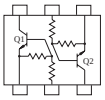
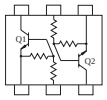
Type No.	Mark	AEC-Q	Internal Circuit	Max. Ratings			Output Current (mA)			Voltage Drop (V)		Package	Outline (Unit : mm)
				V_S (V)	I_O (mA)	P_D (mW)	Typ.	V_S (V)	V_{OUT} (V)	Typ.	I_O (mA)		
KCR401T	AC	◑		40	65	900▲	10	10	8.6	0.8	10	TS6	
KCR402T	AA	○		40	65	900▲	20	10	8.6	0.8	20		
KCR405T	AB	◑		40	65	900▲	50	10	8.6	0.8	50		

Note) ▲ : Package mounted on a ceramic board (600mm²×0.8mm)

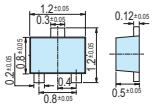
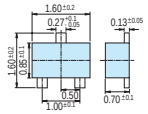
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Electrical Characteristics			VSM	ESM	USM		SOT-23		TO-92	
			(1.2 X0.8)	(1.60X0.85)	(2.0X1.25)		(2.93X1.3)			
Polarity	**R1 [kΩ]**	**R2 [kΩ]**	±50V/±0.1A	±50V/±0.1A	±50V/±0.1A	±12V/±0.5A	±50V/±0.1A	±50V/±0.8A	±50V/±0.1A	±50V/±0.8A
NPN	4.7	4.7	KRC401V	KRC401E	KRC401	KRC453	KRC101S	KRC243S	KRC101	KRC243
	10	10	KRC402V	KRC402E	KRC402	KRC454	KRC102S	KRC244S	KRC102	KRC244
	22	22	KRC403V	KRC403E	KRC403		KRC103S		KRC103	
	47	47	KRC404V	KRC404E	KRC404		KRC104S		KRC104	
	2.2	47	KRC405V	KRC405E	KRC405		KRC105S		KRC105	
	4.7	47	KRC406V	KRC406E	KRC406		KRC106S		KRC106	
	10	47	KRC407V	KRC407E	KRC407		KRC107S		KRC107	
	22	47	KRC408V	KRC408E	KRC408		KRC108S		KRC108	
	4.7	-	KRC410V	KRC410E	KRC410		KRC110S		KRC110	
	10	-	KRC411V	KRC411E	KRC411		KRC111S		KRC111	
	22	-	KRC413V	KRC413E	KRC413		KRC113S		KRC113	
	47	-	KRC414V	KRC414E	KRC414		KRC114S		KRC114	
	1	10	KRC416V	KRC416E	KRC416		KRC116S	KRC245S	KRC116	KRC245
	2.2	2.2	KRC417V	KRC417E	KRC417	KRC452	KRC117S	KRC242S	KRC117	KRC242
	2.2	10	KRC418V	KRC418E	KRC418	KRC456	KRC118S	KRC246S	KRC118	KRC246
	4.7	10	KRC419V	KRC419E	KRC419		KRC119S		KRC119	
PNP	4.7	4.7	KRA301V	KRA301E	KRA301	KRA353	KRA101S	KRA223S	KRA101	KRA223
	10	10	KRA302V	KRA302E	KRA302	KRA354	KRA102S	KRA224S	KRA102	KRA224
	22	22	KRA303V	KRA303E	KRA303		KRA103S		KRA103	
	47	47	KRA304V	KRA304E	KRA304		KRA104S		KRA104	
	2.2	47	KRA305V	KRA305E	KRA305		KRA105S		KRA105	
	4.7	47	KRA306V	KRA306E	KRA306		KRA106S		KRA106	
	10	47	KRA307V	KRA307E	KRA307		KRA107S		KRA107	
	22	47	KRA308V	KRA308E	KRA308		KRA108S		KRA108	
	4.7	-	KRA310V	KRA310E	KRA310		KRA110S		KRA110	
	10	-	KRA311V	KRA311E	KRA311		KRA111S		KRA111	
	22	-	KRA313V	KRA313E	KRA313		KRA113S		KRA113	
	47	-	KRA314V	KRA314E	KRA314		KRA114S		KRA114	
	1	10	KRA316V	KRA316E	KRA316		KRA116S	KRA225S	KRA116	KRA225
	2.2	2.2	KRA317V	KRA317E	KRA317	KRA352	KRA117S	KRA222S	KRA117	KRA222
	2.2	10	KRA318V	KRA318E	KRA318	KRA356	KRA118S	KRA226S	KRA118	KRA226
	4.7	10	KRA319V	KRA319E	KRA319		KRA119S		KRA119	

Electrical Characteristics			TESV		USV		TSV
							
Polarity	**R1 [kΩ]**	**R2 [kΩ]**	±50V/±0.1A		±50V/±0.1A		±50V/±0.8A
NPN + NPN	4.7	4.7	KRC651E		KRC651U		KRC643T
	10	10	KRC652E		KRC652U		KRC644T
	22	22	KRC653E		KRC653U		
	47	47	KRC654E		KRC654U		
	2.2	47	KRC655E		KRC655U		
	4.7	47	KRC656E		KRC656U		
	10	47	KRC657E		KRC657U		
	22	47	KRC658E		KRC658U		
	4.7	-	KRC660E		KRC660U		
	10	-	KRC661E		KRC661U		
	22	-	KRC663E		KRC663U		
	47	-	KRC664E		KRC664U		
	1	10	KRC666E		KRC666U		KRC645T
	2.2	2.2	KRC667E		KRC667U		KRC642T
	2.2	10	KRC668E		KRC668U		KRC646T
	4.7	10	KRC669E		KRC669U		
NPN+PNP	NPN:10/10	PNP:10/10		KRX101E		KRX101U	
	NPN:47/47	PNP:10/47		KRX102E		KRX102U	
	NPN:22/22	PNP:22/22		KRX103E		KRX103U	
	NPN:47/47	PNP:4.7/10		KRX104E			
PNP + PNP	4.7	4.7	KRA551E		KRA551U		KRA523T
	10	10	KRA552E		KRA552U		KRA524T
	22	22	KRA553E		KRA553U		
	47	47	KRA554E		KRA554U		
	2.2	47	KRA555E		KRA555U		
	4.7	47	KRA556E		KRA556U		
	10	47	KRA557E		KRA557U		
	22	47	KRA558E		KRA558U		
	4.7	-	KRA560E		KRA560U		
	10	-	KRA561E		KRA561U		
	22	-	KRA563E		KRA563U		
	47	-	KRA564E		KRA564U		
	1	10	KRA566E		KRA566U		KRA525T
	2.2	2.2	KRA567E		KRA567U		KRA522T
	2.2	10	KRA568E		KRA568U		KRA526T
	4.7	10	KRA569E		KRA569U		

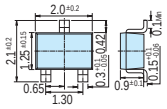
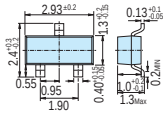
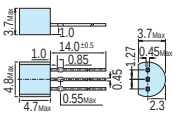
Electrical Characteristics			TES6			US6			TS6
									
Polarity	R1 [kΩ]	R2 [kΩ]	±50V/±0.1A			±50V/±0.1A			±50V/±08A
NPN + NPN	4.7	4.7	KRC821E	KRC851E		KRC821U	KRC851U		KRC843T
	10	10	KRC822E	KRC852E		KRC822U	KRC852U		KRC844T
	22	22	KRC823E	KRC853E		KRC823U	KRC853U		
	47	47	KRC824E	KRC854E		KRC824U	KRC854U		
	2.2	47	KRC825E	KRC855E		KRC825U	KRC855U		
	4.7	47	KRC826E	KRC856E		KRC826U	KRC856U		
	10	47	KRC827E	KRC857E		KRC827U	KRC857U		
	22	47	KRC828E	KRC858E		KRC828U	KRC858U		
	4.7	-	KRC830E	KRC860E		KRC830U	KRC860U		
	10	-	KRC831E	KRC861E		KRC831U	KRC861U		
	22	-	KRC833E	KRC863E		KRC833U	KRC863U		
	47	-	KRC834E	KRC864E		KRC834U	KRC864U		
	1	10	KRC836E	KRC866E		KRC836U	KRC866U		KRC845T
	2.2	2.2	KRC837E	KRC867E		KRC837U	KRC867U		KRC842T
	2.2	10	KRC838E	KRC868E		KRC838U	KRC868U		KRC846T
	4.7	10	KRC839E	KRC869E		KRC839U	KRC869U		
NPN + PNP	NPN:10/10	PNP:10/10			KRX201E			KRX201U	
	NPN:22/22	PNP:22/22			KRX202E			KRX202U	
	NPN:47/47	PNP:47/47			KRX203E			KRX203U	
	NPN:22/47	PNP:2.2/47			KRX204E			KRX204U	
	NPN:10/47	PNP:10/47			KRX206E				
	NPN:10/10	PNP:10/47			KRX207E			KRX207U	
	NPN:47/47	PNP:47/10			KRX208E				
	NPN:47/47	PNP:10/47			KRX209E			KRX209U	
	NPN:10/10	PNP:1/10			KRX210E				
PNP + PNP	4.7	4.7	KRA721E	KRA751E		KRA721U	KRA751U		KRA723T
	10	10	KRA722E	KRA752E		KRA722U	KRA752U		KRA724T
	22	22	KRA723E	KRA753E		KRA723U	KRA753U		
	47	47	KRA724E	KRA754E		KRA724U	KRA754U		
	2.2	47	KRA725E	KRA755E		KRA725U	KRA755U		
	4.7	47	KRA726E	KRA756E		KRA726U	KRA756U		
	10	47	KRA727E	KRA757E		KRA727U	KRA757U		
	22	47	KRA728E	KRA758E		KRA728U	KRA758U		
	4.7	-	KRA730E	KRA760E		KRA730U	KRA760U		
	10	-	KRA731E	KRA761E		KRA731U	KRA761U		
	22	-	KRA733E	KRA763E		KRA733U	KRA763U		
	47	-	KRA734E	KRA764E		KRA734U	KRA764U		
	1	10	KRA736E	KRA766E		KRA736U	KRA766U		KRA725T
	2.2	2.2	KRA737E	KRA767E		KRA737U	KRA767U		KRA722T
	2.2	10	KRA738E	KRA768E		KRA738U	KRA768U		KRA726T
	4.7	10	KRA739E	KRA769E		KRA739U	KRA769U		

▣ General Purpose BRT

Type No.						Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	Mark	AEC-Q	PNP	Mark	AEC-Q	V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRC401V	NA	◑	KRA301V	PA	◑	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	VSM	
KRC402V	NB	◑	KRA302V	PB	◑	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403V	NC	◑	KRA303V	PC	◑	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404V	ND	◑	KRA304V	PD	◑	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405V	NE	◑	KRA305V	PE	◑	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406V	NF	○	KRA306V	PF	○	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407V	NH	◑	KRA307V	PH	◑	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408V	NI	◑	KRA308V	PI	◑	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC410V	NK	◑	KRA310V	PK	◑	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411V	NM	◑	KRA311V	PM	◑	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC413V	NO	◑	KRA313V	PO	◑	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414V	NP	◑	KRA314V	PP	◑	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416V	N2	◑	KRA316V	P2	◑	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417V	N4	◑	KRA317V	P4	◑	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418V	N5	◑	KRA318V	P5	◑	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419V	N6	◑	KRA319V	P6	◑	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC401E	NA	○	KRA301E	PA	◑	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	ESM	
KRC402E	NB	○	KRA302E	PB	○	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403E	NC	◑	KRA303E	PC	◑	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404E	ND	○	KRA304E	PD	◑	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405E	NE	◑	KRA305E	PE	◑	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406E	NF	○	KRA306E	PF	○	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407E	NH	◑	KRA307E	PH	◑	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408E	NI	◑	KRA308E	PI	◑	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC410E	NK	◑	KRA310E	PK	◑	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411E	NM	◑	KRA311E	PM	◑	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC413E	NO	◑	KRA313E	PO	◑	50	100	100	120	-	5	1	0.3	10	0.5	22	-		
KRC414E	NP	◑	KRA314E	PP	◑	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416E	N2	◑	KRA316E	P2	◑	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417E	N4	◑	KRA317E	P4	◑	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418E	N5	◑	KRA318E	P5	◑	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419E	N6	◑	KRA319E	P6	◑	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		

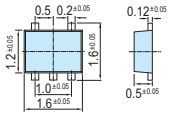
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ General Purpose BRT

Type No.						Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	Mark	AEC-Q	PNP	Mark	AEC-Q	V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRC401	NA	○	KRA301	PA	○	50	100	100	30	55	5	10	0.3	10	0.5	4.7	4.7	USM	
KRC402	NB	○	KRA302	PB	○	50	100	100	50	80	5	10	0.3	10	0.5	10	10		
KRC403	NC	○	KRA303	PC	○	50	100	100	70	120	5	10	0.3	10	0.5	22	22		
KRC404	ND	○	KRA304	PD	○	50	100	100	80	200	5	10	0.3	10	0.5	47	47		
KRC405	NE	○	KRA305	PE	○	50	100	100	80	200	5	10	0.3	10	0.5	2.2	47		
KRC406	NF	○	KRA306	PF	○	50	100	100	80	200	5	10	0.3	10	0.5	4.7	47		
KRC407	NH	○	KRA307	PH	◑	50	100	100	80	150	5	10	0.3	10	0.5	10	47		
KRC408	NI	◑	KRA308	PI	◑	50	100	100	80	150	5	10	0.3	10	0.5	22	47		
KRC410	NK	○	KRA310	PK	◑	50	100	100	120	-	5	1	0.3	10	0.5	4.7	-		
KRC411	NM	◑	KRA311	PM	○	50	100	100	120	-	5	1	0.3	10	0.5	10	-		
KRC413	NO	◑	KRA313	PO	◑	50	100	100	120	-	5	1	0.5	10	0.5	22	-		
KRC414	NP	◑	KRA314	PP	◑	50	100	100	120	-	5	1	0.3	10	0.5	47	-		
KRC416	N2	◑	KRA316	P2	○	50	100	100	33	-	5	5	0.3	10	0.5	1	10		
KRC417	N4	◑	KRA317	P4	◑	50	100	100	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC418	N5	○	KRA318	P5	◑	50	100	100	33	-	5	10	0.3	10	0.5	2.2	10		
KRC419	N6	○	KRA319	P6	○	50	100	100	30	-	5	10	0.3	10	0.5	4.7	10		
KRC101S	NA	○	KRA101S	PA	○	50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	SOT-23	
KRC102S	NB	○	KRA102S	PB	○	50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC103S	NC	○	KRA103S	PC	○	50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC104S	ND	○	KRA104S	PD	○	50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC105S	NE	○	KRA105S	PE	○	50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC106S	NF	○	KRA106S	PF	○	50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC107S	NH	○	KRA107S	PH	○	50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC108S	NI	○	KRA108S	PI	◑	50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC110S	NK	○	KRA110S	PK	○	50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC111S	NM	○	KRA111S	PM	◑	50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC113S	NO	◑	KRA113S	PO	◑	50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC114S	NP	○	KRA114S	PP	◑	50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC116S	N2	○	KRA116S	P2	○	50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC117S	N4	◑	KRA117S	P4	◑	50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC118S	N5	◑	KRA118S	P5	○	50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC119S	N6	○	KRA119S	P6	○	50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRC101	-	-	KRA101	-	-	50	100	625	30	55	5	10	0.3	10	0.5	4.7	4.7	TO-92	
KRC102	-	-	KRA102	-	-	50	100	625	50	80	5	10	0.3	10	0.5	10	10		
KRC103	-	-	KRA103	-	-	50	100	625	70	120	5	10	0.3	10	0.5	22	22		
KRC104	-	-	KRA104	-	-	50	100	625	80	200	5	10	0.3	10	0.5	47	47		
KRC105	-	-	KRA105	-	-	50	100	625	80	200	5	10	0.3	10	0.5	2.2	47		
KRC106	-	-	KRA106	-	-	50	100	625	80	200	5	10	0.3	10	0.5	4.7	47		
KRC107	-	-	KRA107	-	-	50	100	625	80	150	5	10	0.3	10	0.5	10	47		
KRC108	-	-	KRA108	-	-	50	100	625	80	150	5	10	0.3	10	0.5	22	47		
KRC110	-	-	KRA110	-	-	50	100	625	120	-	5	1	0.3	10	0.5	4.7	-		
KRC111	-	-	KRA111	-	-	50	100	625	120	-	5	1	0.3	10	0.5	10	-		
KRC113	-	-	KRA113	-	-	50	100	625	120	-	5	1	0.3	10	0.5	22	-		
KRC114	-	-	KRA114	-	-	50	100	625	120	-	5	1	0.3	10	0.5	47	-		
KRC116	-	-	KRA116	-	-	50	100	625	33	-	5	5	0.3	10	0.5	1	10		
KRC117	-	-	KRA117	-	-	50	100	625	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC118	-	-	KRA118	-	-	50	100	625	33	-	5	10	0.3	10	0.5	2.2	10		
KRC119	-	-	KRA119	-	-	50	100	625	30	-	5	10	0.3	10	0.5	4.7	10		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

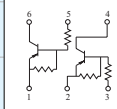
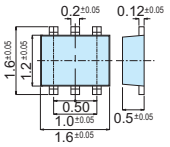
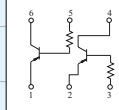
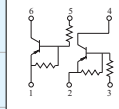
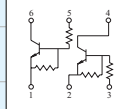
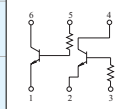
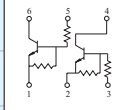
▣ Complex BRT (NPN + NPN , PNP + PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_D (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRA551E	PA	◑		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TESV	
KRA552E	PB	◑		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA553E	PC	◑		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA554E	PD	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA555E	PE	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA556E	PF	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA557E	PH	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA558E	PI	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA560E	PK	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA561E	PM	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA562E	PN	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-		
KRA563E	PO	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA564E	PP	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA566E	P2	◑		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA567E	P4	◑		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA568E	P5	◑		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA569E	P6	◑		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC651E	NA	◑		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC652E	NB	◑		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC653E	NC	◑		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC654E	ND	◑		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC655E	NE	◑		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC656E	NF	◑		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC657E	NH	◑		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC658E	NI	◑		50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC660E	NK	◑		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC661E	NM	◑		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC662E	NN	◑		50	100	200	120	-	5	1	0.3	10	0.5	100	-		
KRC663E	NO	◑		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC664E	NP	◑		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC666E	N2	◑		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC667E	N4	◑		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC668E	N5	◑		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC669E	N6	◑		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) P_D= Total Rating,

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

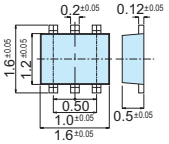
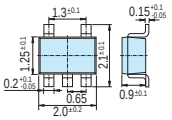
▣ Complex BRT (NPN + NPN , PNP + PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_D (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRA721E	JA	◑		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TES6	
KRA722E	JB	◑		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA723E	JC	◑		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA724E	JD	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA725E	JE	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA726E	JF	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA727E	JH	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA728E	JI	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA730E	JK	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA731E	JM	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA732E	JN	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	100	-		
KRA733E	JO	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA734E	JP	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA736E	J2	◑		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA737E	J4	◑		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA738E	J5	◑		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA739E	J6	◑		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC821E	YA	◑		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC822E	YB	◑		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC823E	YC	◑		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC824E	YD	◑		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC825E	YE	◑		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC826E	YF	◑		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC827E	YH	◑		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC830E	YK	◑		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC831E	YM	◑		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC833E	YO	◑		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC834E	YP	◑		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC836E	Y2	◑		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC837E	Y4	◑		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC838E	Y5	◑		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC839E	Y6	◑		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) P_D= Total Rating,

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

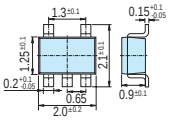
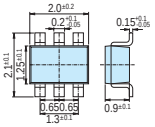
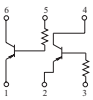
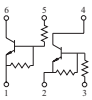
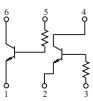
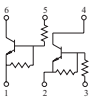
▣ Complex BRT (NPN + NPN , PNP + PNP)

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_D (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRA751E	PA	◑		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	TES6	
KRA752E	PB	◑		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA753E	PC	◑		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA754E	PD	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA755E	PE	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA756E	PF	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA757E	PH	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA760E	PK	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA761E	PM	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA763E	PO	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA764E	PP	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA766E	P2	◑		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA767E	P4	◑		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA768E	P5	◑		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA769E	P6	◑		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC851E	NA	◑		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC852E	NB	◑		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC853E	NC	◑		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC854E	ND	◑		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC855E	NE	◑		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC856E	NF	◑		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC857E	NH	◑		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC858E	NI	◑		50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC860E	NK	◑		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC861E	NM	◑		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC863E	NO	◑		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC864E	NP	◑		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC866E	N2	◑		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC867E	N4	◑		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC868E	N5	◑		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC869E	N6	◑		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRA551U	PA	◑		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	USV	
KRA552U	PB	◑		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA553U	PC	◑		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA554U	PD	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA555U	PE	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA556U	PF	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA557U	PH	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA558U	PI	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA560U	PK	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA561U	PM	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA563U	PO	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA564U	PP	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA566U	P2	◑		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA567U	P4	◑		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA568U	P5	◑		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA569U	P6	◑		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		

Note) P_D= Total Rating

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

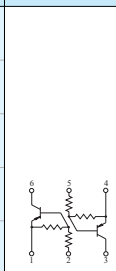
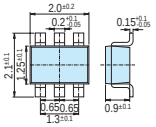
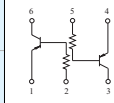
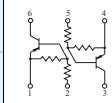
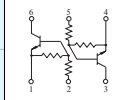
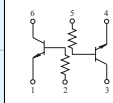
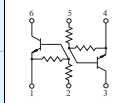
▣ Complex BRT (NPN + NPN , PNP + PNP)

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_D (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRC651U	NA	◑		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7	USV	
KRC652U	NB	◑		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC653U	NC	◑		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC654U	ND	◑		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC655U	NE	◑		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC656U	NF	◑		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC657U	NH	◑		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC658U	NI	◑		50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC660U	NK	◑		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC661U	NM	◑		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC663U	NO	◑		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC664U	NP	◑		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC666U	N2	◑		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC667U	N4	◑		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC668U	N5	◑		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC669U	N6	◑		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		
KRA721U	JA	◑		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	US6	
KRA722U	JB	◑		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA723U	JC	◑		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA724U	JD	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA725U	JE	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA726U	JF	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA727U	JH	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA728U	JI	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA730U	JK	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA731U	JM	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA733U	JO	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA734U	JP	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA736U	J2	◑		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA737U	J4	◑		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA738U	J5	◑		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA739U	J6	◑		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC821U	YA	◑		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC822U	YB	◑		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC823U	YC	◑		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC824U	YD	◑		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC825U	YE	◑		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC826U	YF	◑		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC827U	YH	◑		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC828U	YI	◑		50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC830U	YK	◑		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC831U	YM	◑		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC833U	YO	◑		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC834U	YP	◑		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC836U	Y2	◑		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC837U	Y4	◑		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC838U	Y5	◑		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC839U	Y6	◑		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) P_D= Total Rating

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Complex BRT (NPN + NPN , PNP + PNP)

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_D (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)				
KRA751U	PA	◑		-50	-100	200	30	55	-5	-10	-0.3	-10	-0.5	4.7	4.7	US6	
KRA752U	PB	◑		-50	-100	200	50	80	-5	-10	-0.3	-10	-0.5	10	10		
KRA753U	PC	◑		-50	-100	200	70	120	-5	-10	-0.3	-10	-0.5	22	22		
KRA754U	PD	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	47	47		
KRA755U	PE	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	2.2	47		
KRA756U	PF	◑		-50	-100	200	80	200	-5	-10	-0.3	-10	-0.5	4.7	47		
KRA757U	PH	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	10	47		
KRA758U	PI	◑		-50	-100	200	80	150	-5	-10	-0.3	-10	-0.5	22	47		
KRA760U	PK	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	4.7	-		
KRA761U	PM	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	10	-		
KRA763U	PO	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	22	-		
KRA764U	PP	◑		-50	-100	200	120	-	-5	-1	-0.3	-10	-0.5	47	-		
KRA766U	P2	◑		-50	-100	200	33	-	-5	-5	-0.3	-10	-0.5	1	10		
KRA767U	P4	◑		-50	-100	200	20	-	-5	-20	-0.3	-10	-0.5	2.2	2.2		
KRA768U	P5	◑		-50	-100	200	33	-	-5	-10	-0.3	-10	-0.5	2.2	10		
KRA769U	P6	◑		-50	-100	200	30	-	-5	-10	-0.3	-10	-0.5	4.7	10		
KRC851U	NA	◑		50	100	200	30	55	5	10	0.3	10	0.5	4.7	4.7		
KRC852U	NB	◑		50	100	200	50	80	5	10	0.3	10	0.5	10	10		
KRC853U	NC	◑		50	100	200	70	120	5	10	0.3	10	0.5	22	22		
KRC854U	ND	○		50	100	200	80	200	5	10	0.3	10	0.5	47	47		
KRC855U	NE	◑		50	100	200	80	200	5	10	0.3	10	0.5	2.2	47		
KRC856U	NF	◑		50	100	200	80	200	5	10	0.3	10	0.5	4.7	47		
KRC857U	NH	◑		50	100	200	80	150	5	10	0.3	10	0.5	10	47		
KRC858U	NI	◑		50	100	200	80	150	5	10	0.3	10	0.5	22	47		
KRC860U	NK	◑		50	100	200	120	-	5	1	0.3	10	0.5	4.7	-		
KRC861U	NM	◑		50	100	200	120	-	5	1	0.3	10	0.5	10	-		
KRC863U	NO	◑		50	100	200	120	-	5	1	0.3	10	0.5	22	-		
KRC864U	NP	◑		50	100	200	120	-	5	1	0.3	10	0.5	47	-		
KRC866U	N2	◑		50	100	200	33	-	5	5	0.3	10	0.5	1	10		
KRC867U	N4	◑		50	100	200	20	-	5	20	0.3	10	0.5	2.2	2.2		
KRC868U	N5	◑		50	100	200	33	-	5	10	0.3	10	0.5	2.2	10		
KRC869U	N6	◑		50	100	200	30	-	5	10	0.3	10	0.5	4.7	10		

Note) P_D= Total Rating

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

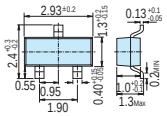
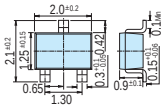
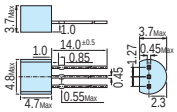
▣ Complex BRT (NPN+ PNP)

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings					h_{FE}								$V_{CE(sat)}$ (V)						R1 (kΩ)		R2 (kΩ)		Package	Outline (Unit : mm)
				V_{CEO} (V)		I_C (mA)		P_D (mW)	Min.		Typ.		V_{CE} (V)		I_C (mA)		Max.		I_C (mA)		I_B (mA)							
				Q1	Q2	Q1	Q2		Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2	Q1	Q2						
KRX101E	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10		
KRX102E	BM	◑		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47	TESV	
KRX103E	BB	◑		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX201E	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10		
KRX202E	BB	◑		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX203E	BC	◑		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	47	47		
KRX204E	BD	◑		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	2.2	2.2	47	47		
KRX206E	BK	◑		50	-50	100	-100	200	80	80	150	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	47	47	TES6	
KRX207E	BT	◑		50	-50	100	-100	200	50	80	80	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	47		
KRX209E	BM	◑		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	10	47	47		
KRX210E	MN	◑		-30	50	-500	100	200	140	50	-	80	-5	5	-100	10	-0.3	0.3	-50	10	-2.5	0.5	1	10	10	10		
KRX101U	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10	USV	
KRX103U	BB	○		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX201U	BA	○		50	-50	100	-100	200	50	50	80	80	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	10		
KRX202U	BB	◑		50	-50	100	-100	200	70	70	120	120	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	22	22	22	22		
KRX203U	BC	○		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	47	47		
KRX204U	BD	◑		50	-50	100	-100	200	80	80	200	200	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	2.2	2.2	47	47	US6	
KRX207U	BT	◑		50	-50	100	-100	200	50	80	80	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	10	10	10	47		
KRX208U	BU	◑		50	-50	100	-100	200	80	30	200	-	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	4.7	2.2		
KRX209U	BM	◑		50	-50	100	-100	200	80	80	200	150	5	-5	10	-10	0.3	-0.3	10	-10	0.5	-0.5	47	47	10	47		

Note) P_D= Total Rating

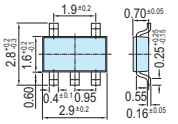
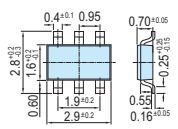
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ High Current BRT

Type No.						Max. Ratings			G_I			$V_{O(ON)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
NPN	Mark	AEC-Q	PNP	Mark	AEC-Q	V_O (V)	I_O (mA)	P_D (mW)	Min.	V_O (V)	I_O (mA)	Max.	I_O (mA)	I_I (mA)				
KRC242S	NR	◑	KRA222S	PR	○	50	800	200	39	5	50	0.3	50	2.5	2.2	2.2	SOT-23	
KRC243S	NS	○	KRA223S	PS	○	50	800	200	47	5	50	0.3	50	2.5	4.7	4.7		
KRC244S	NT	○	KRA224S	PT	○	50	800	200	56	5	50	0.3	50	2.5	10	10		
KRC245S	NU	○	KRA225S	PU	○	50	800	200	56	5	50	0.3	50	2.5	1	10		
KRC246S	NV	○	KRA226S	PV	○	50	800	200	56	5	50	0.3	50	2.5	2.2	10		
KRC452	CB	◑	KRA352	AB	◑	12	500	100	39	5	50	0.3	50	2.5	2.2	2.2	USM	
KRC453	CC	◑	KRA353	AC	◑	12	500	100	47	5	50	0.3	50	2.5	4.7	4.7		
KRC454	CD	◑	KRA354	AD	◑	12	500	100	56	5	50	0.3	50	2.5	10	10		
KRC456	CF	◑	KRA356	AF	◑	12	500	100	56	5	50	0.3	50	2.5	1	10		
KRC457	CG	◑	KRA357	AG	◑	12	500	100	56	5	50	0.3	50	2.5	2.2	10		
KRC242	-	-	KRA222	-	-	50	800	625	39	5	50	0.3	50	2.5	2.2	2.2	TO-92	
KRC243	-	-	KRA223	-	-	50	800	625	47	5	50	0.3	50	2.5	4.7	4.7		
KRC244	-	-	KRA224	-	-	50	800	625	56	5	50	0.3	50	2.5	10	10		
KRC245	-	-	KRA225	-	-	50	800	625	56	5	50	0.3	50	2.5	1	10		
KRC246	-	-	KRA226	-	-	50	800	625	56	5	50	0.3	50	2.5	2.2	10		

Note) P_D= Total Rating

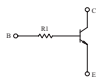
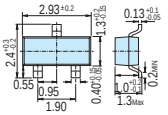
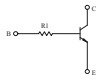
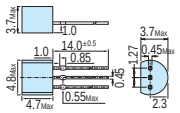
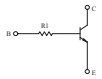
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			G_I			$V_{O(ON)}$ (V)			R1 (kΩ)	R2 (kΩ)	Package	Outline (Unit : mm)
				V_O (V)	I_O (mA)	P_D (mW)	Min.	V_O (V)	I_O (mA)	Max.	I_O (mA)	I_I (mA)				
KRA522T	PB	◑		-50	-800	900▲	39	-5	-50	-0.3	-50	-2.5	2.2	2.2	TSV	
KRA523T	PC	◑		-50	-800	900▲	47	-5	-50	-0.3	-50	-2.5	4.7	4.7		
KRA524T	PD	◑		-50	-800	900▲	56	-5	-50	-0.3	-50	-2.5	10	10		
KRA525T	PE	◑		-50	-800	900▲	56	-5	-50	-0.3	-50	-2.5	1	10		
KRA526T	PF	◑		-50	-800	900▲	56	-5	-50	-0.3	-50	-2.5	2.2	10		
KRC642T	NB	◑		50	800	900▲	39	5	50	0.3	50	2.5	2.2	2.2		
KRC643T	NC	◑		50	800	900▲	47	5	50	0.3	50	2.5	4.7	4.7		
KRC644T	ND	◑		50	800	900▲	56	5	50	0.3	50	2.5	10	10		
KRC645T	NE	◑		50	800	900▲	56	5	50	0.3	50	2.5	1	10		
KRC646T	NF	◑		50	800	900▲	56	5	50	0.3	50	2.5	2.2	10		
KRA722T	PB	◑		-50	-800	900▲	39	-5	-50	-0.3	-50	-2.5	2.2	2.2	TS6	
KRA723T	PC	◑		-50	-800	900▲	47	-5	-50	-0.3	-50	-2.5	4.7	4.7		
KRA724T	PD	◑		-50	-800	900▲	56	-5	-50	-0.3	-50	-2.5	10	10		
KRA725T	PE	◑		-50	-800	900▲	56	-5	-50	-0.3	-50	-2.5	1	10		
KRA726T	PF	◑		-50	-800	900▲	56	-5	-50	-0.3	-50	-2.5	2.2	10		
KRC842T	NB	◑		50	800	900▲	39	5	50	0.3	50	2.5	2.2	2.2		
KRC843T	NC	◑		50	800	900▲	47	5	50	0.3	50	2.5	4.7	4.7		
KRC844T	ND	◑		50	800	900▲	56	5	50	0.3	50	2.5	10	10		
KRC845T	NE	◑		50	800	900▲	56	5	50	0.3	50	2.5	1	10		
KRC846T	NF	◑		50	800	900▲	56	5	50	0.3	50	2.5	2.2	10		

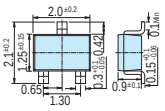
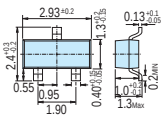
Note) ▲ : Package Mounted on a Ceramic Board (600mm²×0.8mm)

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Audio Muting BRT

Type No.	Mark	AEC-Q	Internal Circuit (Top view)	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			R1 (kΩ)	R_{ON} (Ω)	Package	Outline (Unit : mm)
				V_{CEO} (V)	I_C (mA)	P_D (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Typ.	Typ.		
KRC231S	NW	-		15	600	200	200	800	5	50	0.08	50	2.5	2.2	0.6	SOT-23	
KRC232S	NY	-		15	600	200	200	800	5	50	0.08	50	2.5	5.6	0.6		
KRC281S	MQ□	-		20	300	200	200	1200	2	4	0.1	30	3	2.2	1		
KRC231	-	-		15	600	625	200	800	5	50	0.08	50	2.5	2.2	0.6	TO-92	
KRC232	-	-		15	600	625	200	800	5	50	0.08	50	2.5	5.6	0.6		
KRC281	-	-		20	300	625	200	1200	2	4	0.1	30	3	2.2	1		

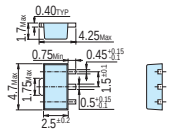
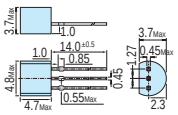
▣ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
BC857W	**3□**	◑	BC847W	1□	-45	-100	100	125	800	-5	-2	-0.65	-100	-5	-	150	-5	-10	USM	
BC847W	**1□**	◑	BC857W	3□	45	100	100	110	800	5	2	0.6	100	5	-	300	5	10		
KN3906S	**ZAA**	◑	KN3904S	ZCA	-40	-200	※350	60	-	-1	-0.1	-0.4	-50	-5	-	250	-20	-10	SOT-23	
KN4403S	**ZWA**	◑	KN4401S	ZUA	-40	-600	※350	30	-	-1	-0.1	-0.75	-500	-50	200	-	-10	-20		
BC857	**3□**	◑	BC847	1□	-45	-100	※350	125	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC860	**4□**	◑	BC850	2□	-45	-100	※350	125	475	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC807	**5□**	◑	BC817	6□	-45	-800	※350	100	630	-1	-100	-0.7	-500	-50	80	-	5	10		
BC856	**3□**	◑	BC846	1□	-65	-100	※350	125	475	-5	-2	-0.65	-100	-5	-	150	-5	-10		
MMBTA56	**ANX**	◑	MMBTA06	ADX	-80	-500	※350	100	-	-1	-10	-0.25	-100	-10	50	-	1	100		
2N5401S	**ZE**	◑	-	-	-150	-600	※350	60	240	-5	-10	-0.5	-50	-5	100	300	-10	-10		
MMBTA92	**YV**	◑	MMBTA42	AAX	-300	-500	※350	40	-	-10	-10	-0.5	-20	-2	50	-	-20	-10		
BC848	**1□**	◑	-	3□	30	100	※350	110	800	5	2	0.6	100	5	-	300	5	10		
KN3904S	**ZCA**	◑	KN3906S	ZAA	40	200	※350	40	-	1	0.1	0.3	50	5	-	300	20	10		
KN4401S	**ZUA**	◑	KN4403S	ZWA	40	600	※350	20	-	1	0.1	0.75	500	50	250	-	10	20		
BC847	**1□**	◑	BC857	3□	45	100	※350	110	800	5	2	0.6	100	5	-	300	5	10		
BC850	**2□**	◑	BC860	4□	45	100	※350	200	800	5	2	0.6	100	5	-	300	5	10		
BC817	**6□**	◑	BC807	5□	45	800	※350	100	630	1	100	0.7	500	50	100	-	5	10		
BC846	**1□**	◑	BC856	3□	65	100	※350	110	450	5	2	0.6	100	5	-	300	5	10		
MMBTA06	**ADX**	◑	MMBTA56	ANX	80	500	※350	100	-	1	10	0.25	100	10	100	-	2	10		
2N5551S	**ZF**	◑	-	-	160	600	※350	80	250	5	10	0.2	50	5	100	300	10	10		
MMBTA42	**AAX**	◑	MMBTA92	YV	300	500	※350	40	-	10	10	0.5	20	2	50	-	20	10		
MMBTA44	**APX**	◑	-	-	400	300	※350	50	200	10	10	0.5	10	1	20	-	10	10		

Note) ※ : Package Mounted on 99.5% Alumina 10×8×0.6mm, □ : hFE Grade

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

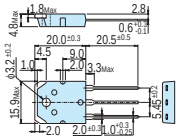
▣ General Purpose Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
PXTA44	**AP**	◑	-	-	400	300	@1W	50	200	10	10	0.5	10	1	-	-	-	-	SOT-89	
BC558	-	-	BC548	-	-30	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC557	-	-	BC547	-	-45	-100	625	110	800	-5	-2	-0.65	-100	-5	-	150	-5	-10		
BC327	-	-	BC337	-	-45	-800	625	100	630	-1	-100	-0.7	-500	-50	-	100	-5	-10		
MPS751	-	-	MPS651	-	-60	-1A	625	60	200	-2	-50	-0.7	-500	-50	-	150	-10	-50		
BC556	-	-	BC546	-	-65	-100	625	110	450	-5	-2	-0.65	-100	-5	-	150	-5	-10		
2N5401C	-	-	-	-	-150	-600	625	60	240	-5	-10	-0.5	-50	-5	100	300	-10	-10		
BF423	-	-	BF422	-	-250	-50	625	50	-	-20	-25	-0.6	-30	-5	60	-	-10	-10		
BF421	-	-	BF420	-	-300	-50	625	50	-	-20	-25	-0.6	-30	-5	60	-	-10	-10		
MPSA92	-	-	MPSA42	-	-300	-500	625	40	-	-10	-10	-0.5	-20	-2	50	-	-20	-10		
KN4403	-	-	KN4401	-	-40	-600	625	30	-	-1	-0.1	-0.75	-500	-50	200	-	-10	-20		
KN2907A	-	-	KN2222A	-	-60	-600	625	75	-	-10	-0.1	-1.6	-500	-50	200	-	-20	-50		
BC548	-	-	BC558	-	30	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC549	-	-	-	-	30	100	625	110	800	5	2	0.6	100	5	-	300	5	10	TO-92	
BC547	-	-	BC557	-	45	100	625	110	800	5	2	0.6	100	5	-	150	5	10		
BC337	-	-	BC327	-	45	800	625	100	630	1	100	0.7	500	50	-	100	5	10		
KN3904	-	-	-	-	40	200	625	40	-	1	0.1	0.3	50	5	-	300	20	10		
KN2222A	-	-	KN2907A	-	40	600	625	35	-	10	0.1	1.0	500	50	300	-	20	20		
KN4401	-	-	KN4403	-	40	600	625	20	-	1	0.1	0.75	500	50	250	-	10	20		
MPS651	-	-	MPS751	-	60	1A	625	100	320	2	50	0.5	500	50	-	150	10	50		
BC546	-	-	BC556	-	65	100	625	110	450	5	2	0.6	100	5	-	150	5	10		
2N5551	-	-	-	-	160	600	625	80	250	5	10	0.2	50	5	100	300	10	10		
BF422	-	-	BF423	-	250	50	625	50	-	20	25	0.6	30	5	60	-	10	10		
BF420	-	-	BF421	-	300	50	625	50	-	20	25	0.6	30	5	60	-	10	10		
MPSA42	-	-	MPSA92	-	300	500	625	40	-	10	10	0.5	20	2	50	-	20	10		
MPSA44	-	-	-	-	400	300	625	50	200	10	10	0.5	10	1	-	-	-	-		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

USA/European specification models types

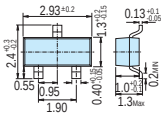
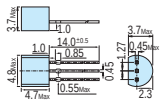
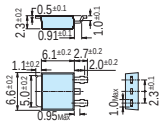
▣ General Purpose Transistor

Type No.	AEC-Q	Complementary	Max. Ratings				h_{FE}				$V_{CE(sat)}$ (V)			f_T (MHz)				Package	Outline (Unit : mm)
			V_{CEO} (V)	I_C (A)	P_C★ (W)	P_C☆ (W)	Min.	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Typ.	V_{CE} (V)	I_C (mA)		
TIP36C	◑	TIP35C	-100	-25	-	125	55	160	-5	-1.5A	-4.0	-25A	-5A	3	-	-5	-1A	TO-3P(N)	
TIP35C	◑	TIP36C	100	25	-	125	55	160	5	1.5A	4.0	25A	5A	3	-	5	1A		

Note) ★ : Ta=25℃, ☆ : Tc=25℃

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

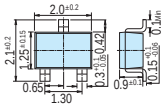
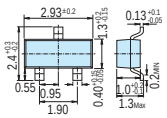
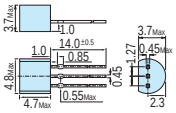
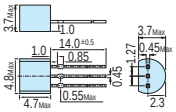
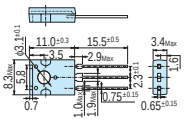
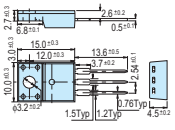
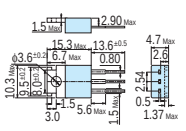
▣ Darlington Transistor

Type No.	Mark	AEC-Q	Complementary	Max. Ratings			h_{FE}			$V_{CE(sat)}$ (V)			f_T (MHz)			Package	Outline (Unit : mm)
				V_{CES} (V)	I_C (mA)	P_C (mW)	Min.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	V_{CE} (V)	I_C (mA)		
MMBTA63	AGX	◑	-	-30	-500	350※	5000	-5	-10	-1.5	-100	-0.1	125	-5	-10	SOT-23	
MMBTA517	UA	◑	-	30△	400	350※	30000	2	100	1	100	1	220◇	2	100		
MMBTA13	AIX	◑	-	30	500	350※	5000	5	10	1.5	100	0.1	125	5	10		
BC517	-	-	-	30△	500	625	30,000	2	100	1	100	1	220◇	2	100	TO-92	
MJD117	-	◑	MJD112	-100	-2A	20W☆	1000	-3	-2A	-2	-2A	8	25	-10	-750	DPAK	
MJD112	-	◑	MJD117	100	2A	20W☆	1000	3	2A	2	2A	8	25	10	750		

Note) ※ : Package Mounted on 99.5% Alumina 10×8×0.6mm, △ :V_{CEO}, ◇ : Typ, ☆ : Tc=25℃

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Switching Transistor

Type No.	Mark	AEC-Q	Complementary	Mark	Max. Ratings			h_{FE}			$V_{CE(sat)}$ (V)			f_T (MHz)	t_{on} (ns)	t_{off} (ns)	t_r (ns)	t_{stg} (ns)	t_f (ns)	Package	Outline (Unit : mm)
					V_{CEO} (V)	I_C (mA)	P_C (mW)	Max.	V_{CE} (V)	I_C (mA)	Max.	I_C (mA)	I_B (mA)	Min.	Max.	Max.	Max.	Max.	Max.		
KTN2907AU	ZH	◑	KTN2222AU	ZG	-60	-600	100	300	-10	-150	-1.6	-500	-50	200	45	100	40	80	30	USM	
KTN2222AU	ZG	◑	KTN2907AU	ZH	40	600	100	300	10	150	1.0	500	50	250	-	-	25	225	60		
2N3906S	ZA	◑	2N3904S	ZC	-40	-200	※350	300	-1	-0.1	-0.4	-50	-5	250	-	-	35	225	75	SOT-23	
KTN2907S	ZDA	◑	KTN222S	ZB	-40	-600	※350	300	-10	-150	-1.6	-500	-50	200	45	100	40	80	30		
KTN2907AS	ZH	◑	KTN2222AS	ZG	-60	-600	※350	300	-10	-150	-1.6	-500	-50	200	45	100	40	80	30		
KTN2222S	ZB	◑	KTN2907S	ZDA	30	600	※350	300	10	150	1.0	500	50	250	-	-	25	225	60		
2N3904S	ZC	◑	2N3906S	ZA	40	200	※350	300	1	10	0.3	50	5	300	-	-	35	200	50		
KTN2222AS	ZG	◑	KTN2907AS	ZH	40	600	※350	300	10	150	1.0	500	50	300	-	-	25	225	60		
KN3904	-	-	-		40	200	625	300	1	10	0.3	50	5	300	-	-	35	200	50	TO-92	
KTN2907A	-	-	KTN2222A		-60	-600	625	300	-10	-150	-1.6	-500	-50	200	45	100	40	80	30	TO-92	
KTN2222A	-	-	KTN2907A		40	600	625	300	10	150	1.0	500	50	300	-	-	25	225	60		
MJE13003	-	◑	-	-	400	1.5A	★20W	38	2	500	3.0	1.5A	500	4	-	1.1μs	4μs	-	700	TO-126	
MJE13003HV	-	◑	-	-	530	1.5A	★20W	50	10	400	2.5	1.5A	500	4	1.1μs	-	4μs	-	700		
MJE13005DF	-	◑	-	-	400	5A	★30W	35	5	1A	1.0	4A	1A	4	-	150	5μs	-	800	TO-220IS	
MJE13007F	-	◑	-	-	400	8A	★40W	50	5	2A	2.0	5A	1A	4	-	1.6μs	3μs	-	700		
MJE13009F	-	◑	-	-	400	12A	★50W	28	5	5A	1.5	8A	1.6A	4	-	1.1μs	3μs	-	700		
KTC5027F	-	◑	-	-	800	3A	★40W	40	5	200	2	1.5A	300	15	0.5μs	3.3μs	-	3μs	300		
KTC5027	-	◑	-	-	800	3A	★50W	40	5	200	2	1.5A	300	15◆	-	500	3μs	-	300	TO-220AB	
MJE13005D	-	◑	-	-	400	5A	★75W	35	5	1A	1.0	4A	1A	4	-	150	5μs	-	800		
MJE13009	-	◑	-	-	400	12A	★100W	28	5	5A	1.5	8A	1.6A	4	-	1.1μs	3μs	-	700		
KTC5027	-	◑	-	-	800	3A	★50W	40	5	200	2	1.5A	300	15◆	-	500	3μs	-	300		

Note) ※ : Package Mounted on 99.5% Alumina 10×8×0.6㎜, ◆ : Typ, ★ : Tc=25℃

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2N2222A	Onsemi	KTN2222A	**2SA1213**	Toshiba	KTA1666	**2SA1591**	Sanyo	KRA106	**2SB761/A**	Panasonic	KTA1046
2N2907A	Onsemi	KTN2907A	**2SA1214**	Toshiba	KTB1366	**2SA1597**	Sanyo	KRA106S	**2SB762**	Panasonic	KTB1368
2N3904	Onsemi	2N3904	**2SA1220**	Renesas	KTA1704	**2SA1603**	Renesas	KTA2014	**2SB764**	Sanyo	KTA1281
2N5551	Onsemi	2N5551	**2SA1222**	Renesas	KTA1275	**2SA1606**	Sanyo	KTA1659A	**2SB766**	Panasonic	KTA1663
2SA473	Toshiba	KTA1658	**2SA1225**	Toshiba	KTA1225D	**2SA1608**	Renesas	KTA2015	**2SB767**	Panasonic	KTA1662
2SA539	Renesas	KTA1266	**2SA1235**	Renesas	KTA1504S	**2SA1611**	Renesas	KTA2014	**2SB772**	Sanyo	KTB772
2SA562TM	Toshiba	KTA1270	**2SA1241**	Toshiba	KTA1718D	**2SA1612**	Renesas	KTA2017	**2SB776**	Sanyo	KTB688
2SA564A	Panasonic	KTA1266	**2SA1242**	Toshiba	KTA1242D	**2SA1622**	Sanyo	KTA2014	**2SB783**	Renesas	KTB1368
2SA574	JRC	KTA1266	**2SA1244**	Toshiba	KTA1385D	**2SA1625**	Renesas	KTA1277	**2SB789A**	Panasonic	KTA1661
2SA608	Sanyo	KTA1266	**2SA1244**	Toshiba	KTA1385L	**2SA1647**	Renesas	KTA1042L	**2SB798**	Renesas	KTA1663
2SA671	Renesas	KTA1046	**2SA1246**	Sanyo	KTC3198	**2SA1653**	Sanyo	KRA119S	**2SB805**	Renesas	KTA1661
2SA673	Renesas	KTA1270	**2SA1252**	Sanyo	KTA1504S	**2SA1654**	Sanyo	KRA119	**2SB807**	Panasonic	KTA1660
2SA683	Panasonic	KTA1273	**2SA1264N**	Toshiba	KTB688	**2SA1655**	Sanyo	KRA101S	**2SB808**	Sanyo	KTA1021
2SA684	Panasonic	KTA1281	**2SA1282A**	Renesas	KTA1273	**2SA1656**	Sanyo	KRA101	**2SB810**	Renesas	KTA1271
2SA715	Renesas	KTA1658	**2SA1284**	Renesas	KTA1274	**2SA1676**	Sanyo	KRA304	**2SB814**	Panasonic	KTA1517
2SA719	Panasonic	KTA1270	**2SA1285**	Renesas	KTA1024	**2SA1677**	Sanyo	KRA303	**2SB815**	Sanyo	KTA1298
2SA733	Renesas	KTA1266	**2SA1286**	Renesas	KTA1273	**2SA1678**	Sanyo	KRA302	**2SB816**	Sanyo	KTB688
2SA738	Renesas	KTA1658	**2SA1296**	Toshiba	KTA1273	**2SA1689**	Sanyo	BF421	**2SB817**	Sanyo	KTB817
2SA740	Toshiba	KTB1369	**2SA1304**	Toshiba	KTB1369	**2SA1694**	Sanken	KTB688	**2SB834**	Toshiba	KTA1046
2SA769	Sanken	KTB1368	**2SA1306**	Toshiba	KTA1659A	**2SA1695**	Sanken	KTA1695	**2SB849**	Renesas	KTB688
2SA771	Sanken	KTA1049	**2SA1312**	Toshiba	KTA1517	**2SA1706**	Sanyo	KTA1281	**2SB856**	Renesas	KTA1046
2SA777	Panasonic	KTA1274	**2SA1314**	Toshiba	KTA1001	**2SA1721**	Toshiba	KTA1073T	**2SB858**	Renesas	KTB1368
2SA812	Renesas	KTA1504S	**2SA1318**	Sanyo	KTA1266	**2SA1722**	Sanyo	KRA318	**2SB861**	Renesas	KTB1369
2SA813	Renesas	KTA1504S	**2SA1335**	Rohm	KTA1268	**2SA1727**	Rohm	KTA1703	**2SB864**	Renesas	KTA1266
2SA817A	Toshiba	KTA1274	**2SA1338**	Sanyo	KTA1505S	**2SA1742**	Renesas	KTB1370	**2SB874**	Renesas	KTA1715
2SA839	Toshiba	KTB1369	**2SA1341**	Sanyo	KRA104S	**2SA1745**	Sanyo	KTA2015	**2SB887**	Sanyo	KTB2510
2SA843	Panasonic	KTB1369	**2SA1342**	Sanyo	KRA103S	**2SA1767**	Panasonic	BF421	**2SB890**	Rohm	KTA200
2SA844	Renesas	KTA1266	**2SA1343**	Sanyo	KRA109S	**2SA1774**	Rohm	KTA2014E	**2SB892**	Sanyo	KTA1281
2SA854	Rohm	KTA1270	**2SA1344**	Sanyo	KRA102S	**2SA1774H**	Rohm	KTA2014E	**2SB899**	Renesas	KTA1046
2SA916	Renesas	KTA1024	**2SA1345**	Sanyo	KRA104	**2SA1775**	Rohm	KTA1703	**2SB901**	Renesas	KTB1368
2SA933	Rohm	KTA1266	**2SA1346**	Sanyo	KRA103	**2SA1788**	Rohm	KTB778	**2SB920/L**	Sanyo	KTA1049
2SA934	Rohm	KTA1273	**2SA1347**	Sanyo	KRA109	**2SA1797**	Rohm	KTA1666	**2SB940A**	Panasonic	KTB1369
2SA935	Rohm	KTA1023	**2SA1348**	Sanyo	KRA102	**2SA1832**	Toshiba	KTA2014E	**2SB941**	Panasonic	KTA1046
2SA940	Toshiba	KTB1369	**2SA1358**	Toshiba	KTB631K	**2SA1832F**	Toshiba	KTA2014E	**2SB942/A**	Panasonic	KTB1368
2SA949	Toshiba	KTA1024	**2SA1360**	Toshiba	KTA1360	**2SA1832FT**	Toshiba	KTA2014V	**2SB946**	Panasonic	KTB1370
2SA950	Toshiba	KTA1271	**2SA1362**	Toshiba	KTA1298	**2SA1834**	Rohm	KTA1834D	**2SB956**	Panasonic	KTA1663
2SA952	Renesas	KTA1271	**2SA1363**	Renesas	KTA1001	**2SA1859A**	Sanken	KTB1369	**2SB965**	Renesas	KTB688
2SA957	Sanken	KTB1369	**2SA1366**	Rohm	KTA1505S	**2SA1862**	Rohm	KTA1862D	**2SB966**	Renesas	KTB688
2SA958	Sanken	KTB1369	**2SA1368**	Renesas	KTA1662	**2SA1868**	Panasonic	KTA1277	**2SB984**	Renesas	KTA1275
2SA965	Toshiba	KTA1023	**2SA1381**	Sanyo	KTA1381	**2SA1900**	Rohm	KTA1666	**2SB1010**	Rohm	KTA1273
2SA966	Toshiba	KTA1273	**2SA1384**	Rohm	KTA1384D	**2SA1924**	Toshiba	KTA1703	**2SB1015**	Toshiba	KTA1046
2SA968	Toshiba	KTA1659	**2SA1385**	Renesas	KTA1385D	**2SA1952**	Rohm	KTA1385D	**2SB1016**	Toshiba	KTA1049
2SA968A	Toshiba	KTA1659A	**2SA1400**	Renesas	KTA1277	**2SA1962**	Toshiba	KTA1962	**2SB1017**	Toshiba	KTB1368
2SA970	Toshiba	KTA1268	**2SA1408**	Toshiba	KTA1700	**2SA1993E**	Renesas	KTA1266	**2SB1018**	Toshiba	KTB1370
2SA973	Panasonic	KTA1266	**2SA1412-Z**	NEC	KTA1862D	**2SA2029**	Rohm	KTA2014V	**2SB1025**	Renesas	KTA1661
2SA985A	Renesas	KTA1659A	**2SA1416**	Sanyo	KTA1661	**2SA2030**	Rohm	KTA2012V	**2SB1030**	Panasonic	KTA1271
2SA989	Renesas	KTA1266	**2SA1470**	Sanyo	KTB1370	**2SB434**	Toshiba	KTA1046	**2SB1032K**	Renesas	KTB2510
2SA992	Renesas	KTA1268	**2SA1490**	Sanken	KTB688	**2SB507**	Sanyo	KTA1046	**2SB1033**	Rohm	KTA1046
2SA1011	Sanyo	KTA1659A	**2SA1492**	Sanken	KTA1962	**2SB512**	Panasonic	KTA1046	**2SB1053**	Panasonic	KTA1504S
2SA1013	Toshiba	KTA1275	**2SA1496**	Sanyo	KRA111S	**2SB528**	Renesas	KTB1369	**2SB1063**	Panasonic	KTA1049
2SA1015	Toshiba	KTA1266	**2SA1497**	Sanyo	KRA111	**2SB544**	Sanyo	KTA1273	**2SB1069**	Panasonic	KTA1658
2SA1016K	Sanyo	KTA1268	**2SA1498**	Panasonic	KTA1703	**2SB546**	Renesas	KTB1369	**2SB1085A**	Rohm	KTA1659A
2SA1019	Sanyo	KTA1024	**2SA1502**	Sanyo	KRA118S	**2SB546A**	Renesas	KTB1369	**2SB1095**	Renesas	KTA1049
2SA1020	Toshiba	KTA1281	**2SA1503**	Sanyo	KRA118	**2SB560**	Sanyo	KTA1023	**2SB1096**	Renesas	KTB1369
2SA1030	Renesas	KTA1266	**2SA1507**	Sanyo	KTA1700	**2SB561**	Renesas	KTA1270	**2SB1111**	Renesas	KTA1715
2SA1036K	Rohm	KTA1505S	**2SA1508**	Sanyo	KRA114S	**2SB562**	Renesas	KTA1273	**2SB1114**	Renesas	KTA1001
2SA1037K	Rohm	KTA1504S	**2SA1509**	Sanyo	KRA114	**2SB566**	Renesas	KTB1368	**2SB1119**	Sanyo	KTA1664
2SA1037AK	Rohm	KTA1504S	**2SA1510**	Sanyo	KRA110S	**2SB568**	Renesas	KTB1369	**2SB1120**	Sanyo	KTA1001
2SA1038	Rohm	KTA1268	**2SA1511**	Sanyo	KRA110	**2SB595**	Toshiba	KTA1049	**2SB1123**	Sanyo	KTA1666
2SA1049	Toshiba	KTA1268	**2SA1518**	Sanyo	KRA224S	**2SB596**	Toshiba	KTB1368	**2SB1123**	Sanyo	KTA1666
2SA1069	Renesas	KTA1049	**2SA1519**	Sanyo	KRA223S	**2SB604**	Panasonic	KTB1368	**2SB1132**	Rohm	KTA1664
2SA1111	Panasonic	KTA1659A	**2SA1520**	Sanyo	KRA226S	**2SB624**	Renesas	KTA1298	**2SB1132**	Rohm	KTA1664
2SA1121	Renesas	KTA1505S	**2SA1521**	Sanyo	KRA222S	**2SB628**	Renesas	KTA1659A	**2SB1142**	Sanyo	KTA1715
2SA1127	Panasonic	KTA1266L	**2SA1522**	Sanyo	KRA224	**2SB631K**	Sanyo	KTB631K	**2SB1151**	Renesas	KTB1151
2SA1145	Toshiba	KTA1024	**2SA1523**	Sanyo	KRA223	**2SB646A**	Renesas	KTA1024	**2SB1181**	Rohm	KTA1045D
2SA1151	Renesas	KTA1266	**2SA1524**	Sanyo	KRA226	**2SB647/A**	Renesas	KTA1023	**2SB1182**	Rohm	KTA1718D
2SA1156	Renesas	KTA1277	**2SA1525**	Sanyo	KRA222	**2SB649/A**	Renesas	KTA1700	**2SB1184**	Rohm	KTA1040D
2SA1156	Renesas	KTA1703	**2SA1552**	Sanyo	KTA1225L	**2SB649A**	Renesas	KTA1700	**2SB1186A**	Rohm	KTA1659A
2SA1162	Toshiba	KTA1504S	**2SA1559**	Rohm	KTA1270	**2SB686**	Toshiba	KTB688	**2SB1187**	Rohm	KTA1046
2SA1173	Renesas	KTA1660	**2SA1563**	Sanyo	KRA107S	**2SB688**	Toshiba	KTB688	**2SB1188**	Rohm	KTA1663
2SA1179	Sanyo	KTA1504S	**2SA1564**	Sanyo	KRA107	**2SB698**	Sanyo	KTA1271	**2SB1189**	Rohm	KTA1661
2SA1182	Toshiba	KTA1505S	**2SA1576**	Rohm	KTA2014	**2SB703**	Renesas	KTB1368	**2SB1197K**	Rohm	KTA1298
2SA1184	Toshiba	KTA1659A	**2SA1577**	Rohm	KTA2015	**2SB708**	Renesas	KTB1370	**2SB1201**	Sanken	KTA1718D
2SA1191	Renesas	KTA1268	**2SA1579**	Rohm	KTA2017	**2SB709A**	Panasonic	KTA1504S	**2SB1202**	Sanyo	KTA1040D
2SA1200	Toshiba	KTA1660	**2SA1584**	Rohm	KTA2017	**2SB710**	Panasonic	KTA1505S	**2SB1203**	Sanyo	KTA1385D
2SA1201	Toshiba	KTA1661	**2SA1586**	Toshiba	KTA2014	**2SB719**	Renesas	KTB1369	**2SB1205**	Sanyo	KTA1242D
2SA1202	Toshiba	KTA1662	**2SA1587**	Toshiba	KTA2017	**2SB720**	Renesas	KTB1369	**2SB1212**	Rohm	KTA1275
2SA1203	Toshiba	KTA1663	**2SA1588**	Toshiba	KTA2015	**2SB725**	Panasonic	KTA1266	**2SB1216**	Sanyo	KTA1042D
2SA1204	Toshiba	KTA1001	**2SA1589**	Sanyo	KRA113S	**2SB739**	Renesas	KTA1273	**2SB1218**	Panasonic	KTA1504S
2SA1208	Sanyo	KTA1024	**2SA1590**	Sanyo	KRA113	**2SB746**	Renesas	KTA1270	**2SB1218A**	Panasonic	KTA2014

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2SB1219	Panasonic	KTA2015	**2SC2404**	Panasonic	KTC3880S	**2SC3860**	Sanyo	KRC111	**2SC4574**	Rohm	KTD1414
2SB1220	Panasonic	KTA2017	**2SC2411K**	Rohm	KTC3876S	**2SC3863**	Sanyo	KRC118S	**2SC4596**	Rohm	KTC2028
2SB1234	Sanyo	KTB1234T	**2SC2412K**	Rohm	KTC3875S	**2SC3864**	Sanyo	KRC118	**2SC4617**	Rohm	KTC4075E
2SB1237	Rohm	KTA1273	**2SC2462**	Renesas	KTC3875S	**2SC388A**	Toshiba	KTC3197	**2SC4617H**	Rohm	KTC4075E
2SB1240	Rohm	KTA1281	**2SC2480**	Panasonic	KTC3882	**2SC3898**	Sanyo	KRC114S	**2SC4620**	Rohm	MPSA44
2SB1261-Z	Renesas	KTA1040D	**2SC2482**	Toshiba	KTC3207	**2SC3899**	Sanyo	KRC114	**2SC4662**	Sanken	KTC4419
2SB1274	Sanyo	KTA1046	**2SC2501**	Shindengen	KTC4419	**2SC3900**	Sanyo	KRC110S	**2SC4667**	Toshiba	2N3904S
2SB1275	Rohm	KTA1225D	**2SC2517**	Renesas	KTC2028	**2SC3901**	Sanyo	KRC110	**2SC4672**	Rohm	KTC4379
2SB1290	Rohm	KTB1370	**2SC2535**	Toshiba	KTC4419	**2SC3912**	Sanyo	KRC244S	**2SC4688**	Toshiba	KTD718
2SB1293	Rohm	KTA1049	**2SC2553**	Toshiba	KTC4419	**2SC3913**	Sanyo	KRC243S	**2SC4689**	Toshiba	KTD718
2SB1294	Rohm	KTA1049	**2SC2610**	Renesas	KTC3207	**2SC3914**	Sanyo	KRC246S	**2SC4738**	Toshiba	KTC4075E
2SB1315	Renesas	KTB688	**2SC2613**	Renesas	KTC4419	**2SC3915**	Sanyo	KRC242S	**2SC4738F**	Toshiba	KTC4075E
2SB1316	Rohm	MJD117	**2SC2618**	Renesas	KTC3876S	**2SC3916**	Sanyo	KRC244	**2SC4738FT**	Toshiba	KTC4075V
2SB1328	Rohm	KTA1700	**2SC2620**	Renesas	KTC3880S	**2SC3917**	Sanyo	KRC243	**2SC4833**	Shindengen	KTC4419
2SB1364	Renesas	KTA1663	**2SC2655**	Toshiba	KTC3209	**2SC3918**	Sanyo	KRC246	**2SC4883/A**	Sanken	KTD2061
2SB1371	Panasonic	KTB688	**2SC2688**	Renesas	KTC4217	**2SC3919**	Sanyo	KRC242	**2SC4915**	Toshiba	KTC4080E
2SB1374	Rohm	KTA1281	**2SC2703**	Toshiba	KTD863	**2SC3920**	Sanyo	KTC2800	**2SC4917**	Toshiba	MJE13003
2SB1375	Toshiba	KTA1046	**2SC2705**	Toshiba	KTC3206	**2SC3938**	Panasonic	KTC4076	**2SC4944**	Toshiba	KTC601U
2SB1385	Renesas	KTA1385L	**2SC2712**	Toshiba	KTC3875S	**2SC4002**	Sanyo	MPSA44	**2SC5001**	Rohm	KTC5001D
2SB1409S	Renesas	KTA1225D	**2SC2714**	Toshiba	KTC3880S	**2SC4008**	Rohm	KTD2060	**2SC5028**	Toshiba	KTC2814
2SB1412	Rohm	KTA1242D	**2SC2732**	Renesas	KTC3882	**2SC4047**	Sanyo	KRC107S	**2SC5101**	Sanken	KTD718
2SB1417	Panasonic	KTA1046	**2SC2755**	Renesas	KTC3880S	**2SC4048**	Sanyo	KRC107	**2SC5103F5**	Rohm	KTC5103D
2SB1421	Panasonic	KTB688	**2SC2812**	Sanyo	KTC3875S	**2SC4051**	Shindengen	KTC4520F	**2SC5197**	Toshiba	KTC5197
2SB1455	Sanyo	KTA1049	**2SC2859**	Toshiba	KTC3876S	**2SC4053**	Shindengen	KTC4521F	**2SC5248**	Rohm	KTD2061
2SB1475	Renesas	KTA2015	**2SC2873**	Toshiba	KTC4379	**2SC4061K**	Rohm	MMBTA42	**2SC5658**	Rohm	KTC4075V
2SB1530	Renesas	KTB1369	**2SC2873**	Toshiba	KTC4379	**2SC4062**	Renesas	KTD1937	**2SC5663**	Rohm	KTC4072V
2SB1560	Sanken	KTB2510	**2SC2878**	Toshiba	KTC2874	**2SC4068**	Panasonic	KTC4080	**2SD57**	Renesas	KTC2028
2SB1561	Rohm	KTA1666	**2SC2881**	Toshiba	KTC4373	**2SC4081**	Rohm	KTC4075	**2SD58**	Renesas	KTC2028
2SB1565	Rohm	KTA1046	**2SC2882**	Toshiba	KTC4374	**2SC4082**	Rohm	KTC4082	**2SD78**	Renesas	KTC2028
2SB1650	Rohm	KTA1700	**2SC2883**	Toshiba	KTC4375	**2SC4097**	Rohm	KTC4076	**2SD122**	Renesas	KTD2060
2SB1725	Sanken	KTB1370	**2SC2884**	Toshiba	KTC4376	**2SC4099**	Rohm	KTC4080	**2SD141**	Renesas	KTC2028
2SB1859A	Sanken	KTB1369	**2SC2983**	Toshiba	KTC2983D	**2SC4116**	Toshiba	KTC4075	**2SD142**	Renesas	KTC2028
2SB1891	Toshiba	KTA1715	**2SC3068**	Sanyo	KTC3112	**2SC4118**	Toshiba	KTC4076	**2SD143**	Renesas	KTC2028
2SC382TM	Toshiba	KTC3197	**2SC3072**	Toshiba	KTC3072D	**2SC4120**	Sanyo	KRC113S	**2SD144**	Renesas	KTC2028
2SC536	Sanyo	KTC3198	**2SC3074**	Toshiba	KTC5103D	**2SC4121**	Sanyo	KRC113M	**2SD150**	Renesas	KTC2028
2SC789	Toshiba	KTD2060	**2SC3112**	Toshiba	KTC3112	**2SC4129**	Rohm	MJE13007F	**2SD152**	Renesas	KTD2060
2SC790	Toshiba	KTC2026	**2SC3124**	Toshiba	KTC3882	**2SC4129**	Rohm	KTC4419	**2SD154**	Renesas	KTD2060
2SC945	Renesas	KTC3198	**2SC3134**	Sanyo	KTC3875S	**2SC4133**	Sanyo	KRC106	**2SD155**	Renesas	KTD2060
2SC1061	Renesas	KTC2026	**2SC3142**	Sanyo	KTC3880S	**2SC4137**	Rohm	KTC3114	**2SD234**	Toshiba	KTC2028
2SC1173	Toshiba	KTC4369	**2SC3142A**	Renesas	KTC3205	**2SC4146**	Sanyo	KRC106S	**2SD235**	Toshiba	KTC2028
2SC1213	Renesas	KTC3202	**2SC3181N**	Toshiba	KTD718	**2SC4154**	Renesas	KTC4075	**2SD254**	Renesas	KTC2028
2SC1213A	Renesas	KTC200	**2SC3187**	Panasonic	KTC3207	**2SC4155**	Renesas	KTC4075	**2SD255**	Renesas	KTC2028
2SC1371	Panasonic	KTC3202	**2SC3225**	Toshiba	KTC3209	**2SC4177**	Renesas	KTC4075	**2SD256**	Sanken	KTC2028
2SC1384	Renesas	KTC3209	**2SC3243**	Renesas	KTD863	**2SC4178**	Renesas	KTC4080	**2SD288**	Renesas	KTC2028
2SC1398	Panasonic	KTC4369	**2SC3246**	Renesas	KTC3209	**2SC4181**	Renesas	KTC4075	**2SD289**	Renesas	KTC2028
2SC1419	Renesas	KTC2026	**2SC3247**	Renesas	KTD863	**2SC4182**	Renesas	KTC4082	**2SD313**	Sanyo	KTC2028
2SC1505	Renesas	KTC3208	**2SC3249**	Renesas	KTC3207	**2SC4207**	Sanyo	KTC2983D	**2SD314**	Sanyo	KTC2028
2SC1569	Toshiba	KTC3208	**2SC3252**	Sanyo	KTC4369	**2SC4207**	Sanyo	KTC2983L	**2SD315**	Sanyo	KTD2060
2SC1573	Panasonic	KTC3207	**2SC3258**	Toshiba	KTC2028	**2SC4211**	Sanyo	KTC3875S	**2SD317/A**	Panasonic	KTD2060
2SC1623	Renesas	KTC3875S	**2SC3266**	Toshiba	KTC3205	**2SC4215**	Toshiba	KTC4080	**2SD318/A**	Panasonic	KTD2060
2SC1685	Panasonic	KTC3198	**2SC3269**	Rohm	KTC3207	**2SC4216**	Sanyo	KRC110	**2SD325**	Sanyo	KTC4369
2SC1740	Rohm	KTC3198	**2SC3295**	Toshiba	KTC3295	**2SC4217**	Sanyo	KTC4217	**2SD359**	Renesas	KTC2028
2SC1741	Rohm	KTC3202	**2SC3296**	Toshiba	KTD2061	**2SC4251**	Toshiba	KTC4082	**2SD360**	Renesas	KTC2028
2SC1815	Toshiba	KTC3198	**2SC3297**	Toshiba	KTC4369	**2SC4258**	Renesas	KTC4080	**2SD361**	Renesas	KTC2028
2SC1826	Sanken	KTD2026	**2SC3298**	Toshiba	KTC4370A	**2SC4259**	Renesas	KTC4080	**2SD365**	Panasonic	KTC2028
2SC1881	Renesas	KTD2424	**2SC3303**	Toshiba	KTC2022D	**2SC4270**	Sanyo	KTC3882	**2SD389**	Panasonic	KTD2060
2SC1905	Panasonic	KTC3208	**2SC3326**	Toshiba	KTD1304	**2SC4331**	Renesas	KTC2022L	**2SD390**	Panasonic	KTD2060
2SC1913	Panasonic	KTD2061	**2SC3331**	Sanyo	KTC3198	**2SC4338**	Renesas	MJD112L	**2SD401A**	Renesas	KTD2061
2SC1921	Renesas	KTC3229	**2SC3395**	Sanyo	KRC104S	**2SC4362**	Sanyo	KRC101S	**2SD415**	Renesas	KTD600K
2SC1959	Toshiba	KTC3202	**2SC3396**	Sanyo	KRC103S	**2SC4363**	Sanyo	KRC101	**2SD418**	Panasonic	KTD2499
2SC1983	Sanken	KTD2092	**2SC3397**	Sanyo	KRC109S	**2SC4397**	Sanyo	KRC403	**2SD438**	Sanyo	KTC1027
2SC2001	Renesas	KTC3203	**2SC3398**	Sanyo	KRC102S	**2SC4398**	Sanyo	KRC402	**2SD468**	Renesas	KTC3205
2SC2060	Rohm	KTD863	**2SC3399**	Sanyo	KRC104	**2SC4400**	Sanyo	KTC4080	**2SD471**	Renesas	KTC3205
2SC2073	Toshiba	KTD2061	**2SC3400**	Sanyo	KRC103	**2SC4413**	Sanyo	KTC4075	**2SD475**	Renesas	KTD2060
2SC2075	Toshiba	Conserved/Discontinued	**2SC3401**	Sanyo	KRC109	**2SC4418**	Sanken	KTC4419	**2SD476**	Renesas	KTD2060
2SC2078	Sanyo	Conserved/Discontinued	**2SC3402**	Sanyo	KRC102	**2SC4448**	Toshiba	KTC1001	**2SD477**	Renesas	KTD2061
2SC2120	Toshiba	KTC3203	**2SC3421**	Toshiba	KTD600K	**2SC4467**	Sanken	KTD718	**2SD478**	Renesas	KTD2061
2SC2167	Sanken	KTD2061	**2SC3423**	Toshiba	KTC3423	**2SC4467**	Sanken	KTC5197	**2SD488**	Onsemi	KTD2060
2SC2168	Sanken	KTD2061	**2SC3440**	Renesas	KTC3265	**2SC4468**	Sanken	KTC4468	**2SD489**	Onsemi	KTD2060
2SC2229	Toshiba	KTC3206	**2SC3444**	Renesas	KTC4378	**2SC4497**	Toshiba	KTC3207T	**2SD490**	Onsemi	KTD2060
2SC2233	Toshiba	KTC1003	**2SC3468**	Sanyo	KTC3207	**2SC4506**	Rohm	KTC3229	**2SD525**	Toshiba	KTC2028
2SC2235	Toshiba	KTC1027	**2SC3503**	Sanyo	KTC3503	**2SC4511**	Sanken	KTC2028	**2SD526**	Toshiba	KTD2060
2SC2236	Toshiba	KTC3205	**2SC3518**	Renesas	KTC5103D	**2SC4512**	Sanken	KTC2028	**2SD570**	Panasonic	KTD2060
2SC2238	Toshiba	KTC4370A	**2SC3518-Z**	Renesas	KTC5103D	**2SC4544**	Toshiba	KTC3229	**2SD580**	Toshiba	KTC2026
2SC2239	Toshiba	KTD2061	**2SC3570**	Renesas	KTC4419	**2SC4546**	Sanken	MJE13007F	**2SD600K**	Sanyo	KTD600K
2SC2274	Sanyo	KTC200	**2SC3621**	Toshiba	KTC2800	**2SC4549**	Renesas	KTC2028	**2SD601**	Panasonic	KTC3875S
2SC2275A	Renesas	KTC4370A	**2SC3624**	Toshiba	KTC3295	**2SC4553**	Renesas	KTD1937	**2SD602**	Panasonic	KTC3876S
2SC2320/L	Renesas	KTC3198/L	**2SC3631**	Renesas	KTC3631D	**2SC4555**	Sanyo	KTC4076	**2SD633**	Toshiba	KTD1415
2SC2344	Sanyo	KTD2061	**2SC3691**	Renesas	KTC2028	**2SC4558**	Sanken	KTD2066	**2SD634**	Toshiba	KTD1415
2SC2383	Toshiba	KTC3228	**2SC3859**	Sanyo	KRC111S	**2SC4573**	Rohm	KTD1414	**2SD635**	Toshiba	KTD1415

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
2SD667	Renesas	KTD1863	**2SD1491**	Renesas	KTC2814	**2SD2257**	Toshiba	KTD1413	**BUX84**	Onsemi	KTC4419
2SD667	Renesas	KTD1863	**2SD1505**	Rohm	KTC2026	**2SD2337**	Renesas	KTD2061	**CPH3101**	Sanyo	KTA1544T
2SD669A	Renesas	KTC2800	**2SD1562A**	Rohm	KTC4370A	**2SD2342**	Renesas	KTD998	**CPH3105**	Sanyo	KTA1552T
2SD678A	Panasonic	KTD1415	**2SD1582**	Renesas	KTD1028	**2SD2343**	Rohm	KTC4370A	**CPH3106**	Sanyo	KTA1535T
2SD679A	Panasonic	KTD1415	**2SD1585**	Renesas	KTC2026	**2SD2351**	Rohm	KTC4666	**CPH3109**	Sanyo	KTA1542T
2SD686	Toshiba	KTD1414	**2SD1586**	Renesas	KTC2028	**2SD2389**	Sanken	KTD1510	**CPH3110**	Sanyo	KTA1543T
2SD687	Toshiba	KTD2424	**2SD1587**	Renesas	KTD2061	**2SD2390**	Sanken	KTD1510	**CPH3112**	Sanyo	KTA1553T
2SD691	Panasonic	KTD1415	**2SD1615**	Renesas	KTC4378	**2SD2566**	Rohm	KTC2800	**CPH3114**	Sanyo	KTA1532T
2SD718	Toshiba	KTD718	**2SD1622**	Sanyo	KTC4378	**2SD3076**	Toshiba	KTC2815D	**CPH3115**	Sanyo	KTA1541T
2SD721	Sanken	KTD1415	**2SD1623**	Sanyo	KTC4379	**2SD3518**	Renesas	KTC5103L	**CPH3116**	Sanyo	KTA1551T
2SD722	Sanken	KTD1415	**2SD1664**	Rohm	KTC4375	**BA1A3Q**	Renesas	KRC116	**CPH3201**	Sanyo	KTC3544T
2SD723	Renesas	KTD2060	**2SD1682**	Sanyo	KTC2814	**BA1A4M**	Renesas	KRC102	**CPH3205**	Sanyo	KTC3552T
2SD731	Panasonic	KTD718	**2SD1691**	Renesas	KTD1691	**BA1A4P**	Renesas	KRC107	**CPH3206**	Sanyo	KTC3535T
2SD734	Sanyo	KTC3208	**2SD1733**	Rohm	KTC2025D	**BA1A4Z**	Renesas	KRC111	**CPH3209**	Sanyo	KTC3542T
2SD743/A	Renesas	KTC2028	**2SD1758**	Rohm	KTC3205	**BA1F4M**	Renesas	KRC103	**CPH3210**	Sanyo	KTC3543T
2SD759	Renesas	KTC4370A	**2SD1758**	Rohm	KTC2815D	**BA1F4N**	Renesas	KRC108	**CPH3212**	Sanyo	KTC3553T
2SD760	Renesas	KTC4370A	**2SD1760**	Rohm	KTC2020D	**BA1F4Z**	Renesas	KRC113	**CPH3214**	Sanyo	KTC3532T
2SD761	Sanyo	KTC4370A	**2SD1763A**	Rohm	KTC4370A	**BA1L3M**	Renesas	KRC101	**CPH3215**	Sanyo	KTC3541T
2SD768	Renesas	KTD1415	**2SD1767**	Rohm	KTC4373	**BA1L3N**	Renesas	KRC119	**CPH3216**	Sanyo	KTC3551T
2SD795	Renesas	KTC2026	**2SD1770**	Panasonic	KTD2061	**BA1L3Z**	Renesas	KRC110	**CPH6701**	Sanyo	KTX512T
2SD837	Panasonic	KTD1414	**2SD1772**	Panasonic	KTD2061	**BA1L4L**	Renesas	KRC109	**DTA113ZE**	Rohm	KRA316E
2SD856/A	Panasonic	KTC2026	**2SD1778**	Rohm	KTD2060	**BA1L4M**	Renesas	KRC104	**DTA113ZKA**	Rohm	KRA116S
2SD857/A	Panasonic	KTD2020	**2SD1781**	Rohm	KTC3265	**BA1L4Z**	Renesas	KRC114	**DTA113ZSA**	Rohm	KRA116
2SD863	Sanyo	KTD863	**2SD1801**	Sanyo	KTC2815D	**BC115**	STM	KTC1008	**DTA113ZUA**	Rohm	KRA316
2SD874	Panasonic	KTC4375	**2SD1802**	Sanyo	KTC2020D	**BC140**	STM	KTC1008	**DTA114EE**	Rohm	KRA302E
2SD874A	Panasonic	KTC4378	**2SD1802**	Sanyo	KTC2020D	**BC211**	STM	KTC1008	**DTA114EK**	Rohm	KRA102S
2SD880	Toshiba	KTC2026	**2SD1803**	Sanyo	KTC5103D	**BC337**	STM	BC337	**DTA114EM**	Rohm	KRA302V
2SD882	Sanyo	KTD882	**2SD1803**	Sanyo	KTC5103D	**BC340**	STM	KTC1008	**DTA114ES**	Rohm	KRA102
2SD887	Panasonic	KTC2026	**2SD1805**	Sanyo	KTC3072D	**BC341**	STM	KTC1008	**DTA114EU**	Rohm	KRA302
2SD896	Sanyo	KTD718	**2SD1816**	Sanyo	KTC2022D	**BC342**	STM	KTC1008	**DTA114TE**	Rohm	KRA311E
2SD968	Panasonic	KTC4373	**2SD1819A**	Panasonic	KTC4075	**BC395**	STM	KTC1008	**DTA114TK**	Rohm	KRA111S
2SD972	Sanken	KTD1413	**2SD1820**	Panasonic	KTC4076	**BC807**	Onsemi	BC807	**DTA114TM**	Rohm	KRA311V
2SD999	Renesas	KTC4375	**2SD1851**	Sanyo	KTD1854T	**BC817**	Onsemi	BC817	**DTA114TS**	Rohm	KRA111
2SD1000	Renesas	KTC4378	**2SD1858**	Rohm	KTD863	**BC846**	Onsemi	BC846	**DTA114TU**	Rohm	KRA311
2SD1001	Renesas	KTC4374	**2SD1859**	Rohm	KTD1863	**BC847**	Onsemi	BC847	**DTA114WE**	Rohm	KRA320E
2SD1007	Renesas	KTC4374	**2SD1863**	Rohm	KTD1863	**BC847WLT1**	Onsemi	BC847W	**DTA114WKA**	Rohm	KRA120S
2SD1010	Panasonic	KTC3112	**2SD1896**	Rohm	KTC2028	**BC848**	Onsemi	BC848	**DTA114WSA**	Rohm	KRA120
2SD1029	Sanyo	KTD2060	**2SD1897**	Rohm	KTC2028	**BC850**	Onsemi	BC850	**DTA114WUA**	Rohm	KRA320
2SD1047	Sanyo	KTD1047	**2SD1898**	Rohm	KTD1898	**BC856**	Onsemi	BC856	**DTA114YE**	Rohm	KRA307E
2SD1048	Sanyo	KTC3265	**2SD1898**	Rohm	KTD1898	**BC857**	Onsemi	BC857	**DTA114YK**	Rohm	KRA107S
2SD1052	Toshiba	KTC2026	**2SD1899**	Renesas	KTC2020L	**BC857WLT1**	Onsemi	BC857W	**DTA114YM**	Rohm	KRA307V
2SD1060	Sanyo	KTC2028	**2SD1899-Z**	Renesas	KTC2020D	**BC860**	Onsemi	BC860	**DTA114YS**	Rohm	KRA107
2SD1110	Renesas	KTD718	**2SD1913**	Sanyo	KTC2026	**BCW60A/B/D**	Onsemi	KTC3875S	**DTA114YU**	Rohm	KRA307
2SD1131	Renesas	KTD2060	**2SD1918**	Rohm	KTC2983D	**BCW61A/B/D**	Onsemi	KTA1504S	**DTA115EE**	Rohm	KRA322E
2SD1132	Renesas	KTD2060	**2SD1932**	Rohm	KTD1414	**BCW68**	Onsemi	BCW68	**DTA115EKA**	Rohm	KRA122S
2SD1133	Renesas	KTD2060	**2SD1933**	Rohm	KTD1414	**BCX52**	Onsemi	KTA1666	**DTA115ESA**	Rohm	KRA122
2SD1134	Renesas	KTD2060	**2SD1944**	Rohm	KTD2092	**BCX70G/H/J/K**	Onsemi	KTC3875S	**DTA115EUA**	Rohm	KRA322
2SD1135	Renesas	KTD2060	**2SD1972**	Panasonic	KTC2026	**BCX71G/H/J/K**	Onsemi	KTA1504S	**DTA115TE**	Rohm	KRA312E
2SD1136	Renesas	KTD2060	**2SD1977**	Renesas	KTD718	**BD239/A**	Onsemi	KTC2026	**DTA115TH**	Rohm	KRA312E
2SD1138	Renesas	KTD2061	**2SD1980**	Rohm	MJD112	**BD239B**	Onsemi	KTD2060	**DTA115TK**	Rohm	KRA112S
2SD1177	Renesas	KTC2814	**2SD1990**	Panasonic	KTD2060	**BD239C**	Onsemi	KTC2028	**DTA115TM**	Rohm	KRA312V
2SD1190	Sanyo	KTD1414	**2SD2004**	Rohm	KTC2800	**BD240/A**	Onsemi	KTA1046	**DTA115TS**	Rohm	KRA112
2SD1195	Sanyo	KTD1413	**2SD2012**	Toshiba	KTC2026	**BD240B**	Onsemi	KTA1046	**DTA115TU**	Rohm	KRA312
2SD1197	Sanyo	KTD1510	**2SD2014**	Sanken	KTD1414	**BD240C**	Onsemi	KTA1049	**DTA123EE**	Rohm	KRA317E
2SD1207	Sanyo	KTC3209	**2SD2022**	Rohm	KTD2424	**BD241/A**	Onsemi	KTC2026	**DTA123EKA**	Rohm	KRA117S
2SD1207S	Sanyo	KTC3209	**2SD2023**	Rohm	KTC2026	**BD241B**	Onsemi	KTD2060	**DTA123EM**	Rohm	KRA317V
2SD1218	Panasonic	KTD1414	**2SD2027**	Sanyo	KTC2026	**BD241C**	Onsemi	KTC2028	**DTA123ESA**	Rohm	KRA117
2SD1236	Sanyo	KTC2028	**2SD2032**	Rohm	KTD1414	**BD242/A**	Onsemi	KTC2026	**DTA123EUA**	Rohm	KRA317
2SD1264/A	Panasonic	KTD2061	**2SD2035**	Rohm	KTD2060	**BD242B**	Onsemi	KTB1368	**DTA123JE**	Rohm	KRA305E
2SD1268	Panasonic	KTD2060	**2SD2051**	Panasonic	KTD2424	**BD242C**	Onsemi	KTA1049	**DTA123JK**	Rohm	KRA105S
2SD1270	Panasonic	KTC2028	**2SD2061**	Rohm	KTC2026	**BD677A**	Fairchild	KTD1411	**DTA123JM**	Rohm	KRA305V
2SD1273	Panasonic	KTD2092	**2SD2064**	Panasonic	KTD718	**BD809**	Onsemi	KTC4512	**DTA123JS**	Rohm	KRA105
2SD1276	Panasonic	KTD1414	**2SD2092**	Toshiba	KTD2092	**BD810**	Onsemi	KTA1726	**DTA123JU**	Rohm	KRA305
2SD1280	Panasonic	KTC4375	**2SD2102**	Renesas	KTD1414	**BF420**	Philips	BF420	**DTA123YE**	Rohm	KRA318E
2SD1288	Renesas	KTD718	**2SD2107**	Renesas	KTD2060	**BF421**	Philips	BF421	**DTA123YKA**	Rohm	KRA118S
2SD1289	Renesas	KTD718	**2SD2110**	Renesas	KTD1414	**BF422**	Philips	BF422	**DTA123YSA**	Rohm	KRA118
2SD1302	Panasonic	KTC3202	**2SD2118**	Rohm	KTC3072	**BF423**	Philips	BF423	**DTA123YUA**	Rohm	KRA318
2SD1328	Panasonic	KTC2875	**2SD2118**	Rohm	KTC3072D	**BN1A3Q**	Renesas	KRA116	**DTA124EE**	Rohm	KRA303E
2SD1353	Toshiba	KTC2026	**2SD2123S**	Renesas	KTC2983D	**BN1A4M**	Renesas	KRA102	**DTA124EK**	Rohm	KRA103S
2SD1354	Toshiba	KTC2026	**2SD2128**	Renesas	KTD2424	**BN1A4P**	Renesas	KRA107	**DTA124EM**	Rohm	KRA303V
2SD1369	Toshiba	KTD2424	**2SD2129**	Toshiba	KTD1413	**BN1A4Z**	Renesas	KRA111	**DTA124ES**	Rohm	KRA103
2SD1370	Toshiba	KTD1414	**2SD2156/A**	Panasonic	KTD2092	**BN1F4M**	Renesas	KRA103	**DTA124EU**	Rohm	KRA303
2SD1383K	Rohm	MMBTA63	**2SD2157/A**	Panasonic	KTD1414	**BN1F4N**	Renesas	KRA108	**DTA124TE**	Rohm	KRA313E
2SD1384	Rohm	KTC3205	**2SD2158/A**	Panasonic	KTD2092	**BN1F4Z**	Renesas	KRA113	**DTA124TH**	Rohm	KRA313E
2SD1406	Toshiba	KTC2026	**2SD2164**	Renesas	KTD2092	**BN1L3M**	Renesas	KRA101	**DTA124TK**	Rohm	KRA113S
2SD1407	Toshiba	KTC2028	**2SD2188**	Rohm	KTD2066	**BN1L3N**	Renesas	KRA119	**DTA124TM**	Rohm	KRA313V
2SD1408	Toshiba	KTD2060	**2SD2223**	Sanyo	KTD1414	**BN1L3Z**	Renesas	KRA110	**DTA124TS**	Rohm	KRA113
2SD1414	Toshiba	KTD1414	**2SD2228**	Renesas	KTC4076	**BN1L4L**	Renesas	KRA109	**DTA124TU**	Rohm	KRA313
2SD1415	Toshiba	KTD1415	**2SD2241**	Toshiba	KTD1413	**BN1L4M**	Renesas	KRA104	**DTA124XE**	Rohm	KRA308E
2SD1436K	Renesas	KTD1510	**2SD2242**	Panasonic	KTD1414	**BN1L4Z**	Renesas	KRA114	**DTA124XK**	Rohm	KRA108S

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
DTA124XM	Rohm	KRA308V	DTC115TK	Rohm	KRC112S	DTD114EK	Rohm	KRC244S	GA1A4M	Renesas	KRC402
DTA124XS	Rohm	KRA108	DTC115TM	Rohm	KRC412V	DTD114ES	Rohm	KRC244	GA1A4P	Renesas	KRC407
DTA124XU	Rohm	KRA308	DTC115TS	Rohm	KRC112	DTD123EK	Rohm	KRC242S	GA1A4Z	Renesas	KRC411
DTA143EE	Rohm	KRA301E	DTC115TU	Rohm	KRC412	DTD123ES	Rohm	KRC242	GA1F4M	Renesas	KRC403
DTA143EK	Rohm	KRA101S	DTC123EE	Rohm	KRC417E	DTD123YK	Rohm	KRC246S	GA1F4N	Renesas	KRC408
DTA143EM	Rohm	KRA301V	DTC123EKA	Rohm	KRC117S	DTD123YS	Rohm	KRC246	GA1F4Z	Renesas	KRC413
DTA143ES	Rohm	KRA101	DTC123EM	Rohm	KRC417V	DTD143EK	Rohm	KRC243S	GA1L3M	Renesas	KRC401
DTA143EU	Rohm	KRA301	DTC123ESA	Rohm	KRC117	DTD143ES	Rohm	KRC243	GA1L3N	Renesas	KRC419
DTA143TE	Rohm	KRA310E	DTC123EUA	Rohm	KRC417	EMA2	Rohm	KRA554E	GA1L3Z	Renesas	KRC410
DTA143TK	Rohm	KRA110S	DTC123JE	Rohm	KRC405E	EMA3	Rohm	KRA560E	GA1L4L	Renesas	KRC409
DTA143TM	Rohm	KRA310V	DTC123JK	Rohm	KRC105S	EMA4	Rohm	KRA561E	GA1L4M	Renesas	KRC404
DTA143TS	Rohm	KRA110	DTC123JM	Rohm	KRC405V	EMA5	Rohm	KRA555E	GA1L4Z	Renesas	KRC414
DTA143XE	Rohm	KRA319E	DTC123JS	Rohm	KRC105	EMA6	Rohm	KRA564E	GN1A3Q	Renesas	KRA316
DTA143XKA	Rohm	KRA119S	DTC123JU	Rohm	KRC405	EMA7	Rohm	KRA569E	GN1A4M	Renesas	KRA302
DTA143XM	Rohm	KRA319V	DTC123YE	Rohm	KRC418E	EMA8	Rohm	KRA557E	GN1A4P	Renesas	KRA307
DTA143XSA	Rohm	KRA119	DTC123YKA	Rohm	KRC118S	EMA11	Rohm	KRA556E	GN1A4Z	Renesas	KRA311
DTA143XUA	Rohm	KRA319	DTC123YSA	Rohm	KRC118	EMB2	Rohm	KRA754E	GN1F4M	Renesas	KRA303
DTA143ZE	Rohm	KRA306E	DTC123YUA	Rohm	KRC418	EMB3	Rohm	KRA760E	GN1F4N	Renesas	KRA308
DTA143ZK	Rohm	KRA106S	DTC124EE	Rohm	KRC403E	EMB4	Rohm	KRA761E	GN1F4Z	Renesas	KRA313
DTA143ZM	Rohm	KRA306V	DTC124EK	Rohm	KRC103S	EMB6	Rohm	KRA724E	GN1L3M	Renesas	KRA301
DTA143ZS	Rohm	KRA106	DTC124EM	Rohm	KRC403V	EMB9	Rohm	KRA757E	GN1L3N	Renesas	KRA319
DTA143ZU	Rohm	KRA306	DTC124ES	Rohm	KRC103	EMB10	Rohm	KRA755E	GN1L3Z	Renesas	KRA310
DTA144EE	Rohm	KRA304E	DTC124EU	Rohm	KRC403	EMB11	Rohm	KRA752E	GN1L4L	Renesas	KRA309
DTA144EK	Rohm	KRA104S	DTC124TE	Rohm	KRC413E	EMD2	Rohm	KRX202E	GN1L4M	Renesas	KRA304
DTA144EM	Rohm	KRA304V	DTC124TH	Rohm	KRC413E	EMD3	Rohm	KRX201E	GN1L4Z	Renesas	KRA314
DTA144ES	Rohm	KRA104	DTC124TK	Rohm	KRC113S	EMD12	Rohm	KRX203E	HN1A01FE	Toshiba	KTA701E
DTA144EU	Rohm	KRA304	DTC124TM	Rohm	KRC413V	EMG1	Rohm	KRC653E	HN1A01FU	Toshiba	KTA701U
DTA144TE	Rohm	KRA314E	DTC124TS	Rohm	KRC113	EMG2	Rohm	KRC654E	HN1B04FE	Toshiba	KTX101E
DTA144TK	Rohm	KRA114S	DTC124TU	Rohm	KRC413	EMG3	Rohm	KRC660E	HN1B04FU	Toshiba	KTX101U
DTA144TM	Rohm	KRA314V	DTC124XE	Rohm	KRC408E	EMG4	Rohm	KRC661E	HN1C01FE	Toshiba	KTC801E
DTA144TS	Rohm	KRA114	DTC124XK	Rohm	KRC108S	EMG5	Rohm	KRC657E	HN1C01FU	Toshiba	KTC801U
DTA144TU	Rohm	KRA314	DTC124XM	Rohm	KRC408V	EMG6	Rohm	KRC664E	HN1C03F	Toshiba	KTC812T
DTA144VKA	Rohm	KRA121S	DTC124XS	Rohm	KRC108	EMG8	Rohm	KRC656E	HN2A01FU	Toshiba	KTA711U
DTA144VSA	Rohm	KRA121	DTC124XU	Rohm	KRC408	EMG9	Rohm	KRC652E	HN2C01FE	Toshiba	KTC811E
DTA144VUA	Rohm	KRA321	DTC143EE	Rohm	KRC401E	EMG11	Rohm	KRC655E	HN2C01FU	Toshiba	KTC811U
DTA144WE	Rohm	KRA309E	DTC143EK	Rohm	KRC101S	EMH1	Rohm	KRC853E	IMX9	Rohm	KTC812T
DTA144WK	Rohm	KRA109S	DTC143EM	Rohm	KRC401V	EMH2	Rohm	KRC854E	IMZ4	Rohm	KTX111T
DTA144WS	Rohm	KRA109	DTC143ES	Rohm	KRC101	EMH3	Rohm	KRC860E	MJD112	Onsemi	MJD112
DTA144WU	Rohm	KRA309	DTC143EU	Rohm	KRC401	EMH4	Rohm	KRC861E	MJD112-1	Onsemi	MJD112L
DTA155EM	Rohm	KRA322V	DTC143TE	Rohm	KRC410E	EMH6	Rohm	KRC824E	MJD117	Onsemi	MJD117
DTB113EK	Rohm	KRA221S	DTC143TK	Rohm	KRC110S	EMH9	Rohm	KRC857E	MJD117-1	Onsemi	MJD117L
DTB113ES	Rohm	KRA221	DTC143TM	Rohm	KRC410V	EMH10	Rohm	KRC855E	MJD41C-1	Onsemi	KTC2022L
DTB113ZK	Rohm	KRA225S	DTC143TS	Rohm	KRC110	EMH11	Rohm	KRC852E	MJE122	Onsemi	KTD1413
DTB113ZS	Rohm	KRA225	DTC143TU	Rohm	KRC410	EMT1	Rohm	KTA701E	MJE127	Onsemi	KTB1423
DTB114EK	Rohm	KRA224S	DTC143XE	Rohm	KRC419E	EMT18	Rohm	KTA702E	MJE800T	Onsemi	KTD1414
DTB114ES	Rohm	KRA224	DTC143XKA	Rohm	KRC119S	EMX1	Rohm	KTC801E	MJE6107	Onsemi	KTB1368
DTB123EK	Rohm	KRA222S	DTC143XM	Rohm	KRC419V	EMX2	Rohm	KTC811E	MJE13003	Mospec	MJE13003
DTB123ES	Rohm	KRA222	DTC143XSA	Rohm	KRC119	EMX3	Rohm	KTC812E	MJE13003	Onsemi	MJE13003
DTB123YK	Rohm	KRA226S	DTC143XUA	Rohm	KRC419	EMX18	Rohm	KTC802E	MJE13003	STM	MJE13003
DTB123YS	Rohm	KRA226	DTC143ZE	Rohm	KRC406E	EMY1	Rohm	KTX201E	MJE13004	Onsemi	KTC4419
DTB143EK	Rohm	KRA223S	DTC143ZK	Rohm	KRC106S	EMZ1	Rohm	KTX101E	MJE13005	Mospec	MJE13005F
DTB143ES	Rohm	KRA223	DTC143ZM	Rohm	KRC406V	FA1A3Q	Renesas	KRC116S	MJE13005	Onsemi	MJE13005F
DTC113ZE	Rohm	KRC416E	DTC143ZS	Rohm	KRC106	FA1A4M	Renesas	KRC102S	MJE13005	STM	MJE13005F
DTC113ZKA	Rohm	KRC116S	DTC143ZU	Rohm	KRC406	FA1A4P	Renesas	KRC107S	MJE13007	Onsemi	MJE13007F
DTC113ZSA	Rohm	KRC116	DTC144EE	Rohm	KRC404E	FA1A4Z	Renesas	KRC111S	MJE16002	Onsemi	KTC4419
DTC113ZUA	Rohm	KRC416	DTC144EK	Rohm	KRC104S	FA1F4M	Renesas	KRC103S	MJE16004	Onsemi	KTC4419
DTC114EE	Rohm	KRC402E	DTC144EM	Rohm	KRC404V	FA1F4N	Renesas	KRC108S	MMBA811C5	Onsemi	KTA1504S
DTC114EK	Rohm	KRC102S	DTC144ES	Rohm	KRC104	FA1F4Z	Renesas	KRC113S	MMBA811C6	Onsemi	KTA1504S
DTC114EM	Rohm	KRC402V	DTC144EU	Rohm	KRC404	FA1L3M	Renesas	KRC101S	MMBA811C7	Onsemi	KTA1504S
DTC114ES	Rohm	KRC102	DTC144TE	Rohm	KRC414E	FA1L3N	Renesas	KRC119S	MMBA811C8	Onsemi	KTA1504S
DTC114EU	Rohm	KRC402	DTC144TK	Rohm	KRC114S	FA1L3Z	Renesas	KRC110S	MMBA812M5	Onsemi	KTA1504S
DTC114TE	Rohm	KRC411E	DTC144TM	Rohm	KRC414V	FA1L4L	Renesas	KRC109S	MMBA812M6	Onsemi	KTA1504S
DTC114TK	Rohm	KRC111S	DTC144TS	Rohm	KRC114	FA1L4M	Renesas	KRC104S	MMBA812M7	Onsemi	KTA1504S
DTC114TM	Rohm	KRC411V	DTC144TU	Rohm	KRC414	FA1L4Z	Renesas	KRC114S	MMBC1009F1	Onsemi	KTC3875S
DTC114TS	Rohm	KRC111	DTC144VKA	Rohm	KRC121S	FMMT618	Zetex	KTC3534T	MMBC1009F2	Onsemi	KTC3875S
DTC114TU	Rohm	KRC411	DTC144VSA	Rohm	KRC121	FMMT718	Zetex	KTA1532T	MMBC1009F3	Onsemi	KTC3875S
DTC114WE	Rohm	KRC420E	DTC144VUA	Rohm	KRC421	FN1A3Q	Renesas	KRA116S	MMBC1009F4	Onsemi	KTC3875S
DTC114WKA	Rohm	KRC120S	DTC144WE	Rohm	KRC409E	FN1A4M	Renesas	KRA102S	MMBC1009F5	Onsemi	KTC3875S
DTC114WSA	Rohm	KRC120	DTC144WK	Rohm	KRC109S	FN1A4P	Renesas	KRA107S	MMBC1321Q2	Onsemi	KTC3882
DTC114WUA	Rohm	KRC420	DTC144WS	Rohm	KRC109	FN1A4Z	Renesas	KRA111S	MMBC1321Q3	Onsemi	KTC3882
DTC114YE	Rohm	KRC407E	DTC144WU	Rohm	KRC409	FN1F4M	Renesas	KRA103S	MMBC1321Q4	Onsemi	KTC3882
DTC114YK	Rohm	KRC107S	DTC155EM	Rohm	KRC422V	FN1F4N	Renesas	KRA108S	MMBC1321Q5	Onsemi	KTC3882
DTC114YM	Rohm	KRC407V	DTC314TK	Rohm	KRC233S	FN1F4Z	Renesas	KRA113S	MMBC1622D6	Onsemi	KTC3875S
DTC114YS	Rohm	KRC107	DTC314TK	Rohm	KRC233	FN1L3M	Renesas	KRA101S	MMBC1622D7	Onsemi	KTC3875S
DTC114YU	Rohm	KRC407	DTC323TK	Rohm	KRC231S	FN1L3N	Renesas	KRA119S	MMBC1622D8	Onsemi	KTC3875S
DTC115EE	Rohm	KRC422E	DTC323TS	Rohm	KRC231	FN1L3Z	Renesas	KRA110S	MMBC1623L3	Onsemi	KTC3875S
DTC115EKA	Rohm	KRC122S	DTD113EK	Rohm	KRC241S	FN1L4L	Renesas	KRA109S	MMBC1623L4	Onsemi	KTC3875S
DTC115ESA	Rohm	KRC122	DTD113ES	Rohm	KRC241	FN1L4M	Renesas	KRA104S	MMBC1623L5	Onsemi	KTC3875S
DTC115EUA	Rohm	KRC422	DTD113ZK	Rohm	KRC245S	FN1L4Z	Renesas	KRA114S	MMBC1623L6	Onsemi	KTC3875S
DTC115TH	Rohm	KRC412E	DTD113ZS	Rohm	KRC245	GA1A3Q	Renesas	KRC416	MMBC1623L7	Onsemi	KTC3875S

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
MMBT2222/A	Onsemi	KTN2222S/AS	RN1107F	Toshiba	KRC407E	RN1413	Toshiba	KRC114S	RN1971FE	Toshiba	KRC831E
MMBT2907A	Onsemi	KTN2907AS	RN1107FT	Toshiba	KRC407V	RN1414	Toshiba	KRC116S	RN1973	Toshiba	KRC834U
MMBT2907AWT1	Onsemi	KTN2907AU	RN1108	Toshiba	KRC408E	RN1415	Toshiba	KRC118S	RN2101	Toshiba	KRA301E
MMBT3904	Onsemi	2N3904S	RN1108F	Toshiba	KRC408E	RN1416	Toshiba	KRC119S	RN2101F	Toshiba	KRA301E
MMBT3906	Onsemi	2N3906S	RN1108FT	Toshiba	KRC408V	RN1417	Toshiba	KRC120S	RN2101FT	Toshiba	KRA301V
MMBT4124	Onsemi	KTC3876S	RN1109	Toshiba	KRC409E	RN1418	Toshiba	KRC121S	RN2102	Toshiba	KRA302E
MMBT4126	Onsemi	KTA1505S	RN1109F	Toshiba	KRC409E	RN1421	Toshiba	KRC241S	RN2102F	Toshiba	KRA302E
MMBT4401	Onsemi	KTN2222AS	RN1109FT	Toshiba	KRC409V	RN1422	Toshiba	KRC242S	RN2102FT	Toshiba	KRA302V
MMBT4403	Onsemi	KTN2907AS	RN1110	Toshiba	KRC410E	RN1423	Toshiba	KRC243S	RN2103	Toshiba	KRA303E
MMBT5087	Onsemi	KTA1504S	RN1110F	Toshiba	KRC410E	RN1424	Toshiba	KRC244S	RN2103F	Toshiba	KRA303E
MMBT5088	Onsemi	KTC3875S	RN1110FT	Toshiba	KRC410V	RN1426	Toshiba	KRC245S	RN2103FT	Toshiba	KRA303V
MMBT5089	Onsemi	KTC3295	RN1111	Toshiba	KRC411E	RN1427	Toshiba	KRC246S	RN2104	Toshiba	KRA304E
MMBTA13	Onsemi	MMBTA517	RN1111F	Toshiba	KRC411E	RN1441	Toshiba	KRC232S	RN2104F	Toshiba	KRA304E
MMBTA14	Onsemi	MMBTA517	RN1111FT	Toshiba	KRC411V	RN1442	Toshiba	KRC233S	RN2104FT	Toshiba	KRA304V
MMBTA20	Onsemi	KTN2222AS	RN1112	Toshiba	KRC413E	RN1444	Toshiba	KRC231S	RN2105	Toshiba	KRA305E
MMBTA42	Onsemi	MMBTA42	RN1112F	Toshiba	KRC413E	RN1544	Toshiba	KRC681T	RN2105F	Toshiba	KRA305E
MMBTA55	Onsemi	MMBTA92	RN1112FT	Toshiba	KRC413V	RN1701	Toshiba	KRC651U	RN2105FT	Toshiba	KRA305V
MMBTA56	Onsemi	MMBTA92	RN1113	Toshiba	KRC414E	RN1702	Toshiba	KRC652U	RN2106	Toshiba	KRA306E
MMBTA63	Onsemi	MMBTA63	RN1113F	Toshiba	KRC414E	RN1702JE	Toshiba	KRC651E	RN2106F	Toshiba	KRA306E
MMBTA92	Onsemi	MMBTA92	RN1113FT	Toshiba	KRC414V	RN1703	Toshiba	KRC653U	RN2106FT	Toshiba	KRA306V
MPS2222A	Onsemi	KTN2222A	RN1114	Toshiba	KRC416E	RN1703JE	Toshiba	KRC652E	RN2107	Toshiba	KRA307E
MPS2907A	Onsemi	KTN2907A	RN1114FT	Toshiba	KRC416V	RN1704	Toshiba	KRC654U	RN2107F	Toshiba	KRA307E
MPSA12	Onsemi	BC517	RN1115	Toshiba	KRC418E	RN1704JE	Toshiba	KRC653E	RN2107FT	Toshiba	KRA307V
MPSA20	Onsemi	2N3904	RN1115FT	Toshiba	KRC418V	RN1705	Toshiba	KRC655U	RN2108	Toshiba	KRA308E
MPSA42	Onsemi	MPSA42	RN1116	Toshiba	KRC419E	RN1705JE	Toshiba	KRC654E	RN2108F	Toshiba	KRA308E
MPSA44	Onsemi	MPSA44	RN1116FT	Toshiba	KRC419V	RN1706	Toshiba	KRC656U	RN2108FT	Toshiba	KRA308V
MPS-U01/A	Onsemi	KTD1351	RN1117	Toshiba	KRC420E	RN1706JE	Toshiba	KRC655E	RN2109	Toshiba	KRA309E
PDTA114EK	NXP	KRA102S	RN1117FT	Toshiba	KRC420V	RN1707	Toshiba	KRC657U	RN2109F	Toshiba	KRA309E
PDTA114ES	NXP	KRA102	RN1118	Toshiba	KRC421E	RN1707JE	Toshiba	KRC656E	RN2109FT	Toshiba	KRA309V
PDTA114EU	NXP	KRA302	RN1118FT	Toshiba	KRC421V	RN1708	Toshiba	KRC658U	RN2110	Toshiba	KRA310E
PDTA114TK	NXP	KRA111S	RN1201	Toshiba	KRC101	RN1708JE	Toshiba	KRC657E	RN2110F	Toshiba	KRA310E
PDTA114TS	NXP	KRA111	RN1202	Toshiba	KRC102	RN1709	Toshiba	KRC659U	RN2110FT	Toshiba	KRA310V
PDTA114TU	NXP	KRA311	RN1203	Toshiba	KRC103	RN1709JE	Toshiba	KRC658E	RN2111	Toshiba	KRA311E
PDTA124EK	NXP	KRA103S	RN1204	Toshiba	KRC104	RN1710	Toshiba	KRC660U	RN2111F	Toshiba	KRA311E
PDTA124ES	NXP	KRA103	RN1205	Toshiba	KRC105	RN1710JE	Toshiba	KRC659E	RN2111FT	Toshiba	KRA311V
PDTA124EU	NXP	KRA303	RN1206	Toshiba	KRC106	RN1711	Toshiba	KRC661U	RN2112	Toshiba	KRA313E
PDTA143EK	NXP	KRA101S	RN1207	Toshiba	KRC107	RN1711JE	Toshiba	KRC660E	RN2112F	Toshiba	KRA313E
PDTA143ES	NXP	KRA101	RN1208	Toshiba	KRC108	RN1901	Toshiba	KRC851U	RN2112FT	Toshiba	KRA313V
PDTA143EU	NXP	KRA301	RN1209	Toshiba	KRC109	RN1901FE	Toshiba	KRC851E	RN2113	Toshiba	KRA314E
PDTA144EK	NXP	KRA104S	RN1210	Toshiba	KRC101	RN1902	Toshiba	KRC852U	RN2113F	Toshiba	KRA314E
PDTA144ES	NXP	KRA104	RN1211	Toshiba	KRC111	RN1902FE	Toshiba	KRC852E	RN2113FT	Toshiba	KRA314V
PDTA144EU	NXP	KRA304	RN1221	Toshiba	KRC241	RN1903	Toshiba	KRC853U	RN2114	Toshiba	KRA316E
PDTB114EK	NXP	KRA224S	RN1222	Toshiba	KRC242	RN1903FE	Toshiba	KRC853E	RN2114FT	Toshiba	KRA316V
PDTB114ES	NXP	KRA224	RN1223	Toshiba	KRC243	RN1904	Toshiba	KRC854U	RN2115	Toshiba	KRA318E
PDTC114EK	NXP	KRC102S	RN1224	Toshiba	KRC244	RN1904FE	Toshiba	KRC854E	RN2115FT	Toshiba	KRA318V
PDTC114ES	NXP	KRC102	RN1226	Toshiba	KRC245	RN1905	Toshiba	KRC855U	RN2116	Toshiba	KRA319E
PDTC114EU	NXP	KRC402	RN1227	Toshiba	KRC246	RN1905FE	Toshiba	KRC855E	RN2116FT	Toshiba	KRA319V
PDTC114TK	NXP	KRC111S	RN1241	Toshiba	KRC232	RN1906	Toshiba	KRC856U	RN2117	Toshiba	KRA320E
PDTC114TS	NXP	KRC111	RN1242	Toshiba	KRC233	RN1906FE	Toshiba	KRC856E	RN2117FT	Toshiba	KRA320V
PDTC114TU	NXP	KRC411	RN1244	Toshiba	KRC231	RN1907	Toshiba	KRC857U	RN2118	Toshiba	KRA321E
PDTC124EK	NXP	KRC103S	RN1301	Toshiba	KRC401	RN1907FE	Toshiba	KRC857E	RN2118FT	Toshiba	KRA321V
PDTC124ES	NXP	KRC103	RN1302	Toshiba	KRC402	RN1908	Toshiba	KRC858U	RN2201	Toshiba	KRA101
PDTC124EU	NXP	KRC403	RN1303	Toshiba	KRC403	RN1908FE	Toshiba	KRC858E	RN2202	Toshiba	KRA102
PDTC143EK	NXP	KRC101S	RN1304	Toshiba	KRC404	RN1909	Toshiba	KRC859U	RN2203	Toshiba	KRA103
PDTC143ES	NXP	KRC101	RN1305	Toshiba	KRC405	RN1909FE	Toshiba	KRC859E	RN2204	Toshiba	KRA104
PDTC143EU	NXP	KRC401	RN1306	Toshiba	KRC406	RN1910	Toshiba	KRC860U	RN2205	Toshiba	KRA105
PDTC144EK	NXP	KRC104S	RN1307	Toshiba	KRC407	RN1910FE	Toshiba	KRC860E	RN2206	Toshiba	KRA106
PDTC144ES	NXP	KRC104	RN1308	Toshiba	KRC408	RN1911	Toshiba	KRC861U	RN2207	Toshiba	KRA107
PDTC144EU	NXP	KRC404	RN1309	Toshiba	KRC409	RN1911FE	Toshiba	KRC861E	RN2208	Toshiba	KRA108
PDTD114EK	NXP	KRC244S	RN1310	Toshiba	KRC410	RN1961	Toshiba	KRC821U	RN2209	Toshiba	KRA109
PDTD114ES	NXP	KRC244	RN1311	Toshiba	KRC411	RN1961FE	Toshiba	KRC821E	RN2210	Toshiba	KRA110
RN1101	Toshiba	KRC401E	RN1312	Toshiba	KRC413	RN1962	Toshiba	KRC822U	RN2211	Toshiba	KRA111
RN1101F	Toshiba	KRC401E	RN1313	Toshiba	KRC414	RN1962FE	Toshiba	KRC822E	RN2221	Toshiba	KRA221
RN1101FT	Toshiba	KRC401V	RN1314	Toshiba	KRC416	RN1963	Toshiba	KRC823U	RN2222	Toshiba	KRA222
RN1102	Toshiba	KRC402E	RN1315	Toshiba	KRC418	RN1963FE	Toshiba	KRC823E	RN2223	Toshiba	KRA223
RN1102F	Toshiba	KRC402E	RN1316	Toshiba	KRC419	RN1964	Toshiba	KRC824U	RN2224	Toshiba	KRA224
RN1102FT	Toshiba	KRC402V	RN1317	Toshiba	KRC420	RN1964FE	Toshiba	KRC824E	RN2226	Toshiba	KRA225
RN1103	Toshiba	KRC403E	RN1318	Toshiba	KRC421	RN1965	Toshiba	KRC825U	RN2227	Toshiba	KRA226
RN1103F	Toshiba	KRC403E	RN1401	Toshiba	KRC101S	RN1965FE	Toshiba	KRC825E	RN2301	Toshiba	KRA301
RN1103FT	Toshiba	KRC403V	RN1402	Toshiba	KRC102S	RN1966	Toshiba	KRC826U	RN2302	Toshiba	KRA302
RN1104	Toshiba	KRC404E	RN1403	Toshiba	KRC103S	RN1966FE	Toshiba	KRC826E	RN2303	Toshiba	KRA303
RN1104F	Toshiba	KRC404E	RN1404	Toshiba	KRC104S	RN1967	Toshiba	KRC827U	RN2304	Toshiba	KRA304
RN1104FT	Toshiba	KRC404V	RN1405	Toshiba	KRC105S	RN1967FE	Toshiba	KRC827E	RN2305	Toshiba	KRA305
RN1105	Toshiba	KRC405E	RN1406	Toshiba	KRC106S	RN1968	Toshiba	KRC828U	RN2306	Toshiba	KRA306
RN1105F	Toshiba	KRC405E	RN1407	Toshiba	KRC107S	RN1968FE	Toshiba	KRC828E	RN2307	Toshiba	KRA307
RN1105FT	Toshiba	KRC405V	RN1408	Toshiba	KRC108S	RN1969	Toshiba	KRC829U	RN2308	Toshiba	KRA308
RN1106	Toshiba	KRC406E	RN1409	Toshiba	KRC109S	RN1969FE	Toshiba	KRC829E	RN2309	Toshiba	KRA309
RN1106F	Toshiba	KRC406E	RN1410	Toshiba	KRC110S	RN1970	Toshiba	KRC830U	RN2310	Toshiba	KRA310
RN1106FT	Toshiba	KRC406V	RN1411	Toshiba	KRC111S	RN1970FE	Toshiba	KRC830E	RN2311	Toshiba	KRA311
RN1107	Toshiba	KRC407E	RN1412	Toshiba	KRC113S	RN1971	Toshiba	KRC831U	RN2312	Toshiba	KRA313

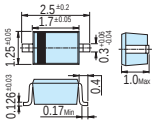
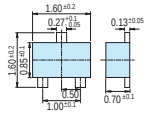
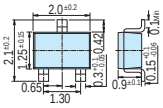
Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
RN2313	Toshiba	KRA314	**RN2964**	Toshiba	KRA724U	**UMB1N**	Rohm	KRA753U	**UN2113**	Panasonic	KRA104S
RN2314	Toshiba	KRA316	**RN2964FE**	Toshiba	KRA724E	**UMB2N**	Rohm	KRA754U	**UN2114**	Panasonic	KRA107S
RN2315	Toshiba	KRA318	**RN2965**	Toshiba	KRA725U	**UMB3N**	Rohm	KRA760U	**UN2115**	Panasonic	KRA111S
RN2316	Toshiba	KRA319	**RN2965FE**	Toshiba	KRA725E	**UMB4N**	Rohm	KRA761U	**UN2116**	Panasonic	KRA110S
RN2317	Toshiba	KRA320	**RN2966**	Toshiba	KRA726U	**UMB6N**	Rohm	KRA724U	**UN2117**	Panasonic	KRA113S
RN2318	Toshiba	KRA321	**RN2966FE**	Toshiba	KRA726E	**UMB8N**	Rohm	KRA731U	**UN2121**	Panasonic	KRA222S
RN2401	Toshiba	KRA101S	**RN2967**	Toshiba	KRA727U	**UMB9N**	Rohm	KRA757U	**UN2122**	Panasonic	KRA223S
RN2402	Toshiba	KRA102S	**RN2967FE**	Toshiba	KRA727E	**UMB10N**	Rohm	KRA755U	**UN2123**	Panasonic	KRA224S
RN2403	Toshiba	KRA103S	**RN2968**	Toshiba	KRA728U	**UMB11N**	Rohm	KRA752U	**UN2124**	Panasonic	KRA226S
RN2404	Toshiba	KRA104S	**RN2968FE**	Toshiba	KRA728E	**UMC2N**	Rohm	KRX103U	**UN2210**	Panasonic	KRC114S
RN2405	Toshiba	KRA105S	**RN2969**	Toshiba	KRA729U	**UMC3N**	Rohm	KRX101U	**UN2211**	Panasonic	KRC102S
RN2406	Toshiba	KRA106S	**RN2969FE**	Toshiba	KRA729E	**UMC4N**	Rohm	KRX102U	**UN2212**	Panasonic	KRC103S
RN2407	Toshiba	KRA107S	**RN2970**	Toshiba	KRA730U	**UMG1N**	Rohm	KRC653U	**UN2213**	Panasonic	KRC104S
RN2408	Toshiba	KRA108S	**RN2970FE**	Toshiba	KRA730E	**UMG2N**	Rohm	KRC654U	**UN2214**	Panasonic	KRC107S
RN2409	Toshiba	KRA109S	**RN2971**	Toshiba	KRA731U	**UMG3N**	Rohm	KRC660U	**UN2215**	Panasonic	KRC111S
RN2410	Toshiba	KRA110S	**RN2971FE**	Toshiba	KRA731E	**UMG4N**	Rohm	KRC661U	**UN2216**	Panasonic	KRC110S
RN2411	Toshiba	KRA111S	**RN47A2JE**	Toshiba	KRX103E	**UMG5N**	Rohm	KRC657U	**UN2217**	Panasonic	KRC113S
RN2412	Toshiba	KRA113S	**RN47A3JE**	Toshiba	KRX101E	**UMG6N**	Rohm	KRC664U	**UN2221**	Panasonic	KRC242S
RN2413	Toshiba	KRA114S	**RN47A4JE**	Toshiba	KRX102E	**UMG8N**	Rohm	KRC669U	**UN2222**	Panasonic	KRC243S
RN2414	Toshiba	KRA116S	**RN47A5JE**	Toshiba	KRX104E	**UMG9N**	Rohm	KRC652U	**UN2223**	Panasonic	KRC244S
RN2415	Toshiba	KRA118S	**RN4982FE**	Toshiba	KRX201E	**UMG10N**	Rohm	KRC666U	**UN2224**	Panasonic	KRC246S
RN2416	Toshiba	KRA119S	**RN4983FE**	Toshiba	KRX202E	**UMG11N**	Rohm	KRC655U	**UN4110**	Panasonic	KRA114
RN2417	Toshiba	KRA120S	**RN4984FE**	Toshiba	KRX203E	**UMH1N**	Rohm	KRC853U	**UN4111**	Panasonic	KRA102
RN2418	Toshiba	KRA121S	**RN4985FE**	Toshiba	KRX204E	**UMH2N**	Rohm	KRC854U	**UN4112**	Panasonic	KRA103
RN2421	Toshiba	KRA221S	**RT1N140C**	Renesas	KRC111S	**UMH3N**	Rohm	KRC860U	**UN4113**	Panasonic	KRA104
RN2422	Toshiba	KRA222S	**RT1N140S**	Renesas	KRC111	**UMH4N**	Rohm	KRC861U	**UN4114**	Panasonic	KRA107
RN2423	Toshiba	KRA223S	**RT1N141C**	Renesas	KRC102S	**UMH5N**	Rohm	KRC823U	**UN4115**	Panasonic	KRA111
RN2424	Toshiba	KRA224S	**RT1N141S**	Renesas	KRC102	**UMH6N**	Rohm	KRC824U	**UN4116**	Panasonic	KRA110
RN2426	Toshiba	KRA225S	**RT1N144C**	Renesas	KRC107S	**UMH7N**	Rohm	KRC830U	**UN4117**	Panasonic	KRA113
RN2427	Toshiba	KRA226S	**RT1N144S**	Renesas	KRC107	**UMH8N**	Rohm	KRC831U	**UN4117**	Panasonic	KRA113
RN2701	Toshiba	KRA551U	**RT1N241C**	Renesas	KRC103S	**UMH9N**	Rohm	KRC857U	**UN4121**	Panasonic	KRA222
RN2701JE	Toshiba	KRA551E	**RT1N241S**	Renesas	KRC103	**UMH10N**	Rohm	KRC855U	**UN4122**	Panasonic	KRA223
RN2702	Toshiba	KRA552U	**RT1N430C**	Renesas	KRC110S	**UMH11N**	Rohm	KRC852U	**UN4123**	Panasonic	KRA224
RN2702JE	Toshiba	KRA552E	**RT1N430S**	Renesas	KRC110	**UMH14N**	Rohm	KRC834U	**UN4124**	Panasonic	KRA226
RN2703	Toshiba	KRA553U	**RT1N441C**	Renesas	KRC104S	**UMT1N**	Rohm	KTA701U	**UN4210**	Panasonic	KRC114
RN2703JE	Toshiba	KRA553E	**RT1N441S**	Renesas	KRC104	**UMT2N**	Rohm	KTA711U	**UN4211**	Panasonic	KRC102
RN2704	Toshiba	KRA554U	**RT1P140C**	Renesas	KRA111S	**UMT2222A**	Rohm	KTN2222A	**UN4212**	Panasonic	KRC103
RN2704JE	Toshiba	KRA554E	**RT1P140S**	Renesas	KRA111	**UMT2907A**	Rohm	KTN2907A	**UN4213**	Panasonic	KRC104
RN2705	Toshiba	KRA555U	**RT1P141C**	Renesas	KRA102S	**UMW1N**	Rohm	KTC601U	**UN4214**	Panasonic	KRC107
RN2705JE	Toshiba	KRA555E	**RT1P141S**	Renesas	KRA102	**UMX1N**	Rohm	KTC801U	**UN4215**	Panasonic	KRC111
RN2706	Toshiba	KRA556U	**RT1P144C**	Renesas	KRA107S	**UMX2N**	Rohm	KTC811U	**UN4216**	Panasonic	KRC110
RN2706JE	Toshiba	KRA556E	**RT1P144S**	Renesas	KRA107	**UMX3N**	Rohm	KTC813U	**UN4217**	Panasonic	KRC113
RN2707	Toshiba	KRA557U	**RT1P241C**	Renesas	KRA103S	**UMZ1N**	Rohm	KTX101U	**UN4221**	Panasonic	KRA242
RN2707JE	Toshiba	KRA557E	**RT1P241S**	Renesas	KRA103	**UN211E**	Panasonic	KRA109S	**UN4222**	Panasonic	KRA243
RN2708	Toshiba	KRA558U	**RT1P430C**	Renesas	KRA110S	**UN211F**	Panasonic	KRA119S	**UN4223**	Panasonic	KRA244
RN2708JE	Toshiba	KRA558E	**RT1P430S**	Renesas	KRA110	**UN211H**	Panasonic	KRA118S	**UN4224**	Panasonic	KRA246
RN2709	Toshiba	KRA559U	**RT1P441S**	Renesas	KRA104	**UN211L**	Panasonic	KRA101S	**UN5110**	Panasonic	KRA314
RN2709JE	Toshiba	KRA559E	**S2Z79**	Toshiba	KTA1536T	**UN211M**	Panasonic	KRA105S	**UN5111**	Panasonic	KRA302
RN2710	Toshiba	KRA560U	**S3C92**	Toshiba	KTC3532T	**UN211N**	Panasonic	KRA106S	**UN5112**	Panasonic	KRA303
RN2710JE	Toshiba	KRA560E	**TIP31C**	Mospec	TIP31CF	**UN221E**	Panasonic	KRC109S	**UN5113**	Panasonic	KRA304
RN2711	Toshiba	KRA561U	**TIP31C**	Onsemi	TIP31CF	**UN221F**	Panasonic	KRC119S	**UN5114**	Panasonic	KRA307
RN2711JE	Toshiba	KRA561E	**TIP31C**	STM	TIP31CF	**UN221H**	Panasonic	KRC118S	**UN5115**	Panasonic	KRA311
RN2901	Toshiba	KRA751U	**TIP32C**	Mospec	TIP32CF	**UN221L**	Panasonic	KRC101S	**UN5116**	Panasonic	KRA310
RN2901FE	Toshiba	KRA751E	**TIP32C**	Onsemi	TIP32CF	**UN221M**	Panasonic	KRC105S	**UN5117**	Panasonic	KRA313
RN2902	Toshiba	KRA752U	**TIP32C**	STM	TIP32CF	**UN221N**	Panasonic	KRC106S	**UN5210**	Panasonic	KRC414
RN2902FE	Toshiba	KRA752E	**TIP35C**	Mospec	TIP35C	**UN411E**	Panasonic	KRA109	**UN5211**	Panasonic	KRC402
RN2903	Toshiba	KRA753U	**TIP35C**	Onsemi	TIP35C	**UN411L**	Panasonic	KRA101	**UN5212**	Panasonic	KRC403
RN2903FE	Toshiba	KRA753E	**TIP35C**	STM	TIP35C	**UN421E**	Panasonic	KRC109	**UN5213**	Panasonic	KRC404
RN2904	Toshiba	KRA754U	**TIP36C**	Mospec	TIP36C	**UN421F**	Panasonic	KRC119	**UN5214**	Panasonic	KRC407
RN2904FE	Toshiba	KRA754E	**TIP36C**	Onsemi	TIP36C	**UN421H**	Panasonic	KRC118	**UN5215**	Panasonic	KRC411
RN2905	Toshiba	KRA755U	**TIP36C**	STM	TIP36C	**UN421L**	Panasonic	KRC101	**UN5216**	Panasonic	KRC410
RN2905FE	Toshiba	KRA755E	**TIP41C**	Mospec	TIP41CF	**UN421M**	Panasonic	KRC105	**UN5217**	Panasonic	KRC413
RN2906	Toshiba	KRA756U	**TIP41C**	Onsemi	TIP41CF	**UN421N**	Panasonic	KRC106	**XP05501**	Panasonic	KTC812U
RN2906FE	Toshiba	KRA756E	**TIP41C**	STM	TIP41CF	**UN511E**	Panasonic	KRA309	**XP06111**	Panasonic	KRA722U
RN2907	Toshiba	KRA757U	**TIP42C**	Mospec	TIP42CF	**UN511F**	Panasonic	KRA319	**XP06112**	Panasonic	KRA723U
RN2907FE	Toshiba	KRA757E	**TIP42C**	Onsemi	TIP42CF	**UN511H**	Panasonic	KRA318	**XP06113**	Panasonic	KRA724U
RN2908	Toshiba	KRA758U	**TIP42C**	STM	TIP42CF	**UN511L**	Panasonic	KRA301	**XP06114**	Panasonic	KRA727U
RN2908FE	Toshiba	KRA758E	**TIP122**	Onsemi	KTD1413	**UN511M**	Panasonic	KRA305	**XP06115**	Panasonic	KRA731U
RN2909	Toshiba	KRA759U	**TIP127**	Onsemi	KTB1423	**UN511N**	Panasonic	KRA306	**XP06116**	Panasonic	KRA730U
RN2909FE	Toshiba	KRA759E	**UMA1N**	Rohm	KRA553U	**UN511T**	Panasonic	KRA308	**XP06210**	Panasonic	KRC834U
RN2910	Toshiba	KRA760U	**UMA2N**	Rohm	KRA554U	**UN521E**	Panasonic	KRC409	**XP06211**	Panasonic	KRC822U
RN2910FE	Toshiba	KRA760E	**UMA3N**	Rohm	KRA560U	**UN521F**	Panasonic	KRC419	**XP06212**	Panasonic	KRC823U
RN2911	Toshiba	KRA761U	**UMA4N**	Rohm	KRA561U	**UN521H**	Panasonic	KRC418	**XP06213**	Panasonic	KRC824U
RN2911FE	Toshiba	KRA761E	**UMA5N**	Rohm	KRA555U	**UN521L**	Panasonic	KRC401	**XP06214**	Panasonic	KRC827U
RN2961	Toshiba	KRA721U	**UMA6N**	Rohm	KRA564U	**UN521M**	Panasonic	KRC405	**XP06215**	Panasonic	KRC831U
RN2961FE	Toshiba	KRA721E	**UMA7N**	Rohm	KRA569U	**UN521N**	Panasonic	KRC406	**XP06216**	Panasonic	KRC830U
RN2962	Toshiba	KRA722U	**UMA8N**	Rohm	KRA557U	**UN521T**	Panasonic	KRC408	**XP06401**	Panasonic	KTA711U
RN2962FE	Toshiba	KRA722E	**UMA9N**	Rohm	KRA552U	**UN2110**	Panasonic	KRA114S	**XP06501**	Panasonic	KTC811U
RN2963	Toshiba	KRA723U	**UMA10N**	Rohm	KRA566U	**UN2111**	Panasonic	KRA102S			
RN2963FE	Toshiba	KRA723E	**UMA11N**	Rohm	KRA556U	**UN2112**	Panasonic	KRA103S			

▣ Small Signal Switching Diode

Type No.		Mark	AEC-Q	Max. Ratings						V_{F1} (V)		V_{F2} (V)		V_{F3} (V)			I_R (μA)		C_T (pF)			trr (ns)		Package	Outline (Unit : mm)
				V_{RM} (V)	V_R (V)	I_{FM} (mA)	I_O (mA)	I_{FSM} (A)	P_D (mW)	Typ.	I_F (mA)	Typ.	I_F (mA)	Typ.	Max.	I_F (mA)	Max.	V_R (V)	Max.	V_R (V)	f (MHz)	Max.	I_F (mA)		
KDS160F		4	◑	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	TFSC	
KDS160V		UF	◑	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10	VSC	
KDS114E		UD	○	35	35	100	100	2	150	0.85	2	-	-	-	-	-	0.1	15	1.2	6	1	-	-	ESC	
KDS160E		UF	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS135		JA	○	300	250	300	100	2	200	-	-	-	-	1	1.2	100	0.2	250	3	0	1	100	30	USC	
KDS160		UF	○	85	80	300	100	2	200	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS4148U		UH	○	100	75	450	150	2	-	0.6	1	0.72	10	0.9	1.2	100	0.5	75	2	0	1	4	10		
KDS120V		A3	◑	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	VSM	
KDS121V		BS	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	0.9	3	1	4	10		
KDS221V		DS	◑	20	20	200	100	0.3	100	-	-	-	-	-	1.0	10	0.1	15	-	-	-	-	-		
KDS120E		A3	○	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	ESM	
KDS121E		B3	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS123E		US	○	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-		
KDS221E		DS	◑	20	20	200	100	0.3	100	-	-	-	-	-	1.0	10	0.1	15	-	-	-	-	-		
KDS120		A3	○	85	80	300	100	2	100	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10	USM	
KDS121		B3	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.5	80	0.9	3	1	4	10		
KDS122		US	○	85	80	300	100	2	100	0.6	1	0.72	10	0.9	1.2	100	0.1	80	3.5	6	1	4	10		
KDS123U		DS	◑	80	80	300	100	2	100	-	-	-	-	-	1.2	100	0.1	80	3.5	6	-	-	-		
BAS23W		JE	◑	300	250	200	-	2	200	-	-	-	-	-	1.25	150	0.2	250	3	0	1	100	30		
KDS4148S		PJH	◑	100	75	450	150	2	2	0.6	1	0.72	10	0.9	-	100	0.5	75	2	0	1	4	10	SOT-23	
KDS135S		JA	◑	300	250	300	100	2	150	-	-	-	-	1	1.2	100	0.2	250	3	0	1	100	30		
KDS181		A3	○	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10		
KDS184		B3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS187		D3	○	85	80	300	100	2	150	0.61	1	0.74	10	0.92	1.2	100	0.5	80	4	0	1	4	10		
KDS193		F3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS196		G3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
KDS226		C3	○	85	80	300	100	2	150	0.6	1	0.72	10	0.9	1.2	100	0.5	80	3	0	1	4	10		
BAV23A		JD	○	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
BAV23C		U4	◑	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
BAV23		JK	◑	250	200	625	225	9	250	1.0	100	1.25	200	-	-	-	0.1	200	2	0	1	50	10		
BAV70		H7	○	85	80	250	-	2	300	0.6	1	0.7	10	-	1.25	150	0.5	80	3	0	1	4	10		
BAV99		H8	○	85	80	-	250	2	225	0.6	1	0.72	10	-	1.25	150	0.5	80	3	0	1	4	10		
BAW56		H6	○	85	80	250	-	2	300	0.6	1	0.7	10	-	1.25	150	0.5	80	4	0	1	4	10		
KDS127E		US	◑	80	80	300	100	2	200	-	-	-	-	-	1.2	100	0.1	80	3.5	6	1	-	-	TES6	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Small Signal Band Switch Diode

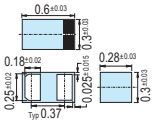
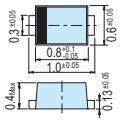
Type No.		Mark	AEC-Q	Max. Ratings		V_F (V)		I_R (μA)		V_R (V)		C_T (pF)				r_S (Ω)				Package	Outline (Unit : mm)
				V_R (V)	I_F (mA)	Max	I_F (mA)	Max.	V_R (V)	Min.	I_R (μA)	Typ.	Max.	V_R (V)	f (MHz)	Typ.	Max.	I_F (mA)	f (MHz)		
KDS114		UD	○	35	100	0.85	2	0.1	15	35	1	0.7	1.2	6	1	0.5	0.9	2	100	USC	
KDS112E		BF	◑	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	ESM	
KDS112		BF	◑	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100	USM	
KDS115		R3	◑	30	50	0.85	2	0.1	15	30	1	0.8	1.2	6	1	0.6	0.9	2	100		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Zener Diode

Zener Voltage	ELP-2	TFSC	VSC	ESC	USC	USCF	SOT-23	USF	SMF	SMA
	0.6*0.3mm	0.8*0.6mm	1.0*0.6mm	1.2*0.8mm	1.7*1.25mm	1.7*1.25mm	2.93*1.3mm	1.9*1.3mm	2.6*1.6mm	4.5*2.6mm
	P_D=0.1W	P_D=0.1W	P_D=0.1W	P_D=0.1W	P_D=0.2W	P_D=0.5W	P_D=0.2W	P_D=0.5W	P_D=1W	P_D=1W
2.0V				KDZ2.0EV	KDZ2.0V	USCFZ2.0V	Z02W2.0V			
2.2V				KDZ2.2EV	KDZ2.2V	USCFZ2.2V	Z02W2.2V			
2.4V				KDZ2.4EV	KDZ2.4V	USCFZ2.4V	Z02W2.4V			
2.7V				KDZ2.7EV	KDZ2.7V	USCFZ2.7V	Z02W2.7V			
3.0V				KDZ3.0EV	KDZ3.0V	USCFZ3.0V	Z02W3.0V			
3.3V				KDZ3.3EV	KDZ3.3V	USCFZ3.3V	Z02W3.3V			
3.6V				KDZ3.6EV	KDZ3.6V	USCFZ3.6V	Z02W3.6V			
3.9V				KDZ3.9EV	KDZ3.9V	USCFZ3.9V	Z02W3.9V			
4.3V		KDZ4.3FV	KDZ4.3VV	KDZ4.3EV	KDZ4.3V	USCFZ4.3V	Z02W4.3V	USFZ4.3V	SMFZ4.3V	SMAZ4.3V
4.7V		KDZ4.7FV	KDZ4.7VV	KDZ4.7EV	KDZ4.7V	USCFZ4.7V	Z02W4.7V	USFZ4.7V	SMFZ4.7V	SMAZ4.7V
5.1V	KDZ5.1EL	KDZ5.1FV	KDZ5.1VV	KDZ5.1EV	KDZ5.1V	USCFZ5.1V	Z02W5.1V	USFZ5.1V	SMFZ5.1V	SMAZ5.1V
5.6V	KDZ5.6EL	KDZ5.6FV	KDZ5.6VV	KDZ5.6EV	KDZ5.6V	USCFZ5.6V	Z02W5.6V	USFZ5.6V	SMFZ5.6V	SMAZ5.6V
6.2V		KDZ6.2FV	KDZ6.2VV	KDZ6.2EV	KDZ6.2V	USCFZ6.2V	Z02W6.2V	USFZ6.2V	SMFZ6.2V	SMAZ6.2V
6.8V		KDZ6.8FV	KDZ6.8VV	KDZ6.8EV	KDZ6.8V	USCFZ6.8V	Z02W6.8V	USFZ6.8V	SMFZ6.8V	SMAZ6.8V
7.5V	KDZ7.5EL	KDZ7.5FV	KDZ7.5VV	KDZ7.5EV	KDZ7.5V	USCFZ7.5V	Z02W7.5V	USFZ7.5V	SMFZ7.5V	SMAZ7.5V
8.2V		KDZ8.2FV	KDZ8.2VV	KDZ8.2EV	KDZ8.2V	USCFZ8.2V	Z02W8.2V	USFZ8.2V	SMFZ8.2V	SMAZ8.2V
9.1V		KDZ9.1FV	KDZ9.1VV	KDZ9.1EV	KDZ9.1V	USCFZ9.1V	Z02W9.1V	USFZ9.1V	SMFZ9.1V	SMAZ9.1V
10V		KDZ10FV	KDZ10VV	KDZ10EV	KDZ10V	USCFZ10V	Z02W10V	USFZ10V	SMFZ10V	SMAZ10V
11V		KDZ11FV	KDZ11VV	KDZ11EV	KDZ11V	USCFZ11V	Z02W11V	USFZ11V	SMFZ11V	SMAZ11V
12V		KDZ12FV	KDZ12VV	KDZ12EV	KDZ12V	USCFZ12V	Z02W12V	USFZ12V	SMFZ12V	SMAZ12V
13V		KDZ13FV	KDZ13VV	KDZ13EV	KDZ13V	USCFZ13V	Z02W13V	USFZ13V	SMFZ13V	SMAZ13V
15V		KDZ15FV	KDZ15VV	KDZ15EV	KDZ15V	USCFZ15V	Z02W15V	USFZ15V	SMFZ15V	SMAZ15V
16V		KDZ16FV	KDZ16VV	KDZ16EV	KDZ16V	USCFZ16V	Z02W16V	USFZ16V	SMFZ16V	SMAZ16V
18V		KDZ18FV	KDZ18VV	KDZ18EV	KDZ18V	USCFZ18V	Z02W18V	USFZ18V	SMFZ18V	SMAZ18V
20V		KDZ20FV	KDZ20VV	KDZ20EV	KDZ20V	USCFZ20V	Z02W20V	USFZ20V	SMFZ20V	SMAZ20V
22V		KDZ22FV	KDZ22VV	KDZ22EV	KDZ22V	USCFZ22V	Z02W22V	USFZ22V	SMFZ22V	SMAZ22V
24V		KDZ24FV	KDZ24VV	KDZ24EV	KDZ24V	USCFZ24V	Z02W24V	USFZ24V	SMFZ24V	SMAZ24V
27V		KDZ27FV	KDZ27VV	KDZ27EV	KDZ27V	USCFZ27V	Z02W27V	USFZ27V	SMFZ27V	SMAZ27V
30V		KDZ30FV	KDZ30VV	KDZ30EV	KDZ30V	USCFZ30V	Z02W30V	USFZ30V	SMFZ30V	SMAZ30V
33V		KDZ33FV	KDZ33VV	KDZ33EV	KDZ33V	USCFZ33V	Z02W33V	USFZ33V	SMFZ33V	SMAZ33V
36V		KDZ36FV	KDZ36VV	KDZ36EV	KDZ36V	USCFZ36V	Z02W36V	USFZ36V	SMFZ36V	SMAZ36V
70V					KDZ70V					
85V					KDZ85V					
100V					KDZ100VW		Z02W100V			
110V					KDZ110VW					
113V					KDZ113V					
167V					KDZ167V					
205V					KDZ205V					
275V					KDZ275V					

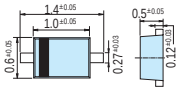
▣ 100mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P_D (mW)	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
					Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)		
KDZ5.1EL	-	3	◑	100☆	4.84	5.37	5.0	70	5	1000	0.5	2	1.5	ELP-2	
KDZ5.6EL	-	4	◑		5.31	5.92		40	5	900		2	1.5		
KDZ7.5EL	-	5	◑		7.06	7.84		23	5	120		0.5	4		
KDZ4.3FV	-	4F	◑	100☆	4.00	4.50	5.0	130	5	1000	0.5	5	1	TFSC	
	Y	4P	◑		4.17	4.43		130	5	1000		5	1		
KDZ4.7FV	-	5F	◑		4.40	4.90		130	5	1000		5	1		
	Y	5P	◑		4.55	4.75		130	5	1000		5	1		
KDZ5.1FV	-	6F	◑		4.80	5.40		70	5	1000		1	1.5		
	Y	6P	◑		4.98	5.20		70	5	1000		1	1.5		
KDZ5.6FV	-	8	◑		5.30	6.00		40	5	900		1	2.5		
	Y	8P	◑		5.49	5.73		40	5	900		1	2.5		
KDZ6.2FV	-	9F	◑		5.80	6.60		30	5	500		1	3		
	Y	9P	◑		6.06	6.33		30	5	500		1	3		
KDZ6.8FV	-	BF	◑		6.40	7.20		25	5	150		0.5	5		
	Y	BP	◑		6.65	6.93		25	5	150		0.5	5		
KDZ7.5FV	-	PF	◑		7.00	7.90		23	5	120		0.5	6		
	Y	PP	◑		7.28	7.60		23	5	120		0.5	6		
KDZ8.2FV	-	DF	◑		7.70	8.70		20	5	120		0.5	6.5		
	Y	DP	◑		8.02	8.3		20	5	120		0.5	6.5		
KDZ9.1FV	-	EF	◑		8.50	9.60		18	5	120		0.5	7		
	Y	EP	◑		8.85	9.23		18	5	120		0.5	7		
KDZ10FV	-	UF	◑		9.40	10.60		15	5	120		0.5	8		
	Y	UP	◑		9.77	10.21		15	5	120		0.5	8		
KDZ11FV	-	GF	◑		10.40	11.60		15	5	120		0.5	8.5		
	Y	GP	◑		10.76	11.22		15	5	120		0.5	8.5		
KDZ12FV	-	HF	◑		11.40	12.60		15	5	110		0.5	9		
	Y	HP	◑		11.74	12.24		15	5	110		0.5	9		
KDZ13FV	-	JF	◑		12.40	14.10		15	5	110		0.5	10		
	Y	JP	◑		12.91	13.49		15	5	110		0.5	10		
KDZ15FV	-	KF	◑		13.80	15.60		15	5	110		0.5	11		
	Y	KP	◑		14.34	14.98		15	5	110		0.5	11		
KDZ16FV	-	91	◑		15.30	17.10		18	5	150		0.5	12		
	Y	9	◑		15.85	16.51		18	5	150		0.5	12		
KDZ18FV	-	LF	◑		16.80	19.10		20	5	150		0.5	13		
	Y	LP	◑		17.56	18.35		20	5	150		0.5	13		
KDZ20FV	-	MF	◑		18.80	21.20		25	5	200		0.5	15		
	Y	MP	◑		19.52	20.39		25	5	200		0.5	15		
KDZ22FV	-	NF	◑		20.80	23.30		30	5	200		0.5	17		
	Y	NP	◑		21.54	22.47		30	5	200		0.5	17		
KDZ24FV	-	QF	◑		22.80	25.60		40	5	200		0.5	19		
	Y	QP	◑		23.72	24.78		40	5	200		0.5	19		
KDZ27FV	-	RF	◑		25.10	28.90	2.0	150	2.0	150		0.1	21		
	Y	RP	◑		26.19	27.53		150	2.0	150		0.1	21		
KDZ30FV	-	SF	◑		28.00	32.00		200	2.0	200		0.1	23		
	Y	SP	◑		29.19	30.69		200	2.0	200		0.1	23		
KDZ33FV	-	AP	◑		31.00	35.00		250	2.0	250		0.1	25		
	Y	AF	◑		32.15	33.79		250	2.0	250		0.1	25		
KDZ36FV	-	TF	◑		34.00	38.00		300	2.0	300		0.1	27		
	Y	TP	◑		35.07	36.87		300	2.0	300		0.1	27		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜, pad dimension of 4×4㎜.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

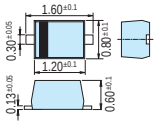
▣ 100mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P_D (mW)	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
					Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)		
KDZ4.3VV	-	ZJ	◑	100☆	4.00	4.50	5.0	130	5	1000	0.5	5	1	VSC	
	Y	JY	◑		4.17	4.43		130	5	1000		5	1		
KDZ4.7VV	-	ZK	◑		4.40	4.90		130	5	1000		5	1		
	Y	KY	◑		4.55	4.75		130	5	1000		5	1		
KDZ5.1VV	-	ZL	◑		4.80	5.40		70	5	1000		1	1.5		
	Y	LY	◑		4.98	5.20		70	5	1000		1	1.5		
KDZ5.6VV	-	ZM	◑		5.30	6.00		40	5	900		1	2.5		
	Y	MY	◑		5.49	5.73		40	5	900		1	2.5		
KDZ6.2VV	-	ZN	◑		5.80	6.60		30	5	500		1	3		
	Y	NY	◑		6.06	6.33		30	5	500		1	3		
KDZ6.8VV	-	ZP	◑		6.40	7.20		25	5	150		0.5	5		
	Y	PY	◑		6.65	6.93		25	5	150		0.5	5		
KDZ7.5VV	-	ZQ	◑		7.00	7.90		23	5	120		0.5	6		
	Y	QY	◑		7.28	7.60		23	5	120		0.5	6		
KDZ8.2VV	-	ZR	◑		7.70	8.70		20	5	120		0.5	6.5		
	Y	RY	◑		8.02	8.3		20	5	120		0.5	6.5		
KDZ9.1VV	-	ZS	◑		8.50	9.60		18	5	120		0.5	7		
	Y	SY	◑		8.85	9.23		18	5	120		0.5	7		
KDZ10VV	-	10	◑		9.40	10.60		15	5	120		0.5	8		
	Y	0Y	◑		9.77	10.21		15	5	120		0.5	8		
KDZ11VV	-	11	◑		10.40	11.60		15	5	120		0.5	8.5		
	Y	1Y	◑		10.76	11.22		15	5	120		0.5	8.5		
KDZ12VV	-	12	◑		11.40	12.60		15	5	110		0.5	9		
	Y	2Y	◑		11.74	12.24		15	5	110		0.5	9		
KDZ13VV	-	13	◑		12.40	14.10		15	5	110		0.5	10		
	Y	3Y	◑		12.91	13.49		15	5	110		0.5	10		
KDZ15VV	-	15	◑		13.80	15.60		15	5	110		0.5	11		
	Y	5Y	◑		14.34	14.98		15	5	110		0.5	11		
KDZ16VV	-	16	◑		15.30	17.10		18	5	150		0.5	12		
	Y	6Y	◑		15.85	16.51		18	5	150		0.5	12		
KDZ18VV	-	18	◑		16.80	19.10		20	5	150		0.5	13		
	Y	8Y	◑		17.56	18.35		20	5	150		0.5	13		
KDZ20VV	-	20	◑		18.80	21.20		25	5	200		0.5	15		
	Y	4Y	◑		19.52	20.39		25	5	200		0.5	15		
KDZ22VV	-	22	◑		20.80	23.30		30	5	200		0.5	17		
	Y	7Y	◑		21.54	22.47		30	5	200		0.5	17		
KDZ24VV	-	24	◑		22.80	25.60		40	5	200		0.5	19		
	Y	9Y	◑		23.72	24.78		40	5	200		0.5	19		
KDZ27VV	-	27	◑		25.10	28.90	2.0	150	2.0	150		0.1	21		
	Y	TY	◑		26.19	27.53		150	2.0	150		0.1	21		
KDZ30VV	-	30	◑		28.00	32.00		200	2.0	200		0.1	23		
	Y	UY	◑		29.19	30.69		200	2.0	200		0.1	23		
KDZ33VV	-	33	◑		31.00	35.00		250	2.0	250		0.1	25		
	Y	VY	◑		32.15	33.79		250	2.0	250		0.1	25		
KDZ36VV	-	36	◑		34.00	38.00		300	2.0	300		0.1	27		
	Y	WY	◑		35.07	36.87		300	2.0	300		0.1	27		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜, pad dimension of 4×4㎜.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

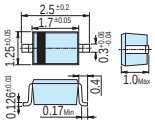
▣ 150mW Zener Diode

Type No.	Grade	Mark	AEC-Q	Max. Ratings	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
				P_D(mW)	Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R(V)		
KDZ2.0EV	-	2A	◑		1.85	2.15	5	100	5	1000	0.5	120	1.0		
	Y	2A ·	◑		1.95	2.15									
KDZ2.2EV	-	2B	◑		2.05	2.38	5	100	5	1000	0.5	120	1.0		
	Y	2B ·	◑		2.16	2.38									
KDZ2.4EV	-	2C	◑		2.28	2.60	5	100	5	1000	0.5	120	1.0		
	Y	2C ·	◑		2.40	2.60									
KDZ2.7EV	-	2D	◑		2.50	2.90	5	110	5	1000	0.5	120	1.0		
	Y	2D ·	◑		2.65	2.90									
KDZ3.0EV	-	30	○		2.80	3.20	5	120	5	1000	0.5	50	1.0		
	Y	30 ·	○		2.95	3.20									
KDZ3.3EV	-	33	◑		3.10	3.50	5	130	5	1000	0.5	20	1.0		
	Y	33 ·	◑		3.25	3.50									
KDZ3.6EV	-	36	◑		3.40	3.80	5	130	5	1000	0.5	10	1.0		
	Y	36 ·	◑		3.60	3.845									
KDZ3.9EV	-	39	◑		3.70	4.10	5	130	5	1000	0.5	10	1.0		
	Y	39 ·	◑		3.890	4.160									
KDZ4.3EV	-	43	◑		4.00	4.50	5	130	5	1000	0.5	5	1.0		
	Y	43 ·	◑		4.170	4.430									
KDZ4.7EV	-	47	◑		4.40	4.90	5	120	5	1000	0.5	5	1.0		
	Y	47 ·	◑		4.550	4.750									
KDZ5.1EV	-	51	◑		4.80	5.40	5	70	5	1000	0.5	1	1.5		
	Y	51 ·	◑		4.980	5.200									
KDZ5.6EV	-	56	◑		5.30	6.00	5	40	5	900	0.5	1	2.5		
	Y	56 ·	◑		5.490	5.730									
KDZ6.2EV	-	62	◑		5.80	6.60	5	30	5	500	0.5	1	3.0		
	Y	62 ·	◑		6.060	6.330									
KDZ6.8EV	-	68	◑		6.40	7.20	5	25	5	150	0.5	0.5	5.0		
	Y	68 ·	◑		6.650	6.930									
KDZ7.5EV	-	75	◑		7.00	7.90	5	23	5	120	0.5	0.5	6.0		
	Y	75 ·	◑		7.280	7.600									
KDZ8.2EV	-	82	◑	150☆	7.70	8.70	5	20	5	120	0.5	0.5	6.5	ESC	
	Y	82 ·	◑		8.020	8.360									
KDZ9.1EV	-	91	◑		8.50	9.60	5	18	5	120	0.5	0.5	7.0		
	Y	91 ·	◑		8.850	9.230									
KDZ10EV	-	10	◑		9.40	10.60	5	15	5	120	0.5	0.5	8.0		
	Y	10 ·	◑		9.770	10.210									
KDZ11EV	-	11	◑		10.40	11.60	5	15	5	120	0.5	0.5	8.5		
	Y	11 ·	◑		10.760	11.220									
KDZ12EV	-	12	◑		11.40	12.60	5	15	5	110	0.5	0.5	9.0		
	Y	12 ·	◑		11.740	12.240									
KDZ13EV	-	13	◑		12.40	14.10	5	15	5	110	0.5	0.5	10		
	Y	13 ·	◑		12.910	13.490									
KDZ15EV	-	15	◑		13.80	15.60	5	15	5	110	0.5	0.5	11		
	Y	15 ·	◑		14.340	14.980									
KDZ16EV	-	16	◑		15.30	17.10	5	18	5	150	0.5	0.5	12		
	Y	16 ·	◑		15.850	16.510									
KDZ18EV	-	18	◑		16.80	19.10	5	20	5	150	0.5	0.5	14		
	Y	18 ·	◑		17.560	18.350									
KDZ20EV	-	20	○		18.80	21.20	5	25	5	200	0.5	0.5	15		
	Y	20 ·	○		19.520	20.390									
KDZ22EV	-	22	◑		20.80	23.30	5	30	5	200	0.5	0.5	17		
	Y	22 ·	◑		21.540	22.470									
KDZ24EV	-	24	◑		22.80	25.60	5	40	5	200	0.5	0.5	19		
	Y	24 ·	◑		23.720	24.780									
KDZ27EV	-	27	◑		25.10	28.90	2	150	2	150	0.5	0.1	21		
	Y	27 ·	◑		26.19	27.53									
KDZ30EV	-	A2	◑		28.00	32.00	2	200	2	200	0.5	0.1	23		
	Y	A2 ·	◑		29.19	30.69									
KDZ33EV	-	A3	◑		31.00	35.00	2	250	2	250	0.5	0.1	25		
	Y	A3 ·	◑		32.15	33.79									
KDZ36EV	-	A4	◑		34.00	38.00	2	300	2	300	0.5	0.1	27		
	Y	A4 ·	◑		35.07	36.87									

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜, pad dimension of 4×4㎜.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

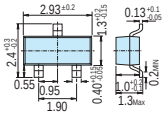
▣ 200mW Zener Diode

Type No.	Grade	Mark	AEC-Q	Max. Ratings	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
				P_D (mW)	Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)		
KDZ2.0V	-	2A	○		1.85	2.15	5	100	5	1000	0.5	120	1.0		
	Y	2A	○		1.95	2.15									
KDZ2.2V	-	2B	○		2.05	2.38	5	100	5	1000	0.5	120	1.0		
	Y	2B	○		2.16	2.38									
KDZ2.4V	-	2C	○		2.28	2.60	5	100	5	1000	0.5	120	1.0		
	Y	2C	○		2.40	2.60									
KDZ2.7V	-	2D	○		2.50	2.90	5	110	5	1000	0.5	120	1.0		
	Y	2D	○		2.65	2.90									
KDZ3.0V	-	30	○		2.80	3.20	5	120	5	1000	0.5	50	1.0		
	Y	30	○		2.95	3.20									
KDZ3.3V	-	33	○		3.10	3.50	5	130	5	1000	0.5	20	1.0		
	Y	33	○		3.25	3.50									
KDZ3.6V	-	36	○		3.40	3.80	5	130	5	1000	0.5	10	1.0		
	Y	36	○		3.60	3.845									
KDZ3.9V	-	39	○		3.70	4.10	5	130	5	1000	0.5	10	1.0		
	Y	39	○		3.890	4.160									
KDZ4.3V	-	43	◑		4.00	4.50	5	130	5	1000	0.5	5	1.0		
	Y	43	◑		4.170	4.430									
KDZ4.7V	-	47	○		4.40	4.90	5	120	5	1000	0.5	5	1.0		
	Y	47	○		4.550	4.750									
KDZ5.1V	-	51	○		4.80	5.40	5	70	5	1000	0.5	1	1.5		
	Y	51	○		4.980	5.200									
KDZ5.6V	-	56	○		5.30	6.00	5	40	5	900	0.5	1	2.5		
	Y	56	○		5.490	5.730									
KDZ6.2V	-	62	○		5.80	6.60	5	30	5	500	0.5	1	3.0		
	Y	62	○		6.060	6.330									
KDZ6.8V	-	68	○		6.40	7.20	5	25	5	150	0.5	0.5	5.0		
	Y	68	○		6.650	6.930									
KDZ7.5V	-	75	○		7.00	7.90	5	23	5	120	0.5	0.5	6.0		
	Y	75	○	200☆	7.280	7.600								USC	
KDZ8.2V	-	82	○		7.70	8.70	5	20	5	120	0.5	0.5	6.5		
	Y	82	○		8.020	8.360									
KDZ9.1V	-	91	○		8.50	9.60	5	18	5	120	0.5	0.5	7.0		
	Y	91	○		8.850	9.230									
KDZ10V	-	10	○		9.40	10.60	5	15	5	120	0.5	0.5	8.0		
	Y	10	○		9.770	10.210									
KDZ11V	-	11	○		10.40	11.60	5	15	5	120	0.5	0.5	8.5		
	Y	11	○		10.760	11.220									
KDZ12V	-	12	○		11.40	12.60	5	15	5	110	0.5	0.5	9.0		
	Y	12	○		11.740	12.240									
KDZ13V	-	13	○		12.40	14.10	5	15	5	110	0.5	0.5	10		
	Y	13	○		12.910	13.490									
KDZ15V	-	15	○		13.80	15.60	5	15	5	110	0.5	0.5	11		
	Y	15	○		14.340	14.980									
KDZ16V	-	16	○		15.30	17.10	5	18	5	150	0.5	0.5	12		
	Y	16	○		15.850	16.510									
KDZ18V	-	18	○		16.80	19.10	5	20	5	150	0.5	0.5	14		
	Y	18	○		17.560	18.350									
KDZ20V	-	20	○		18.80	21.20	5	25	5	200	0.5	0.5	15		
	Y	20	○		19.520	20.390									
KDZ22V	-	22	○		20.80	23.30	5	30	5	200	0.5	0.5	17		
	Y	22	○		21.540	22.470									
KDZ24V	-	24	○		22.80	25.60	5	40	5	200	0.5	0.5	19		
	Y	24	○		23.720	24.780									
KDZ27V	-	A1	○		26.19	27.53	2	150	2	150	0.5	0.1	21		
KDZ30V	-	A2	◑		29.19	30.69	2	200	2	200	0.5	0.1	23		
KDZ33V	-	A3	○		32.15	33.79	2	250	2	250	0.5	0.1	25		
KDZ36V	-	A4	◑		35.07	36.87	2	300	2	300	0.5	0.1	27		
USCZ5.6V	-	ZM	○		5.32	5.88	10	-	-	-	-	1.5	4		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜, pad dimension of 4×4㎜.

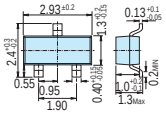
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 200mW Zener Diode

Type No.	Grade	Mark	AEC-Q	Max. Ratings	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
				P_D (mW)	Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)		
Z02W2.0V	-	2A	◑	200	1.85	2.15	5	100	5	1000	0.5	120	1	SOT-23	
	X	2AX	◑		1.85	2.05	5	100	5	1000	0.5	120	1		
	Z	2AZ	◑		1.95	2.15	5	100	5	1000	0.5	120	1		
Z02W2.2V	-	2B	◑		2.05	2.38	5	100	5	1000	0.5	120	1		
	X	2BX	◑		2.05	2.26	5	100	5	1000	0.5	120	1		
	Z	2BZ	◑		2.16	2.38	5	100	5	1000	0.5	120	1		
Z02W2.4V	-	2C	◑		2.28	2.6	5	100	5	1000	0.5	120	1		
	X	2CX	◑		2.28	2.5	5	100	5	1000	0.5	120	1		
	Z	2CZ	◑		2.4	2.6	5	100	5	1000	0.5	120	1		
Z02W2.7V	-	2D	◑		2.5	2.9	5	110	5	1000	0.5	120	1		
	X	2DX	◑		2.5	2.75	5	110	5	1000	0.5	120	1		
	Z	2DZ	◑		2.65	2.9	5	110	5	1000	0.5	120	1		
Z02W3.0V	-	30	◑		2.8	3.2	5	120	5	1000	0.5	50	1		
	X	30X	◑		2.8	3.05	5	120	5	1000	0.5	50	1		
	Z	30Z	◑		2.95	3.2	5	120	5	1000	0.5	50	1		
Z02W3.3V	-	33	◑		3.1	3.5	5	130	5	1000	0.5	20	1		
	X	33X	◑		3.1	3.35	5	130	5	1000	0.5	20	1		
	Z	33Z	◑		3.25	3.5	5	130	5	1000	0.5	20	1		
Z02W3.6V	-	36	◑		3.4	3.8	5	130	5	1000	0.5	10	1		
	X	36X	◑		3.4	3.65	5	130	5	1000	0.5	10	1		
	Z	36Z	◑		3.55	3.8	5	130	5	1000	0.5	10	1		
Z02W3.9V	-	39	◑		3.7	4.1	5	130	5	1000	0.5	10	1		
	X	39X	◑		3.7	3.97	5	130	5	1000	0.5	10	1		
	Z	39Z	◑		3.87	4.1	5	130	5	1000	0.5	10	1		
Z02W4.3V	-	4.3	◑		4	4.5	5	130	5	1000	0.5	5	1		
	Y	4.3Y	◑		4.13	4.35	5	130	5	1000	0.5	5	1		
Z02W4.7V	-	4.7	◑		4.4	4.9	5	120	5	1000	0.5	5	1		
	Y	4.7Y	◑		4.53	4.76	5	120	5	1000	0.5	5	1		
Z02W5.1V	-	5.1	○		4.8	5.4	5	70	5	1000	0.5	1	1.5		
	Y	5.1Y	○		4.97	5.24	5	70	5	1000	0.5	1	1.5		
Z02W5.6V	-	5.6	○		5.3	6	5	40	5	900	0.5	1	2.5		
	Y	5.6Y	○		5.43	5.81	5	40	5	900	0.5	1	2.5		
Z02W6.2V	-	6.2	○		5.8	6.6	5	30	5	500	0.5	1	3		
	Y	6.2Y	○		6	6.39	5	30	5	500	0.5	1	3		
Z02W6.8V	-	6.8	○		6.4	7.2	5	25	5	150	0.5	0.5	5		
	Y	6.8Y	○		6.6	7.02	5	25	5	150	0.5	0.5	5		
Z02W7.5V	-	7.5	○		7	7.9	5	23	5	120	0.5	0.5	6		
	Y	7.5Y	○		7.23	7.66	5	23	5	120	0.5	0.5	6		
Z02W8.2V	-	8.2	○		7.7	8.7	5	20	5	120	0.5	0.5	6.5		
	Y	8.2Y	○		7.96	8.43	5	20	5	120	0.5	0.5	6.5		
Z02W9.1V	-	9.1	◑		8.5	9.6	5	18	5	120	0.5	0.5	7		
	Y	9.1Y	◑		8.8	9.3	5	18	5	120	0.5	0.5	7		
Z02W10V	-	10	◑		9.4	10.6	5	15	5	120	0.5	0.5	8		
	Y	10Y	◑		9.73	10.26	5	15	5	120	0.5	0.5	8		
Z02W11V	-	11	○		10.4	11.6	5	15	5	120	0.5	0.5	8.5		
	Y	11Y	○		10.73	11.26	5	15	5	120	0.5	0.5	8.5		
Z02W12V	-	12	○		11.4	12.6	5	15	5	110	0.5	0.5	9		
	Y	12Y	○		11.73	12.26	5	15	5	110	0.5	0.5	9		
Z02W13V	-	13	◑		12.4	14.1	5	15	5	110	0.5	0.5	10		
	Y	13Y	◑		12.88	13.57	5	15	5	110	0.5	0.5	10		
Z02W15V	-	15	○		13.8	15.6	5	15	5	110	0.5	0.5	11		
	Y	15Y	○		14.33	15.11	5	15	5	110	0.5	0.5	11		
Z02W16V	-	16	○		15.3	17.1	5	18	5	150	0.5	0.5	12		
	Y	16Y	○		15.8	16.6	5	18	5	150	0.5	0.5	12		
Z02W18V	-	18	○		16.8	19.1	5	20	5	150	0.5	0.5	14		
	Y	18Y	○		17.46	18.43	5	20	5	150	0.5	0.5	14		
Z02W20V	-	20	○		18.8	21.2	5	25	5	200	0.5	0.5	15		
	Y	20Y	○		19.48	20.46	5	25	5	200	0.5	0.5	15		
Z02W22V	-	22	◑		20.8	23.3	5	30	5	200	0.5	0.5	17		
	Y	22Y	◑		21.48	22.56	5	30	5	200	0.5	0.5	17		
Z02W24V	-	24	○		22.8	25.6	5	40	5	200	0.5	0.5	19		
	Y	24Y	○		23.61	24.92	5	40	5	200	0.5	0.5	19		
Z02W27V	-	27A	◑		26.19	27.53	2	150	2	150	0.5	0.1	21		
Z02W30V	-	30A	◑		29.19	30.69	2	200	2	200	0.5	0.1	23		
Z02W33V	-	33A	◑		32.15	33.79	2	250	2	250	0.5	0.1	25		
Z02W36V	-	36A	◑		35.07	36.87	2	300	2	300	0.5	0.1	27		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

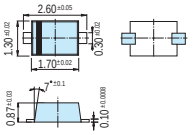
▣ 300mW☆ Zener Diode

Type No.	Mark	AEC-Q	P_D (mW)	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
				Min.	Max.	I_Z(mA)	Max.	I_Z(mA)	Max.	I_Z(mA)	Max.	V_R(V)		
BZX84C2V0	2AH	◑		1.85	2.15	5	100	5	1000	0.5	120	1.0		
BZX84C2V2	2BH	◑		2.05	2.38	5	100	5	1000	0.5	120	1.0		
BZX84C2V4	2CH	◑		2.28	2.60	5	100	5	1000	0.5	120	1.0		
BZX84C2V7	2DH	◑		2.50	2.90	5	100	5	1000	0.5	120	1.0		
BZX84C3V0	30H	◑		2.80	3.20	5	120	5	1000	0.5	50	1.0		
BZX84C3V3	33H	◑		3.10	3.50	5	130	5	1000	0.5	20	1.0		
BZX84C3V6	36H	◑		3.40	3.80	5	130	5	1000	0.5	10	1.0		
BZX84C3V9	39H	◑		3.70	4.10	5	130	5	1000	0.5	10	1.0		
BZX84C4V3	4.3H	◑		4.13	4.35	5	130	5	1000	0.5	5	1.0		
BZX84C4V7	4.7H	◑		4.53	4.76	5	120	5	1000	0.5	5	1.0		
BZX84C5V1	5.1H	○		4.97	5.24	5	70	5	1000	0.5	1	1.5		
BZX84C5V6	5.6H	○		5.43	5.81	5	40	5	900	0.5	1	2.5		
BZX84C6V2	6.2H	◑		6.00	6.39	5	30	5	500	0.5	1	3.0		
BZX84C6V8	6.8H	◑		6.60	7.02	5	25	5	150	0.5	0.5	5.0		
BZX84C7V5	7.5H	◑		7.23	7.66	5	23	5	120	0.5	0.5	6.0		
BZX84C8V2	8.2H	◑	300☆	7.96	8.43	5	20	5	120	0.5	0.5	6.5	SOT-23	
BZX84C9V1	9.1H	◑		8.80	9.30	5	18	5	120	0.5	0.5	7.0		
BZX84C10	10H	◑		9.73	10.26	5	15	5	120	0.5	0.5	8.0		
BZX84C11	11H	◑		10.73	11.26	5	15	5	120	0.5	0.5	8.5		
BZX84C12	12H	◑		11.73	12.26	5	15	5	110	0.5	0.5	9.0		
BZX84C13	13H	◑		12.88	13.57	5	15	5	110	0.5	0.5	10		
BZX84C15	15H	◑		14.33	15.11	5	15	5	110	0.5	0.5	11		
BZX84C16	16H	◑		15.80	16.60	5	18	5	150	0.5	0.5	12		
BZX84C18	18H	◑		17.46	18.43	5	20	5	150	0.5	0.5	14		
BZX84C20	20H	◑		19.48	20.46	5	25	5	200	0.5	0.5	15		
BZX84C22	22H	◑		21.48	22.56	5	30	5	200	0.5	0.5	17		
BZX84C24	24H	○		23.61	24.92	5	40	5	200	0.5	0.5	19		
BZX84C27	27B	◑		26.19	27.53	2	150	2	150	0.5	0.1	21		
BZX84C30	30B	◑		29.19	30.69	2	200	2	200	0.5	0.1	23		
BZX84C33	33B	◑		32.15	33.79	2	250	2	250	0.5	0.1	25		
BZX84C36	36B	◑		35.01	36.87	2	300	2	300	0.5	0.1	27		

Note) ☆ : Package Mounted on 99.5% alumina 10×8×0.6㎜.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

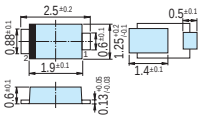
▣ 500mW Zener Diode

Type No.	Grade	Mark	AEC-Q	P_D (mW)	V_Z (V)		I_Z(mA)	I_R(μA)		Package	Outline (Unit : mm)
					Min.	Max.		Max.	V_R(V)		
USCFZ2.0V	-	2A	◑	500☆	1.85	2.15	5	120	1.0	USCF	
	Y				1.95	2.15					
USCFZ2.2V	-	2B	◑		2.05	2.38	5	120	1.0		
	Y				2.16	2.38					
USCFZ2.4V	-	2C	◑		2.28	2.60	5	120	1.0		
	Y				2.40	2.60					
USCFZ2.7V	-	2D	◑		2.50	2.90	5	120	1.0		
	Y				2.65	2.90					
USCFZ3.0V	-	30	◑		2.80	3.20	5	50	1.0		
	Y				2.95	3.20					
USCFZ3.3V	-	33	◑		3.10	3.50	5	20	1.0		
	Y				3.25	3.50					
USCFZ3.6V	-	36	◑		3.40	3.80	5	10	1.0		
	Y				3.60	3.845					
USCFZ3.9V	-	39	◑		3.70	4.10	5	10	1.0		
	Y				3.890	4.160					
USCFZ4.3V	-	43	◑		4.00	4.50	5	5	1.0		
	Y				4.170	4.430					
USCFZ4.7V	-	47	◑		4.40	4.90	5	5	1.0		
	Y				4.550	4.750					
USCFZ5.1V	-	51	◑		4.80	5.40	5	1	1.5		
	Y				4.980	5.200					
USCFZ5.6V	-	56	◑		5.30	6.00	5	1	2.5		
	Y				5.490	5.730					
USCFZ6.2V	-	62	◑		5.80	6.60	5	1	3.0		
	Y				6.060	6.330					
USCFZ6.8V	-	68	◑		6.40	7.20	5	0.5	5.0		
	Y				6.650	6.930					
USCFZ7.5V	-	75	◑		7.00	7.90	5	0.5	6.0		
	Y				7.280	7.600					
USCFZ8.2V	-	82	◑		7.70	8.70	5	0.5	6.5		
	Y				8.020	8.360					
USCFZ9.1V	-	91	◑		8.50	9.60	5	0.5	7.0		
	Y				8.850	9.230					
USCFZ10V	-	10	◑		9.40	10.60	5	0.5	8.0		
	Y				9.770	10.210					
USCFZ11V	-	11	◑		10.40	11.60	5	0.5	8.5		
	Y				10.760	11.220					
USCFZ12V	-	12	◑		11.40	12.60	5	0.5	9.0		
	Y				11.740	12.240					
USCFZ13V	-	13	◑		12.40	14.10	5	0.5	10		
	Y				12.910	13.490					
USCFZ15V	-	15	◑		13.80	15.60	5	0.5	11		
	Y				14.340	14.980					
USCFZ16V	-	16	◑		15.30	17.10	5	0.5	12		
	Y				15.850	16.510					
USCFZ18V	-	18	◑		16.80	19.10	5	0.5	14		
	Y				17.560	18.350					
USCFZ20V	-	20	◑		18.80	21.20	5	0.5	15		
	Y				19.520	20.390					
USCFZ22V	-	22	◑		20.80	23.30	5	0.5	17		
	Y				21.540	22.470					
USCFZ24V	-	24	◑		22.80	25.60	5	0.5	19		
	Y				23.720	24.780					
USCFZ27V	-	A1	◑		26.19	27.53	2	0.1	21		
USCFZ30V	-	A2	◑		29.19	30.69	2	0.1	23		
USCFZ33V	-	A3	◑		32.15	33.79	2	0.1	25		
USCFZ36V	-	A4	◑		35.07	36.87	2	0.1	27		

Note) ☆ : Mounted on a glass epoxy circuit board of 1×1 inch.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment.

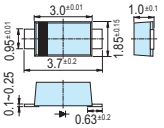
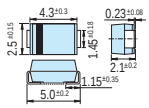
▣ 500mW Zener Diode

Type No.	Mark	AEC-Q	P_D (mW)	V_Z			I_R(μA)		Package	Outline (Unit : mm)
				Min.	Max.	I_Z(mA)	Max.	V_R(V)		
USFZ4.3V	43	◑		3.9	4.8	10	10	1.0		
USFZ4.7V	47	◑		4.3	5.2	10	10	1.0		
USFZ5.1V	51	◑		4.6	5.6	10	10	1.5		
USFZ5.6V	56	◑		5.1	6.1	10	10	2.5		
USFZ6.2V	62	◑		5.6	6.8	10	10	3.0		
USFZ6.8V	68	◑		6.2	7.4	10	10	3.5		
USFZ7.5V	75	◑		6.8	8.3	10	10	4.5		
USFZ8.2V	82	◑		7.4	9.0	10	10	4.9		
USFZ9.1V	91	◑		8.2	10.0	10	10	5.5		
USFZ10V	10	◑		9.0	11.0	10	10	6.0		
USFZ11V	11	◑		9.9	12.1	10	10	7.0		
USFZ12V	12	◑	500☆	10.8	13.2	10	10	8.0	USF	
USFZ13V	13	◑		11.7	14.3	10	10	9.0		
USFZ15V	15	◑		13.5	16.5	10	10	10.0		
USFZ16V	16	◑		14.4	17.6	10	10	11.0		
USFZ18V	18	◑		16.2	19.8	10	10	12.0		
USFZ20V	20	◑		18.0	22.0	10	10	14.0		
USFZ22V	22	◑		19.8	24.2	10	10	15.0		
USFZ24V	24	◑		21.6	26.4	10	10	16.0		
USFZ27V	27	◑		24.3	29.7	10	10	19.0		
USFZ30V	30	◑		27.0	33.0	10	10	21.0		
USFZ33V	33	◑		29.7	36.3	10	10	23.0		
USFZ36V	36	◑		32.4	39.6	10	10	25.0		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜, pad dimension of 4×4㎜.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

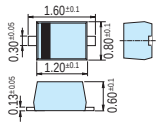
▣ 1W Zener Diode

Type No.	Mark	AEC-Q	P_D (W)	V_Z			I_R(μA)		Package	Outline (Unit : mm)
				Min.	Max.	I_Z(mA)	Max.	V_R(V)		
SMFZ4.3V	ZZJ	○	1☆	4.3	4.8	40	20	1.0	SMF	
SMFZ4.7V	ZZK	◑		4.7	5.2	40	20	1.0		
SMFZ5.1V	ZZL	◑		5.1	5.7	40	20	1.0		
SMFZ5.6V	ZZM	◑		5.6	6.3	40	20	1.5		
SMFZ6.2V	ZZN	◑		6.2	7.0	40	20	3.0		
SMFZ6.8V	ZZP	◑		6.8	7.7	40	20	3.5		
SMFZ7.5V	ZZQ	◑		7.5	8.4	40	20	4.0		
SMFZ8.2V	ZZR	◑		8.2	9.3	40	20	5.0		
SMFZ9.1V	ZZS	◑		9.1	10.2	40	20	6.0		
SMFZ10V	Z10	◑		10.0	11.2	40	10	7.0		
SMFZ11V	Z11	◑		11.0	12.3	20	10	8.0		
SMFZ12V	Z12	◑		12.0	13.5	20	10	9.0		
SMFZ13V	Z13	◑		13.3	15.0	20	10	10.0		
SMFZ15V	Z15	○		14.7	16.5	20	10	11.0		
SMFZ16V	Z16	◑		16.2	18.3	20	10	12.0		
SMFZ18V	Z18	○		18.0	20.3	20	10	13.0		
SMFZ20V	Z20	◑		20.0	22.4	20	10	15.0		
SMFZ22V	Z22	◑		22.0	24.5	10	10	17.0		
SMFZ24V	Z24	○		24.0	27.6	10	10	19.0		
SMFZ27V	Z27	○		27.0	30.8	10	10	21.0		
SMFZ30V	Z30	◑		30.0	34.0	10	10	23.0		
SMFZ33V	Z33	◑		33.0	37.0	10	10	25.0		
SMFZ36V	Z36	○		36.0	40.0	10	10	27.0		
SMAZ4.3V	Z4.3	◑	1	4.3	4.8	40	20	1.0	SMA	
SMAZ4.7V	Z4.7	◑		4.7	5.2	40	20	1.0		
SMAZ5.1V	Z5.1	○		5.1	5.7	40	20	1.0		
SMAZ5.6V	Z5.6	◑		5.6	6.3	40	20	1.5		
SMAZ6.2V	Z6.2	◑		6.2	7.0	40	20	3.0		
SMAZ6.8V	Z6.8	◑		6.8	7.7	40	20	3.5		
SMAZ7.5V	Z7.5	○		7.5	8.4	40	20	4.0		
SMAZ8.2V	Z8.2	◑		8.2	9.3	40	20	5.0		
SMAZ9.1V	Z9.1	◑		9.1	10.2	40	20	6.0		
SMAZ10V	Z10	○		10.0	11.2	40	10	7.0		
SMAZ11V	Z11	◑		11.0	12.3	20	10	8.0		
SMAZ12V	Z12	◑		12.0	13.5	20	10	9.0		
SMAZ13V	Z13	◑		13.3	15.0	20	10	10.0		
SMAZ15V	Z15	○		14.7	16.5	20	10	11.0		
SMAZ16V	Z16	◑		16.2	18.3	20	10	12.0		
SMAZ18V	Z18	◑		18.0	20.3	20	10	13.0		
SMAZ20V	Z20	◑		20.0	22.4	20	10	15.0		
SMAZ22V	Z22	◑		22.0	24.5	10	10	17.0		
SMAZ24V	Z24	◑		24.0	27.6	10	10	19.0		
SMAZ27V	Z27	○		27.0	30.8	10	10	21.0		
SMAZ30V	Z30	◑		30.0	34.0	10	10	23.0		
SMAZ33V	Z33	○		33.0	37.0	10	10	25.0		
SMAZ36V	Z36	○		36.0	40.0	10	10	27.0		

Note) ☆ : Mounted on a glass epoxy circuit board of 5×5cm, pad dimension of 2.5×2.5cm.

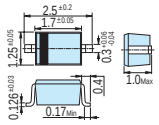
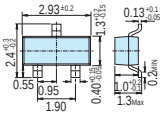
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Low Capacitance Zener Diode

Type No.	Mark	AEC-Q	P_D (mW)	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		C_T (pF)			Package	Outline (Unit : mm)
				Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R(V)	Max.	V_R (V)	f (MHz)		
KDZ6.8CE	ZN	◑	150	6.65	6.93	5.0	40	5.0	60	0.5	0.5	3.5	17	0.5	1	ESC	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

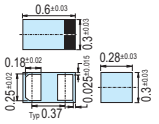
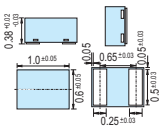
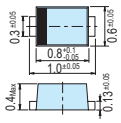
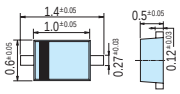
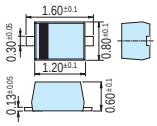
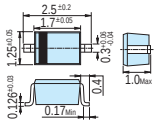
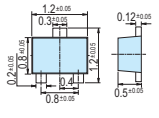
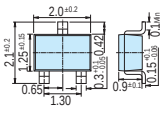
▣ High Voltage Zener Diode

Type No.	Mark	AEC-Q	P_D (mW)	V_Z (V)			Z_Z (Ω)		Z_{ZK} (Ω)		I_R (μA)		Package	Outline (Unit : mm)
				Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R(V)		
KDZ70V	H	◑	200☆	63.5	77.5	1	700	1	700	0.5	0.1	56	USC	
KDZ85V	J	◑		79.7	89.9	1	700	1	700	0.5	0.1	73		
★KDZ100VW	AW	◑		95.0	105.0	1	700	1	-	-	0.2	76		
KDZ113V	N	◑		106.3	119.9	1	700	1	700	0.5	0.1	97		
Z02W100V	10A	◑	200	95.0	105.0	1	700	1	-	-	0.2	76	SOT-23	

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜, pad dimension of 4×4㎜. Note) ★: Bi-directional Zener Diode.

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

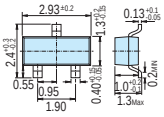
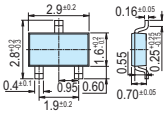
▣ Small Signal Schottky Barrier Diode

Type No.		Mark	AEC-Q	Max. Ratings						V_F (V)		I_R (μA)		C_T (pF)			Package	Outline (Unit : mm)
				V_{RM} (V)	V_R (V)	I_{FM} (mA)	I_O (mA)	I_{FSM} (A)	P_D (mW)	Max.	I_F (mA)	Max.	V_R (V)	Max.	V_R (V)	f (MHz)		
KDR720EL		R	◑	-	30	-	100	0.5	-	0.37	10	7	10	-	-	-	ELP-2	
KDR730EL		SB	◑	-	30	-	100	0.5	-	0.46	10	0.3	10	-	-	-		
KDR530UL		UL	◑	-	30	-	100	0.5	-	0.5	500	0.5	30	30	1	1	ULP-2	
KDR720UL		SB	◑	-	30	-	100	1	-	0.35	10	10	10	-	-	-		
KDR740UL		SD	◑	40	40	-	200	3	-	0.36	10	10	40	-	-	-		
KDR552F		7	◑	-	25	-	50	0.2	-	0.38	5	0.45	20	2.8	1	1	TFSC	
KDR582F		M	◑	-	5	-	10	0.13	100☆	0.6	10	0.25	3	0.75	0	1		
KDR720F		R	◑	-	30	-	100	1	-	0.35	10	10	10	-	-	-		
KDR730F		Q	◑	-	30	-	100	0.5	-	0.45	10	0.5	10	-	-	-		
KDR720V		SB	◑	-	30	-	100	1	-	0.35	10	10	10	-	-	-	VSC	
KDR730V		SA	◑	-	30	-	100	0.5	-	0.45	10	0.5	10	-	-	-		
KDR367E		US	◑	15	10	200	100	1	150☆	0.5	100	20	10	40	0	1	ESC	
KDR377E		UV	○	40	40	150	30	0.2	150☆	0.55	30	20	40	6 (Typ)	1	1		
KDR720E		UB	○	-	30	-	200	1	150☆	0.50	200	30	10	-	-	-		
KDR728E		UT	○	30	30	150	30	0.2	150☆	0.55	30	300	30	6.5 (Typ)	1	1		
KDR730E		EB	◑	-	30	-	200	1	150☆	0.6	200	1	10	-	-	-		
KDR760E		DA	◑	60	60	-	200	1	150☆	0.66	200	10	10	-	-	-		
KDR357		UL	○	45	40	200	100	1	200☆	0.55	100	5	40	30	0	1	USC	
KDR367		US	◑	15	10	200	100	1	200	0.5	100	20	10	40	0	1		
KDR377		UV	○	40	40	150	30	0.2	200	0.55	30	20	40	6 (Typ)	1	1		
KDR412		U3	◑	40	20	-	500	3	-	0.5	500	30	10	20	10	1		
KDR729		UM	○	30	30	300	200	1	200☆	0.55	200	50	30	50 (Typ)	0	1		
KDR331V		UW	◑	15	10	100	50	1	100	0.5	50	20	10	40	0	1	VSM	
KDR411		U3	◑	40	20	-	500	3	-	0.5	500	30	10	20(Typ)	10	1	USM	
KDR731		UX	○	-	30	-	70	2	-	0.55	70	5	15	5 (Typ)	10	1		

Note) ☆ : Mounted on a glass epoxy circuit board of 20×20㎜.

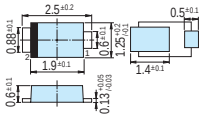
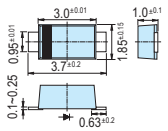
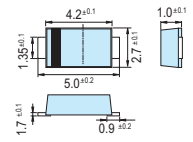
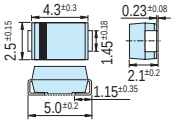
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Small Signal Schottky Barrier Diode

Type No.		Mark	AEC-Q	Max. Ratings						V_F (V)		I_R (μA)		C_T (pF)			Package	Outline (Unit : mm)
				V_{RM} (V)	V_R (V)	I_{FM} (mA)	I_O (mA)	I_{FSM} (A)	P_D (mW)	Max.	I_F (mA)	Max.	V_R (V)	Max.	V_R (V)	f (MHz)		
BAT54		L4	◑	-	30	-	200	0.6	200	0.8	100	2	25	10	1	1	SOT-23	
KDR105S		DL	○	-	50	-	100	2	-	0.55	100	10	25	7.7 (Typ)	10	1		
KDR411S		U3	○	40	20	-	500	3	-	0.5	500	30	10	20 (Typ)	10	1		
BAT54C		L43	◑	-	30	-	200	0.6	200	0.8	100	2	25	10	1	1		
BAT54S		L44	◑	-	30	-	200	0.6	200	0.8	100	2	25	10	1	1		
KDR731S		UX	○	-	30	-	70	2	-	0.55	70	5	15	5 (Typ)	10	1		
KDR400S		DJ	◑	40	40	-	500	3	-	0.55	500	50	25	25 (Typ)	10	1		
KDR407S		DN	◑	40	40	-	750	5	-	0.5	750	10	40	-	-	-		
KDR505S		DM	◑	50	50	-	500	5	-	0.55	500	20	25	22 (Typ)	10	1		
KDR701S		DK	◑	30	30	-	700	5	-	0.55	700	80	30	190	0	1		
KDR720S		MG	◑	30	30	-	200	1	-	0.55	200	50	30	30 (Typ)	0	1		
KDR721S		MK	○	30	30	-	200	1	-	0.55	200	50	30	13 (Typ)	10	1		
KDR521T		T2	◑	-	20	-	1A	3	-	0.45	1000	200	20	-	-	-	TSM	
KDR531T		T3	◑	-	30	-	1A	10	-	0.47	1000	500	15	35 (Typ)	10	1		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Power Schottky Barrier Diode

Type No.		Mark	AEC-Q	Max. Ratings			V_{FM} (V)		I_{RRM} (mA)		Package	Outline (Unit : mm)
				V_{RRM} (V)	I_O (A)	I_{FSM} (A) (60Hz)	Max.	I_{FM} (A)	Max.	V_R (V)		
USFB13		A3	○	30	1	5	0.47	1	0.2	30	USF	
USFB13A		BA	◑	30	1	22	0.52	1	0.05	30		
USFB14		SA	◑	40	1	5	0.55	0.7	0.05	40		
USFB053		53	◑	30	0.5	5	0.39	0.5	0.2	30		
SMFB13		B13	○	30	1	22	0.42	1	1.0	30	SMF	
SMFB16		S16	○	60	1	30	0.55	1	0.05	60		
SMFB14		B14	○	40	1	22	0.50	1	1.0	40		
*SMAFB34		T34	◑	40	3	50	0.50	3	0.05	40	SMAF	
*SMAFB55		T55	◑	45	5	75	0.50	5	0.05	45		
SMAB13		B13	○	30	1	40	0.42	1	1.0	30	SMA	
SMAB33		B33	○	30	3	70	0.45	3	2.0	30		
SMAB14		B14	○	40	1	40	0.5	1	1.0	40		
SMAB34		B34	○	40	3	70	0.52	3	2.0	40		
SMAB16		B16	○	60	1	30	0.58	1	1.0	60		
SMAB36		B36	○	60	3	70	0.6	1	2.0	60		
SMAB110		B110	○	100	1	30	0.8	1	1.0	100		
SMAB210		B210	○	100	2	50	0.8	2	1.0	100		

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Power Schottky Barrier Diode

Type No.		AEC-Q	Max. Ratings			V_{FM} (V)		I_{RRM} (mA) (V_{RRM}=Rated)	trr (ns)			R_{th} (j-c) (℃/W)	Package	Outline (Unit : mm)
			V_{RM} (V)	I_O (A)	I_{FSM} (A)	Max. (T_C=25℃)	I_{FM} (A)	Max.	Max.	I_{FM} (A)	di/dt (A/μs)	Max.		
MBRD5U100D		◑	100	5	90	0.8	5	0.05	-	-	-	5	DPAK(1)	
MBRD5U200D		◑	200	5	90	0.95	5	0.05	-	-	-	5		
MBRD6U60CT		◑	60	6	45	0.65	3	0.05	35	1	-30	6		
MBRD10U60CT		◑	60	10	45	0.75	5	0.05	35	1	-30	6		
MBRD10U100CT		◑	100	10	45	0.85	5	0.05	35	1	-30	6		
MBRD10U200CT		◑	200	10	45	0.95	5	0.05	35	1	-30	6		
MBRD5U150		○	150	5	125	0.9	5	0.1	35	1	-30	5		
MBRD10U150		○	150	10	150	0.9	10	0.1	35	1	-30	5		
MBRD20U60CT		◑	60	20	150	0.75	10	0.05	35	1	-30	6		
MBRD20U100CT		◑	100	20	150	0.85	10	0.05	35	1	-30	6		
MBRD20U150CT		◑	150	20	150	0.90	10	0.05	35	1	-30	6		
MBRD20U200CT		◑	200	20	150	0.95	10	0.05	35	1	-30	6		
MBRF10U45CTA		◑	45	10	100	0.7	5	0.1	35	1	-30	4.5	TO-220IS(1)	
MBRF10U60CTA		◑	60	10	100	0.75	5	0.05	35	1	-30	4.5		
MBRF10U100CTA		○	100	10	100	0.85	5	0.05	35	1	-30	4.5		
MBRF10U150CTA		○	150	10	130	0.9	5	0.05	35	1	-30	4.5		
MBRF10U200CTA		○	200	10	100	0.95	5	0.05	35	1	-30	4.5		
MBRF15U45CTA		○	45	15	150	0.7	7.5	0.1	35	1	-30	4.0		
MBRF20U45CTA		◑	45	20	250	0.7	10	0.1	35	1	-30	4.0		
MBRF20U60CTA		◑	60	20	250	0.75	10	0.05	35	1	-30	3.5		
MBRF20T80CTF		◑	80	20	150	0.75	10	0.1	-	-	-	4.0		
MBRF20U100CTA		◑	100	20	100	0.85	10	0.05	-	-	-	3.5		
MBRF20U150CTA		○	150	20	180	0.9	10	0.05	35	1	-30	3.5		
MBRF20U200CTA		○	200	20	120	0.95	10	0.05	35	1	-30	3.5		
MBRF30U45CTA		◑	45	30	350	0.7	15	0.1	35	1	-30	3.5		
MBRF30U60CTA		◑	60	30	350	0.75	15	0.05	35	1	-30	3.0		
MBRF30U100CTA		◑	100	30	350	0.85	15	0.05	35	1	-30	3.0		
MBRF10U200		◑	200	10	100	0.95	10	0.1	35	1	50	4.5	TO-220IS (2pin)	
MBRF20U200		◑	200	20	120	0.95	20	0.1	35	1	50	3.5		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

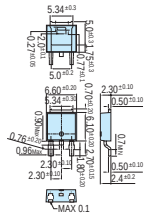
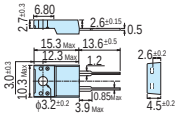
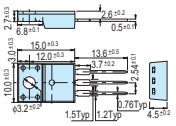
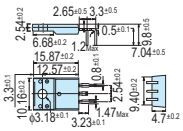
▣ Power Schottky Barrier Diode (Low V_F SBD)

Type No.		AEC-Q	Max. Ratings			V_{FM} (V)		I_{RRM} (mA) (V_{RRM}=Rated)	R_{th} (j-c) (℃/W)	Package	Outline (Unit : mm)
			V_{RM} (V)	I_O (A)	I_{FSM} (A)	Max. (T_C=25℃)	I_{FM} (A)	Max.	Max.		
TMBRD10100CT		◑	100	10	100	0.67	5	0.1	6.0	DPAK(1)	
TMBRD20100CT		◑	100	20	150	0.75	10	0.1	6.0		
TMBRD20150CT		◑	150	20	150	1.2	10	0.1	6.0		
TMBRD20200CT		◑	200	20	150	1.6	10	0.15	0.6		
TMBRD20100D		◑	100	20	150	0.70	20	0.2	5.0		
TMBRD20150D		◑	150	20	150	1.00	20	0.1	4.0		
TMBRF10100CT		○	100	10	100	0.67	5	0.1	4.5	TO-220IS(1)	
TMBRF20100CT		◑	100	20	150	0.7	10	0.1	4.0		
TMBRF30100CT		◑	100	30	180	0.77	15	0.2	4.0		
TMBRF40100CT		◑	100	40	200	0.73	20	0.2	3.5		
TMBRF40120CT		◑	120	40	200	0.85	20	0.1	3.5		
TMBRF20150CT		◑	150	20	150	1.00	20	0.1	4.0		
TMBRF30150CT		◑	150	30	180	1.20	15	0.1	4.0		
TMBRF40150CT		◑	150	40	200	1.00	20	0.1	3.5		
TMBRF40150CTA		◑	150	40	200	0.85	20	0.1	3.5		
TMBRF20200CT		◑	200	20	150	1.60	10	0.15	4.0		
TMBRF20200CTA		◑	200	20	150	0.95	10	0.15	4.0		
TMBR20100CT		◑	100	20	150	0.70	10	0.1	4.0	TO-220AB	
TMBR30100CT		◑	100	30	180	0.77	15	0.1	4.0		
TMBR40100CT		◑	100	40	200	0.73	20	0.2	3.5		
***TMBR40120CT**		◑	120	40	200	0.85	20	0.2	3.5		
***TMBR40150CT**		◑	150	40	200	1.05	20	0.2	3.5		

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Ultra Fast Recovery Rectifier Diode

Type No.		AEC-Q	Max. Ratings			V_{FM} (V)		I_{RM} (μA)		trr (ns)			Package	Outline (Unit : mm)
			V_{RM} (V)	I_O (A)	I_{FSM} (A) (60Hz)	Max.	I_{FM} (A)	Max.	V_R (V)	Max.	I_F (mA)	I_R (mA)		
U5A6CD		◑	600	5	100	1.7	5	30	600	35	1000	1000	DPAK(1)	
U8A6CD		◑	600	8	100	1.8	8	30	600	35	1000	1000		
U10A6CDC		◑	600	10	100	1.7	5	30	600	35	1000	1000		
U5A6CI		◑	600	5	100	1.7	5	30	600	35	1000	1000	TO-220IS(2P)	
U8A6CI		◑	600	8	100	1.8	8	30	600	35	1000	1000		
U10A6CI		◑	600	10	100	2	10	30	600	35	1000	1000		
U10A2CIC		◑	200	10	60	0.98	5	10	200	50	100	100	TO-220IS	
U10A3CIC		◑	300	10	60	1.3	5	10	300	60	100	100		
U10A6CIC		◑	600	10	100	1.7	5	30	600	35	1000	1000		
U20A3CIC		◑	300	20	60	1.3	10	10	300	25	500	1000		
U20A4CIC		◑	400	20	60	1.6	10	10	400	50	100	100		
U20A6CIC		◑	600	20	100	2	10	30	600	35	1000	1000		
U20A3CFC		◑	300	20	100	1.3	10	10	300	25	500	1000	TO-220IS(1)	

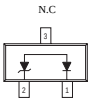
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Electrical Characteristics		Single Type									
		ELP-2		ELP-2A		ELP-2D		ULP-2		DFN1610	
V_{RWM} [V]	P_{PK} [W]	0.6*0.3mm		0.6*0.3mm		0.6*0.3mm		1.0*0.6mm		1.6*1.0mm	
3	30						PS03VBEL2D^{LOW}		PS03VBUL2^{LOW}		
	50	PG03ESEL2							PS03TBUL2^{LOW}		
	70				PS03CBEL2A				PS03CBUL2		
	450								PS03GBUL2		
5	30		PG05DBEL2		PG05DBEL2A		PS05VBEL2D^{LOW}				
	40								PS05VBUL2^{LOW}		
	50	PG05ESEL2									
	60		PS05TBEL2^{LOW}	PS05TSEL2A^{LOW}	PS05CBEL2A		PS05TBEL2D^{LOW}	PS05TSUL2^{LOW}	PS05TBUL2^{LOW}		
	75								PS05CBUL2		
	100							PG05FSUL2			
	120								PS05TCBUL2^{LOW}		
	200							PG05GSUL2	PS05DBUL2		
	285							PG05HSUL2			
	300								PS05EBUL2		
7	130								PG07DBUL2		
8	750									*PG08HSDF2	
12	80	PG12ESEL2									
	150								PG12DBUL2		
24	120								PG24DBUL2		
33	180					PG33DSTFC					
36	150							PG36DSUL2			

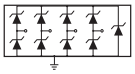
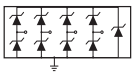
Note) ^{LOW} : Low Capacitance Device (1pF)
Note) * : Under development.

Electrical Characteristics		Single Typ									
		TFSC		VSC		ESC		USC		USCF	USF
V_{RWM} [V]	P_{PK} [W]	0.8*0.6mm		1.0*0.6mm		1.2*0.8mm		1.7*1.25mm		1.7*1.25mm	1.9*1.25mm
3	50					PG03FSESC					
	80	PG03FSTFC	PG03DBTFC	PG03FSVSC	PG03DBVSC		PG03FBESC				
5	30					PG05BSESC					
	60						PS05CBESC				
	80	PG05FSTFC	PG05DBTFC	PG05FSVSC	PG05DBVSC		PG05FBESC				
	100					PG05FSESC					
	200		PS05DBTFC								
	350							PG05HSUSC	PG05GBUSC	PG05HSUSCF	
	1400									PG6V7GBUSCF	
10	1000										PG10HSUSF
12	350							PG12GSUSC	PG12FBUSC		
15	350							PG15GSUSC	PG15FBUSC		
24	350							PG24FSUSC PG24GSUSC	PG24EBUSC		
33	180	PG33DSTFC									
36	150					PS36DSESC					
	600							PG36FSUSC			
48	1200							PG48FSUSC			

Note) LOW : Low Capacitance Device (1pF)
Note) * : Under development.

Electrical Characteristics		Array Type							
		ULP-3	ESM	USM	SOT-23				
									
V_{RWM} [V]	P_{PK} [W]	1.0*0.6mm	1.6*0.85mm	2.0*1.25mm	2.93*1.3mm				
2.8	400							PG2.8CUS23	
3	60	*PS03CBUL3							
	100	*PS03DBUL3							
5	30			PG05BAUSM					
	60	*PS05CBUL3							
	80		PG05EAESM		PG05EAS23				
	100	*PS05DBUL3							
	140								
	300							PG05BUS23	
	350				PG05HAS23				
12	300								PG12BUS23
	350				PG12GAS23		PG12GCS23		
24	350				PG24FAS23				
26	3,000								
7,12	400					PG712FBS23			

Note) LOW : Low Capacitance Device (1pF)
Note) * : Under development.

Electrical Characteristics		Array Type							
		ULP-9	ULP-10	TES6			US6	USV	TS6
									
V_{RWM} [V]	P_{PK} [W]	2.0*1.0mm	2.5*1.0mm	1.6*1.2mm			2.0*2.1mm	2.0*2.1mm	2.9*1.6mm
3	70			PS03CATE6	PS03CATE6-5				
	150					PG03GXTE6			
5	30								
	60	PS05TVUL9^{LOW}					PS05RVUS6 ^{LOW}		
	80		PS05SVU10^{LOW}						
	150					PG05GXTE6			
	200							PG05GBUSV	
	350								PG05HBTS6
12	150					PG12FXTE6			
24	350								PG24FBTS6

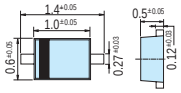
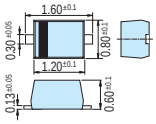
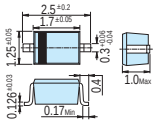
Note) ^{LOW} : Low Capacitance Device (1pF)
Note) * : Under development.

▣ General Purpose TVS (Single Type)

Type No.		Mark	AEC-Q	Max. Ratings		V_{RWM}(V)	V_{BR} (V)		V_C (V)		C_T (pF)			ESD (kV)	Package	Outline (Unit : mm)
				P_{PK} (W)	I_{PP} (A)	Max.	Min.	I (mA)	Max.	I_{PP} (A)	Max.	V_R (V)	f (MHz)	Contact		
PG03ESEL2		J	◑	50	5	3.3	4.2	1	10	5	50	0	1	15	ELP-2	
PG05ESEL2		K	◑	50	5	5	6	1	10	5	50	0	1	15		
PG12ESEL2		A	◑	80	3	12	13.3	1	27	3	20	0	1	15		
PG05DBEL2		6	◑	30	2	5	5.8	1	15	2	9	0	1	8		
PS03CBEL2A		M	◑	70	7	3.3	3.5	-	10	7	9	0	1	20	ELP-2A	
PG05DBEL2A		B	◑	30	2	5	5.8	1	15	2	9	0	1	15		
PS05CBEL2A		T	◑	60	5	5	6	-	12	5	9	0	1	30		
PG05FSUL2		5P	○	100	10	5	6	1	10	10	80	0	1	15	ULP-2	
PG05GSUL2		TA	◑	200	16	5	6	1	12.5	16	160	0	1	30		
PG05HSUL2		5D	◑	285	30	5.5	6	1	Typ. 9.5	30	Typ. 240	0	1	30		
PG36DSUL2		DS	◑	150	2.5	36	38	1	60	2.5	20	0	1	12		
PS03CBUL2		Z	◑	70	7	3.3	3.5	-	10	7	9	0	1	20		
PS03GBUL2		BS	◑	-	50	3.3	3.5	1	Typ. 8	50	Typ. 100	0	1	30		
PS05CBUL2		ZZ	◑	75	6	5	6	-	12.5	6	9	0	1	30		
PS05DBUL2		H	◑	200	12	5	6	-	17	12	25	0	1	30		
PS05EBUL2		CS	◑	-	24	5.5	6	1	Typ. 12	24	Typ. 40	0	1	30		
PG07DBUL2		I	◑	130	7	7	10	1	14	7	30	0	1	20		
PG12DBUL2		JY	◑	150	7	12	14.8	5	27	7	25	0	1	20		
PG24DBUL2		II	◑	120	3	24	25.9	1	40	3	15	0	1	20		
*PG08HSDF2		KP	◑	750	60	7.6	7.96	1	Typ. 11.5	60	Typ. 600	0	1	30	DFN1610	
PG03FSTFC		D1	◑	80	5	3.3	4.2	1	16	5	80	0	1	8	TFSC	
PG05FSTFC		E1	◑	80	5	5	6	1	16	5	70	0	1	30		
PG33DSTFC		TF	◑	180	3	34	35	1	60	3	25	0	1	12		
PG03DBTFC		T	◑	80	5	3.3	4.2	1	17	5	25	0	1	8		
PG05DBTFC		6	◑	80	5	5	5.8	1	17	5	25	0	1	8		
PS05DBTFC		DB	◑	200	12	5	6	-	17	12	25	0	1	30		

Note) * : Under development
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

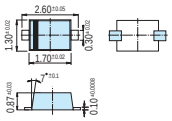
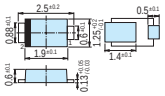
▣ General Purpose TVS (Single Type)

Type No.		Mark	AEC-Q	Max. Ratings		V_{RWM}(V)	V_{BR} (V)		V_C (V)		C_T (pF)			ESD (kV)	Package	Outline (Unit : mm)
				P_{PK} (W)	I_{PP} (A)	Max.	Min.	I (mA)	Max.	I_{PP} (A)	Max.	V_R (V)	f (MHz)	Contact		
PG03FSVSC		3S	◑	80	5	3.3	4.2	1	16	5	80	0	1	8	VSC	
PG05FSVSC		5S	◑	80	5	5	6	1	16	5	70	0	1	8		
PG03DBVSC		3B	◑	80	5	3.3	4.2	1	17	5	25	0	1	8		
PG05DBVSC		5B	◑	80	5	5	5.8	1	17	5	25	0	1	8		
PG03FSESC		3S	◑	50	5	3.3	4	1	10.9	5	100	0	1	8	ESC	
PG05FSESC		5S	○	100	10	5	6	1	10	10	80	0	1	8		
PG05BSESC		D2	◑	30	1.6	5	6.65	5	18	1.6	5	0	1	8		
PG36DSESC		DS	◑	150	2.5	36	38	1	60	2.5	20	0	1	12		
PG03FBESC		3B	◑	80	5	3.3	4.2	1	17	5	80	0	1	8		
PG05FBESC		5B	◑	80	5	5	5.8	1	17	5	80	0	1	8		
PS05CBESC		C5	◑	75	6	5	6	-	12.5	6	9	0	1	30		
PG05HSUSC		5H	◑	350	24	5	6	1	14.5	24	350	0	1	8	USC	
PG12GSUSC		L	◑	350	15	12	13.8	1	25	15	150	0	1	20		
PG15GSUSC		SD	◑	350	12	15	16.7	1	29	12	150	0	1	8		
PG24FSUSC		4F	◑	350	8	24	26.7	1	45	8	88	0	1	8		
PG24GSUSC		T	◑	350	8	24	27.2	1	45	8	200	0	1	20		
PG36FSUSC		6F	◑	600	10	36	42	1	60	10	100	0	1	30		
PG48FSUSC		8F	◑	1,200	12	48	55	1	100	12	100	0	1	30		
PG05GBUSC		5G	◑	350	24	5	6	1	14.5	24	200	0	1	8		
PG12FBUSC		2	◑	350	15	12	13.8	1	25	15	100	0	1	20		
PG15FBUSC		BD	◑	350	12	15	16.7	1	29	12	75	0	1	8		
PG24EBUSC		4E	○	350	8	24	27.2	1	45	8	50	0	1	20		

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

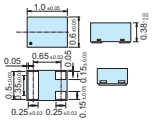
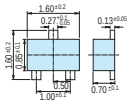
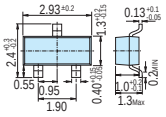
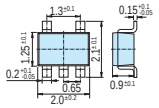
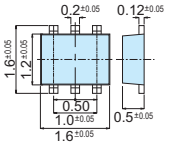
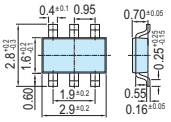
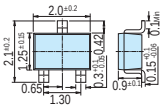
▣ General Purpose TVS (Single Type)

Type No.		Mark	AEC-Q	Max. Ratings		V_{RWM}(V)	V_{BR} (V)		V_C (V)		C_T (pF)			ESD (kV)	Package	Outline (Unit : mm)
				P_{PK} (W)	I_{PP} (A)	Max.	Min.	I (mA)	Max.	I_{PP} (A)	Max.	V_R (V)	f (MHz)	Contact		
PG05HSUSCF		DF	◑	350	24	5	6	1	14.5	24	350	0	1	15	USCF	
PG6V7GBUSCF		ZZ	◑	1400	84	4.5	5.5	1	34	84	250	0	1	30		
PG10HSUSF		HS	◑	1000	43	10	12	1	24	43	500	0	1	30	USF	

Note) * : Under development

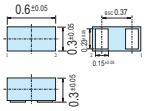
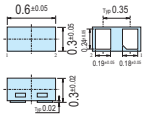
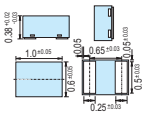
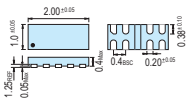
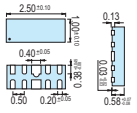
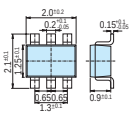
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ General Purpose TVS (Array Type)

Type No	Mark	AEC-Q	Max. Ratings		V_{RWM}(V)	V_{BR} (V)		V_C (V)		C_T (pF)			ESD (kV)	Package	Outline (Unit : mm)
			P_{PK} (W)	I_{PP} (A)	Max.	Min.	I (mA)	Max.	I_{PP} (A)	Max.	V_R (V)	f (MHz)	Contact		
*PS03CBUL3	3C	◑	60	5	3.3	3.4	1	Typ. 8	5	9	0	1	30	ULP-3	
*PS03DBUL3	3D	◑	100	8	3.3	3.4	1	Typ. 10	8	25	0	1	30		
*PS05CBUL3	SH	◑	60	5	5	6	1	12	5	9	0	1	30		
*PS05DBUL3	JH	◑	100	8	5	6	1	12.5	8	25	0	1	30		
PG05EAESM	D4	◑	80	6.7	5	6.46	5	17	5	40	0	1	8	ESM	
PG05HAS23	5HA	◑	350	24	5	6	1	14.5	24	400	0	1	8	SOT-23	
PG05EAS23	AS	◑	85	5	5	6.46	5	17	5	40	0	1	8		
PG12GAS23	12G	◑	350	15	12	13.3	1	25	15	150	0	1	8		
PG24FAS23	24F	○	350	8	24	26.7	1	43.5	8	60	0	1	8		
PG12GCS23	12	◑	350	15	12	13.3	1	25	15	120	0	1	8		
PG712FBS23	712	○	400	17	7, 12	7.5, 13.3	1	12, 26	17	75	0	1	8		
PG2.8CUS23	2P8	◑	400	24	2.8	40	1	15	24	100	0	1	8		
PG05BUS23	5BU	◑	300	24	5	6	1	14.5	24	5	0	1	8		
PG12BUS23	12B	◑	300	15	12	13.3	1	25	15	5	0	1	8		
PG05GBUSV	5G	◑	200	12	5	6	1	16	12	175	0	1	30	USV	
PS03CATE6	CA	◑	70	7	3.3	-	-	10	7	9	0	1	20	TES6	
PS03CATE6-5	CB	◑	70	7	3.3	-	-	10	7	9	0	1	20		
PG03GXTE6	3X	◑	150	15	3.3	4.2	1	10.9	15	120	0	1	8		
PG05GXTE6	5X	◑	150	10	5	6.3	1	14.5	10	100	0	1	8		
PG12FXTE6	2X	◑	150	6	12	13.3	1	25	6	60	0	1	8		
PG05HBTS6	5H	◑	350	24	5	6	1	14.5	24	400	0	1	8	TS6	
PG24FBTS6	4F	◑	350	8	24	27	1	44	8	75	0	1	8		
PG05BAUSM	BA	◑	30	1.6	5	6.65	5	18	1.6	5	0	1	8	USM	

Note) * : Under development
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

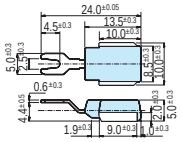
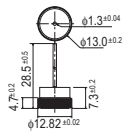
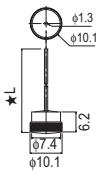
▣ Low Cap TVS (Single/Array Type)

Type No		Mark	AEC-Q	Max. Ratings		V_{RWM}(V)	V_{BR} (V)		V_C (V)		C_T (pF)			ESD (kV)	Package	Outline (Unit : mm)
				P_{PK} (W)	I_{PP} (A)	Max.	Min.	I (mA)	Max.	I_{PP} (A)	Max.	V_R (V)	f (MHz)	Contact		
PS05TSEL2A		E1	◑	60	4	5	6	-	15	4	0.9	0	1	20	ELP-2A	
PS03VBEL2D		C	◑	30	2.5	3.3	4.5	1	11	2.5	0.3	0	1	15	ELP-2D	
PS05VBEL2D		V	◑	30	2.5	5	5.5	1	13	3	0.3	0	1	15		
PS05TBEL2D		S	◑	60	4	5	6	-	15	4	0.5	0	1	20		
PS05TSUL2		S2	○	60	4	5	6	-	15	4	0.9	0	1	25	ULP-2	
PS03VBUL2		S	◑	36	3	3.3	4.5	-	12	3	0.3	0	1	18		
PS03TBUL2		8	◑	50	4	5	4.5	-	13	4	0.5	0	1	20		
PS05VBUL2		N	◑	40	3	5	5.5	-	13	3	0.3	0	1	18		
PS05TBUL2		88	○	60	4	5	6	-	15	4	0.5	0	1	25		
PS05TCBUL2		O	◑	120	9	5	5.5	-	15	9	0.9	0	1	30		
PS05TVUL9		BY	◑	60	4	5	6	-	15	4	0.6	0	1	20	ULP-9	
PS05SVU10		SU	◑	80	5	5	6	1	16	5	1	0	1	25	ULP-10	
PS05RVUS6		RV	◑	80	4	5	5.5	-	20	4	1	0	1	12	US6	

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

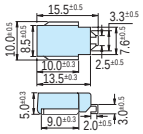
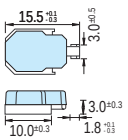
▣ Alternator Diode

Type No.	Polarity	AEC-Q	Max. Ratings					Package	Outline (Unit: mm)
			V_R(V)	I_O(A)	I_{FM}(A)	Rth(℃/W)	V_{FM}(V)		
E25A2CS	+	○	200	25	250	1	1.2	MR	
E25A2CR	-	○	200	25	250	1	1.2		
E30A2CS	+	○	200	30	350	1	1.2		
E30A2CR	-	○	200	30	350	1	1.2		
E30A23VS	+	○	23±3	30	350	1	1.2		
E30A23VR	-	○	23±3	30	350	1	1.2		
E35A2CS	+	○	200	35	450	1	1.05		
E35A2CR	-	○	200	35	450	1	1.05		
E50A2CPS	+	○	200	50	600	1	1.05		
E50A2CPR	-	○	200	50	600	1	1.05		
E35A23VS	+	○	23±3	35	450	1	1.05		
E35A23VR	-	○	23±3	35	450	1	1.05		
E50A23VPS	+	○	23±3	50	600	1	1.05		
E50A23VPR	-	○	23±3	50	600	1	1.05		
E35A23VBS	+	○	23±3	35	450	0.8	1.1	B-PF	
E35A23VBR	-	○	23±3	35	450	0.8	1.1		
E50A23VBS	+	○	23±3	50	600	0.6	1.05		
E50A23VBR	-	○	23±3	50	600	0.6	1.05		
E50A27VBSEB	+	○	27±3	50	600	0.6	1.1		
E50A27VBRFB	-	○	27±3	50	600	0.6	1.1		
E35A27VBCSEB	+	○	27±3	35	450	0.8	1.1	C-PF	
E35A27VBCRFB	-	○	27±3	35	450	0.8	1.1		

Note) ★L : Flexible length

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Power Zener Diode (Surge Absorber)

Type No.	AEC-Q	Max. Ratings	V_Z (V)			Z_Z (Ω)		I_R (μA)		V_C(V)		Package	Outline (Unit : mm)
		P_D (W)	Min.	Max.	I_Z (mA)	Max.	I_Z (mA)	Max.	V_R (V)	Max.	I_{RSM} (A)		
Z4W27V	○	4	24	30	10	30	10	10	22	40	40	DO-218	
Z5W27V	○	5	24	30	10	30	10	10	22	40	55		
Z5W37V	○	5	34	40	10	30	10	10	32	53	55		
Z6W27V	○	6	24	30	10	30	10	10	22	40	60		
Z8W27V	○	8	24	30	10	30	10	10	22	40	70		
Z8W37V	○	8	34	40	10	30	10	10	32	50	75		
Z5W27VC	○	5	24	30	10	30	10	10	22	40	55	CMR (DO-218)	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
02CZ2.0	Toshiba	Z02W2.0V	**02DZ7.5**	Toshiba	KDZ7.5V	**DZD6.8**	Sanyo	Z02W6.8V	**MA3043**	Panasonic	Z02W4.3V
02CZ2.2	Toshiba	Z02W2.2V	**02DZ8.2**	Toshiba	KDZ8.2V	**DZD7.5**	Sanyo	Z02W7.5V	**MA3047**	Panasonic	Z02W4.7V
02CZ2.4	Toshiba	Z02W2.4V	**02DZ9.1**	Toshiba	KDZ9.1V	**DZD8.2**	Sanyo	Z02W8.2V	**MA3051**	Panasonic	Z02W5.1V
02CZ2.7	Toshiba	Z02W2.7V	**1S2836**	NEC	KDS181	**DZD9.1**	Sanyo	Z02W9.1V	**MA3056**	Panasonic	Z02W5.6V
02CZ3.0	Toshiba	Z02W3.0V	**1S2838**	NEC	KDS184	**DZD10**	Sanyo	Z02W10V	**MA3062**	Panasonic	Z02W6.2V
02CZ3.3	Toshiba	Z02W3.3V	**1SS123**	NEC	KDS226	**DZD11**	Sanyo	Z02W11V	**MA3068**	Panasonic	Z02W6.8V
02CZ3.6	Toshiba	Z02W3.6V	**1SS181**	Toshiba	KDS181	**DZD12**	Sanyo	Z02W12V	**MA3075**	Panasonic	Z02W7.5V
02CZ3.9	Toshiba	Z02W3.9V	**1SS184**	Toshiba	KDS184	**DZD13**	Sanyo	Z02W13V	**MA3082**	Panasonic	Z02W8.2V
02CZ4.3	Toshiba	Z02W4.3V	**1SS187**	Toshiba	KDS187	**DZD15**	Sanyo	Z02W15V	**MA3091**	Panasonic	Z02W9.1V
02CZ4.7	Toshiba	Z02W4.7V	**1SS193**	Toshiba	KDS193	**DZD16**	Sanyo	Z02W16V	**MA3100**	Panasonic	Z02W10V
02CZ5.1	Toshiba	Z02W5.1V	**1SS196**	Toshiba	KDS196	**DZD18**	Sanyo	Z02W18V	**MA3110**	Panasonic	Z02W11V
02CZ5.6	Toshiba	Z02W5.6V	**1SS220**	NEC	KDS193	**DZD20**	Sanyo	Z02W20V	**MA3120**	Panasonic	Z02W12V
02CZ6.2	Toshiba	Z02W6.2V	**1SS222**	NEC	KDS187	**DZD22**	Sanyo	Z02W22V	**MA3130**	Panasonic	Z02W13V
02CZ6.8	Toshiba	Z02W6.8V	**1SS226**	Toshiba	KDS226	**DZD24**	Sanyo	Z02W24V	**MA3150**	Panasonic	Z02W15V
02CZ7.5	Toshiba	Z02W7.5V	**1SS300**	Toshiba	KDS120	**HSM123**	Renesas	KDS226	**MA3160**	Panasonic	Z02W16V
02CZ8.2	Toshiba	Z02W8.2V	**1SS301**	Toshiba	KDS121	**HSM221**	Renesas	KDS193	**MA3180**	Panasonic	Z02W18V
02CZ9.1	Toshiba	Z02W9.1V	**1SS312**	Toshiba	KDS112	**HSM223**	Renesas	KDS187	**MA3200**	Panasonic	Z02W20V
02CZ10	Toshiba	Z02W10V	**1SS314**	Toshiba	KDS114	**HSM2836**	Renesas	KDS181	**MA3220**	Panasonic	Z02W22V
02CZ11	Toshiba	Z02W11V	**1SS318**	Rohm	KDS114	**HSM2838**	Renesas	KDS184	**MA3240**	Panasonic	Z02W24V
02CZ12	Toshiba	Z02W12V	**1SV149**	Toshiba	KDV149	**HZM5A**	Renesas	Z02W4.3V	**MMBZ5229B**	Onsemi	Z02W4.3V
02CZ13	Toshiba	Z02W13V	**1SV153**	Toshiba	KDV153	**HZM5B**	Renesas	Z02W4.7V	**MMBZ5230B**	Onsemi	Z02W4.7V
02CZ15	Toshiba	Z02W15V	**1SV172**	Rohm	KDV173	**HZM5C**	Renesas	Z02W5.1V	**MMBZ5231B**	Onsemi	Z02W5.1V
02CZ16	Toshiba	Z02W16V	**DA116**	Rohm	KDS187	**HZM6A**	Renesas	Z02W5.6V	**MMBZ5232B**	Onsemi	Z02W5.6V
02CZ18	Toshiba	Z02W18V	**DA119**	Rohm	KDS196	**HZM6C**	Renesas	Z02W6.2V	**MMBZ5234B**	Onsemi	Z02W6.2V
02CZ20	Toshiba	Z02W20V	**DA204K**	Rohm	KDS226	**HZM7A**	Renesas	Z02W6.8V	**MMBZ5235B**	Onsemi	Z02W6.8V
02CZ22	Toshiba	Z02W22V	**DAN202K**	Rohm	KDS184	**HZM7C**	Renesas	Z02W7.5V	**MMBZ5236B**	Onsemi	Z02W7.5V
02CZ24	Toshiba	Z02W24V	**DAN202U**	Rohm	KDS121	**HZM9A**	Renesas	Z02W8.2V	**MMBZ5237B**	Onsemi	Z02W8.2V
02DZ2.0	Toshiba	KDZ2.0V	**DAN209S**	Rohm	KDS201	**HZM9B**	Renesas	Z02W9.1V	**MMBZ5239B**	Onsemi	Z02W9.1V
02DZ2.2	Toshiba	KDZ2.2V	**DAP202K**	Rohm	KDS181	**HZM11A**	Renesas	Z02W10V	**MMBZ5240B**	Onsemi	Z02W10V
02DZ2.4	Toshiba	KDZ2.4V	**DAP202U**	Rohm	KDS120	**HZM11B**	Renesas	Z02W11V	**MMBZ5241B**	Onsemi	Z02W11V
02DZ2.7	Toshiba	KDZ2.7V	**DCA010**	Sanyo	KDS181	**HZM12A**	Renesas	Z02W12V	**MMBZ5242B**	Onsemi	Z02W12V
02DZ3.0	Toshiba	KDZ3.0V	**DCB010**	Sanyo	KDS184	**HZM12B**	Renesas	Z02W13V	**MMBZ5243B**	Onsemi	Z02W13V
02DZ3.3	Toshiba	KDZ3.3V	**DCC010**	Sanyo	KDS226	**HZM15**	Renesas	Z02W15V	**MMBZ5245B**	Onsemi	Z02W15V
02DZ3.6	Toshiba	KDZ3.6V	**DSA010**	Sanyo	KDS187	**HZM16**	Renesas	Z02W16V	**MMBZ5246B**	Onsemi	Z02W16V
02DZ3.9	Toshiba	KDZ3.9V	**DSB010**	Sanyo	KDS193	**HZM18**	Renesas	Z02W18V	**MMBZ5248B**	Onsemi	Z02W18V
02DZ4.3	Toshiba	KDZ4.3V	**DSD010**	Sanyo	KDS196	**HZM20**	Renesas	Z02W20V	**MMBZ5250B**	Onsemi	Z02W20V
02DZ4.7	Toshiba	KDZ4.7V	**DZD4.3**	Sanyo	Z02W4.3V	**HZM22**	Renesas	Z02W22V	**MMBZ5251B**	Onsemi	Z02W22V
02DZ5.1	Toshiba	KDZ5.1V	**DZD4.7**	Sanyo	Z02W4.7V	**HZM24**	Renesas	Z02W24V	**MMBZ5252B**	Onsemi	Z02W24V
02DZ5.6	Toshiba	KDZ5.6V	**DZD5.1**	Sanyo	Z02W5.1V	**MA151K**	Panasonic	KDS193	**SVC321SPA**	Sanyo	KDV149
02DZ6.2	Toshiba	KDZ6.2V	**DZD5.6**	Sanyo	Z02W5.6V	**MA151WA**	Panasonic	KDS181			
02DZ6.8	Toshiba	KDZ6.8V	**DZD6.2**	Sanyo	Z02W6.2V	**MA151WK**	Panasonic	KDS184			

▣ SBD

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
1SS357	Toshiba	KDR357	D1FH3	Shindengen	SMAB33	SB01-05CP	Sanyo	KDR105S	SS14	GS	SMAB14
1SS378	Toshiba	KDR378	MA729	Panasonic	KDR729	SFPA-53	Sanken	SMAB13	SS16	Fairchild	SMAB16
B130	Liteon	SMAB13	MBRA130LT3	Onsemi	SMAB13	SFPA-73	Sanken	SMAB33	SS16	GS	SMAB16
B130B	Liteon	SMAB13	MBRA140LT3	Onsemi	SMAB14	SFPB-54	Sanken	SMAB14	U1FWJ44L	Toshiba	SMAB13
B140	Liteon	SMAB14	RB053L-30	Rohm	SMAB33	SFPJ-53	Sanken	SMAB13	U1FWJ44M	Toshiba	SMAB13
B140B	Liteon	SMAB14	RB060L-40	Rohm	SMAB34	SFPJ-73	Sanken	SMAB33	U1FWJ44N	Toshiba	SMAB13
B160	Liteon	SMAB16	RB160L-40	Rohm	SMAB14	SPB-G34S	Sanken	SMAB34	U1GWJ44	Toshiba	SMAB14
B160B	Liteon	SMAB16	RB160L-60	Rohm	SMAB16	SS13	Fairchild	SMAB13			
B330A	Liteon	SMAB33	RB751S-40	Rohm	KDR377E	SS13	GS	SMAB13			
B340A	Liteon	SMAB34	SB007T03Q	Sanyo	KDR731	SS14	Fairchild	SMAB14			

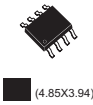
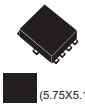
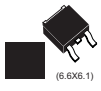
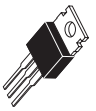
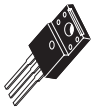
▣ FRD

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
10DL2CZ47A	Toshiba	U10A2CIC	FML-22S	Sanken	U10A2CIC	FMX-22S	Sanken	U10A2CIC	SF10LC20U	Shindengen	U10A2CIC
FMG-22S	Sanken	U10A2CIC	FMN-1160S	Sanken	U10A6CI	SDUR560A	SMC	U5A6CD	UGF10W8G	TSC	U10A6CIC

▣ TVS

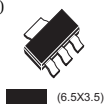
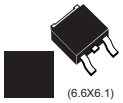
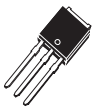
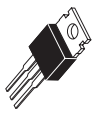
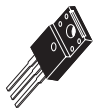
Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
PESD5V0V1BDSF	NXP	PG05DBEL2A	LESD5V6D9G	Ision	PS05DBTFC	PSMF05	Protek	PG05GBUSV	MMBZ15VALT1	Onsemi	PG12GAS23
Uclamp0541z	Semtech		SD05C	Semtech	PG05GBUSC	GMF05	Vishay		MMBZ15VDA	GS	
RSB6.8ZSN	Infineon		PSD05C	Protek		Rclamp0524PA	Semtech	PS05SVU10	SDC15	Semtech	PG12GCS23
PESD5V0F1BRSF	NXP	PS05TBEL2D	SD05C	Semtech		LRC099-04DT1G	LRC		MMBZ15VDLT1	Onsemi	
ESD105B102ELS	Infineon		SD05	Semtech	PG05HSUSC	TPD4E02B04	TI		MMBZ15VDC	GS	
Rclamp0521z	Semtech		PSD05	Protek		AZ114-04F	Amazing		SL24	Semtech	PG24BUS23
PESD5V0V1BL	NXP	PS05CBUL2	SD12C	Semtech	PG12FBUSC	AOZ8809DI-05	AOZ		PSOT24LC	Protek	
ESD5V3L1U-02LRH	Infineon		PSD12C	Protek		SL05	Semtech	PG05BUS23	SM24	Semtech	PG24FAS23
GBLC05CDN	Protek		SD12	Semtech	PG12GSUSC	PSOT05LC	Protek		PSOT24C	Protek	
PESD5V0F1BL	NXP	PS05TBUL2	PSD12	Protek		SM05	Semtech	PG05HAS23	SM24	Micro Semi	
Rclamp0521P	Semtech		SD024C	Semtech	PG24EBUSC	PSOT05C	Protek		MMBZ27VDA	GS	
ESD105B10EL	Infineon		HSP051-4N10	ST	PS05TVUL9	MMBZ6V8ALT1	Onsemi		SMS05	Semtech	PG05HBTS6
PESD12VV1BL	NXP	PG12DBUL2	Rclamp0544T	Semtech		SM05	Micro Semi		PSMS05	Protek	
Uclamp1211T	Semtech		MSQA6V1W5T2	Onsemi	PG05GBUSV	SL12	Semtech	PG12BUS23	SMS24	Semtech	PG24FBTS6
RD1301	Rfsemi	PS05DBTFC	RSA6.1EN	Rohm		PSOT12LC	Protek		PSMS24	Protek	
D5V0L1B2S9	Diodes		SMF05	Semtech		SM12	Semtech	PG12GAS23			

V_{DSS} : 20V ~ 100V

V_{DSS} [V]	I_D [A]	ULP-3	VSM	ESM TES6	USM US6	SOT-23	FLP-8	PDFN56	SOT-223	DPAK(1)	TO-220AB	TO-220IS(1)
		(1.0 X0.6)	(1.2 X0.8)	(1.60X0.85) (1.6 X1.2)	(2.0X1.25) (2.0X1.25)	(2.93X1.3)	 (4.85X3.94)	 (5.75X5.1)	(6.5X3.5)	 (6.6X6.1)		
20	0.4	KML0D4N20UL	KML0D4N20V	KML0D4N20E								
	3					KMA3D0N20SA						
	3.6					KMA3D6N20SA						
-20	-0.3	KML0D3P20UL	KML0D3P20V									
	-0.4			KML0D4P20E								
	-2.4					KMA2D4P20SA						
	-3.7					KMA3D7P20SA						
30	0.1		KTK5132V	KTK5132E KTK7132E(6)	KTK5132U	KTK5132S						
	4					KMB4D0N30SA						
	4.2					KMD4D2N30S						
-30	-0.05		KTJ6131V	KTJ6131E								
	-3					KMB3D0P30SA						
	-17						*KU070P03QZ					
40	3.5					KMB3D5N40SA						
60	0.3				2N7002KU 2N7002KDU(6)	2N7002KA						
	2					KMB2D0N60SA						
	87											KUS035N06F
	100							*KUS035N06C				
	130										*KUS035N06P	
100	1.7								KU3600N10W KU3600N10WZ			
	5									KU3600N10D		
	23											KU310N10F
	27									KU310N10D		
	32									KUS220N10D		
	34										KU310N10P	
	38											KUS140N10F
	44									*KUS140N10D		
	50										*KUS140N10P	KU086N10F
	55											KUS086N10F
	75									KUS086N10D		
	80							*KUS086N10C			*KUS086N10P	KUS045N10F
	95										KU086N10P	
	145										*KUS045N10P	

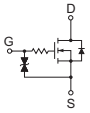
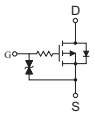
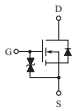
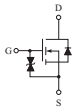
Note) * : Under development
Note) (6) : 6 Pin

V_{DSS} : 200V ~ 800V

V_{DSS} [V]	I_D [A]	SOT-223 (Unit: mm)  (6.5X3.5)	DPAK(1)  (6.6X6.1)	IPAK(1) 	TO-220AB 	TO-220IS(1) 
200	1	KF4N20LW				
	3.6		KF4N20LD	KF4N20LI		
	15		KF19N20D			
	19					KF19N20F
250	4.4		KF5N25D			
	5					KF5N25F
	7.5		KF9N25D			
	9					KF9N25F
	13		KF16N25D			
	16					KF16N25F
400	2	KF3N40W				
	2.2		KF3N40D	KF3N40I		
	4.3		KF5N40D			
	6.5		KF9N40D			
500 (525)	2.5		KF3N50DZ	KF3N50IZ		
	3					KF3N50FZ
	4.1		KF5N53DS(525V)			
	4.3		KF5N50DZ	KF5N50IZ		
	5				KF5N50PZ	KF5N50FZA
						KF5N53FS(525V)
	5.5		KF7N50D	KF7N50I		
	7				KF7N50P	KF7N50F
	9				KF9N50P	KF9N50F
	11				KF11N50P	KF11N50F
	13				KF13N50P	KF13N50F
600	1		KF1N60D	KF1N60I		
	2		KF2N60D	KF2N60I		KF2N60F
	2.3		KF3N60D	KF3N60I		
	3					KF3N60F
	3.2		KF4N60D	KF4N60I		
	3.5		KF5N60D	KF5N60I		
	4.0					KF4N60F
	4.5				KF5N60P	KF5N60F
	5.0		KF6N60D	KF6N60I		
	6					KF6N60F
	7				KF7N60P	KF7N60F
	8		KPS8N60D		KF8N60P	KF8N60F
						KPS8N60F
	10				KF10N60P	KF10N60F
	11		KPS11N60D			KPS11N60F
	12				KF12N60P	KF12N60F
	15					KPS15N60F
650	3.6					KF4N65F/FM
	4.4		KF5N65D	KF5N65I		
	5				KF5N65P	KF5N65F
	7				KF7N65P	KF7N65F/FM
	8		KPS8N65D			KPS8N65F
	11		KPS11N65D			KPS11N65F
	15					KPS15N65F
680	7					KF7N68F
	10					KF10N68F
	12					KF12N68F
700	6					KF6N70F
800	2.7		KF3N80D	KF3N80I		
	3					KF3N80F
	4					KF4N80F
	7					KF7N80F

Note) * : Under development

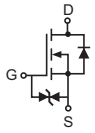
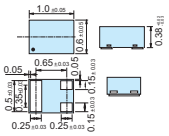
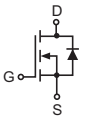
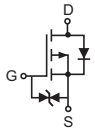
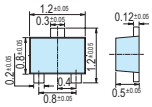
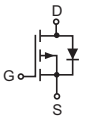
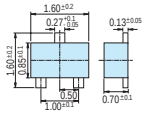
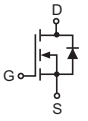
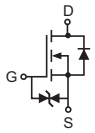
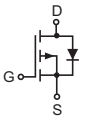
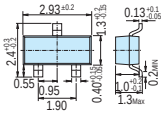
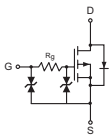
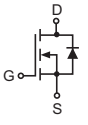
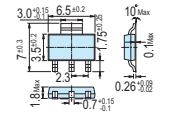
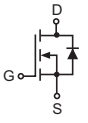
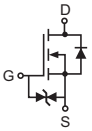
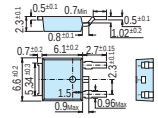
▣ S - MOSFET

Type No.	Mark	AEC-Q	Internal circuit (Top view)	Max. Ratings				I_{DSS} (μA)			V_{th} (V)				$R_{DS(ON)}$ (Ω)			Package	Outline (Unit: mm)
				V_{DS} (V)	V_{GSS} (V)	I_D (mA)	P_D (mW)	Max.	V_{DS} (V)	V_{GS} (V)	Min.	Max.	V_{DS} (V)	I_D (mA)	Max.	V_{GS} (V)	I_D (mA)		
KTK5132V	KB	◑		30	±20	100	100	1	30	0	0.5	1.5	3	0.1	7	2.5	10	VSM	
KTK5132E	KB	◑		30	±20	100	100	1	30	0	0.5	1.5	3	0.1	7	2.5	10	ESM	
KTK7132E	AL	◑		30	±20	100	200	1	30	0	0.5	1.5	3	0.1	7	2.5	10	TES6	
KTK5132U	KB	◑		30	±20	100	200	1	30	0	0.5	1.5	3	0.1	7	2.5	10	USM	
KTK5132S	KB	◑		30	±20	100	200	1	30	0	0.5	1.5	3	0.1	7	2.5	10	SOT-23	
KTJ6131V	M1	◑		-30	±20	-50	100	-1	-30	0	-0.5	-1.5	-3	-0.1	40	-2.5	-10	VSM	
KTJ6131E	EB	◑		-30	±20	-50	100	-1	-30	0	-0.5	-1.5	-3	-0.1	40	-2.5	-10	ESM	
2N7002KA (ESD Protected 2000V)	2P	◑		60	±20	300	350	1	60	0	1.1	2.35	V_{GS}	0.25	2.7 2.3	5 10	50 500	SOT-23	
2N7002KA-RTK/HU (ESD Protected 2000V)	2P	○		60	±20	300	350	1	60	0	1.1	2.35	V_{GS}	0.25	2.7 2.3	5 10	50 500	SOT-23	
2N7002KU	KU	◑		60	±20	300	270	1	60	0	1.0	2.0	V_{GS}	0.25	1.5	10	300	USM	
2N7002KDU	DU	◑	 (2 Chips)	60	±20	300	270	1	60	0	1.0	2.0	V_{GS}	0.25	1.5	10	300	US6	

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

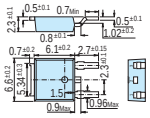
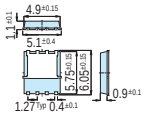
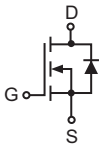
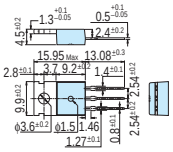
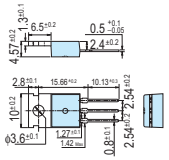
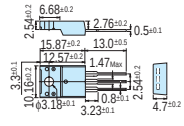
▣ Low Voltage MOSFET

Type No.	AEC-Q	Internal circuit (Top view)	Max. Ratings			V_{th} (V)				$R_{DS(ON)}$ (mΩ)				Q_g (nC)		Package	Outline (Unit: mm)
			BV_{DSS} (V)	I_D (A)	P_D (W)	Min.	Max.	V_{DS} (V)	I_D (A)	Typ.	Max.	V_{GS} (V)	I_D (A)	Typ.	V_{GS} (V)		
KML0D4N20V	○		20	0.4	0.15	0.45	1.0	V_{GS}	250μA	410	700	4.5	0.4	0.75	4.5	VSM	ULP-3
KML0D4N20E	◑		20	0.4	0.21	0.45	1.0	V_{GS}	250μA	410	700	4.5	0.4	0.55	4.5	ESM	
KML0D4N20UL	◑		20	0.4	0.28	0.45	1.0	V_{GS}	250μA	410	700	4.5	0.4	0.75	4.5	ULP-3	
KMA3D0N20SA	◑		20	3	1.25	0.5	1.5	V_{GS}	250μA	38	55	4.5	2.5	4.0	4.5	SOT-23	
KMA3D6N20SA	◑		20	3.6	1.25	0.6	1.5	V_{GS}	250μA	32	45	4.5	2.5	6.6	4.5	SOT-23	VSM
KML0D3P20V	◑		-20	-0.3	0.15	-0.45	-1.0	V_{GS}	-250μA	800	1200	-4.5	-0.3	1.5	-4.5	VSM	
KML0D3P20UL	◑		-20	-0.30	0.28	-0.45	-1.0	V_{GS}	-250μA	800	1200	-4.5	-0.35	1.5	-4.5	ULP-3	
KML0D4P20E	◑		-20	-0.35	0.21	-0.45	-1.0	V_{GS}	-250μA	800	1200	-4.5	-0.35	1.5	-4.5	ESM	ESM
KMA2D4P20SA	◑		-20	-2.4	1.25	-0.6	-1.5	V_{GS}	-250μA	83	100	-4.5	-2.4	4	-4.5	SOT-23	
KMA3D7P20SA	○		-20	-3.7	1.25	-0.55	-1.5	V_{GS}	-250μA	65	76	-4.5	-2.8	4.37	-4.5	SOT-23	
KMB4D0N30SA	◑		30	4	1.25	1.0	3.0	V_{GS}	250μA	38	47	10	3.5	6	10	SOT-23	
KMD4D2N30S	◑		30	4.2	1.25	1.0	1.8	V_{GS}	250μA	32	42	10	4.2	6.1	10	SOT-23	SOT-23
KMB3D0P30SA	◑		-30	-3	1.25	-1.0	-3.0	V_{GS}	-250μA	64	80	-10	-3.0	6.3	-10	SOT-23	
KU070P03QZ	◑		-30	-17	3.3	-0.8	-1.6	V_{GS}	-250μA	7	8	-10	-17	97	-10	FLP-8	SOT-223
KMB3D5N40SA	◑		40	3.5	1.25	1.0	3.0	V_{GS}	250μA	36	45	10	3.5	6.4	10	SOT-23	
KMB2D0N60SA	◑		60	2	1.25	1.5	3.0	V_{GS}	250μA	125	160	10	2	4.8	10	SOT-23	
KU3600N10W	◑		100	1.7	2.0	2.0	4.0	V_{GS}	250μA	300	360	10	0.8	4.2	10	SOT-223	
KU3600N10D	◑		100	5	17.4	2.0	4.0	V_{GS}	250μA	300	360	10	2.5	4.2	10	DPAK(1)	DPAK(1)
KU3600N10WZ	◑		100	1.7	2.0	1.0	2.5	V_{GS}	250μA	300	360	10	0.8	4.5	10	SOT-223	

Note) * : Under development
Note) Additional Function Code : Z → Built in ESD Zener diode

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Low Voltage MOSFET

Type No.	AEC-Q	Internal circuit (Top view)	Max. Ratings			V_{th} (V)				$R_{DS(ON)}$ (mΩ)				Q_g (nC)		Package	Outline (Unit: mm)
			BV_{DSS} (V)	I_D (A)	P_D (W)	Min.	Max.	V_{DS} (V)	I_D (A)	Typ.	Max.	V_{GS} (V)	I_D (A)	Typ.	V_{GS} (V)		
KU310N10D	◑		100	27	52	2.0	4.0	V_{GS}	250μA	25	31	10	13.5	49	10	DPAK(1)	
KU310N10F	◑		100	23	38	2.0	4.0	V_{GS}	250μA	25	31	10	17	49	10	TO-220IS(1)	DPAK(1)
KU310N10P	◑		100	34	83.3	2.0	4.0	V_{GS}	250μA	25	31	10	17	49	10	TO-220AB	
KU086N10F	◑		100	50	50	2.0	4.0	V_{GS}	250μA	7.3	8.6	10	47.5	200	10	TO-220IS(1)	
KU086N10P	◑		100	95	167	2.0	4.0	V_{GS}	250μA	7.3	8.6	10	47.5	200	10	TO-220AB	PDFN56
KUS035N06F	◑		60	87	48	2.0	4.0	V_{GS}	250μA	3.2	3.5	10	43.5	77	10	TO-220IS(1)	
***KUS035N06C**	◑		60	100	69	2.0	4.0	V_{GS}	250μA	3.2	3.5	10	50	77	10	PDFN56	
***KUS035N06D**	◑		60	110	83	2.0	4.0	V_{GS}	250μA	3.2	3.5	10	55	77	10	DPAK(1)	
***KUS035N06P**	◑		60	130	113	2.0	4.0	V_{GS}	250μA	3.2	3.5	10	65	77	10	TO-220AB(1)	TO-220AB
KUS220N10D	◑		100	32	39	2.0	4.0	V_{GS}	250μA	17	22	10	16	13	10	DPAK(1)	
***KUS140N10D**	◑		100	44	48	2.0	4.0	V_{GS}	250μA	11.3	14	10	22	24	10	DPAK(1)	
***KUS140N10P**	◑		100	50	62.5	2.0	4.0	V_{GS}	250μA	11.3	14	10	25	24	10	TO-220AB(1)	TO-220AB(1)
KUS086N10F	◑		100	55	46.3	2.0	4.0	V_{GS}	250μA	6	8.6	10	27.5	53	10	TO-220IS(1)	
KUS086N10D	◑		100	75	86	2.0	4.0	V_{GS}	250μA	6	8.6	10	37.5	53	10	DPAK(1)	
***KUS086N10C**	◑		100	80	62.5	2.0	4.0	V_{GS}	250μA	6	8.6	10	40	53	10	PDFN56	
***KUS086N10P**	◑		100	80	100	2.0	4.0	V_{GS}	250μA	6	8.6	10	40	53	10	TO-220AB(1)	TO-220IS(1)
KUS045N10F	◑		100	80	50	2.0	4.0	V_{GS}	250μA	3.9	4.5	10	40	87	10	TO-220IS(1)	
***KUS045N10P**	◑		100	145	158	2.0	4.0	V_{GS}	250μA	3.9	4.5	10	72.5	87	10	TO-220AB(1)	

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ High Voltage MOSFET (Planar)

Type No.	AEC-Q	Max. Ratings			V_{th} (V)		$R_{DS(ON)}$ (Ω)				Q_g (nC)		Package	Outline (Unit: mm)
		BV_{DSS} (V)	I_D (A)	P_D (W)	Min.	Max.	Typ.	Max.	V_{GS} (V)	I_D (A)	Typ.	V_{GS} (V)		
KF4N20LW	◑	200	1	2.2	1.0	2.0	0.85	1.05	10	0.5	2.9	5	SOT-223	
KF4N20LD	◑	200	3.6	31	1.0	2.0	0.85	1.15	10	1.8	2.9	5	DPAK(1)	
KF4N20LI	◑	200	3.6	31	1.0	2.0	0.89	1.15	10	1.8	2.9	5	IPAK(1)	SOT-223
KF19N20D	○	200	15	83.3	2.0	4.0	0.13	0.15	10	7.5	21	10	DPAK(1)	
KF19N20F	◑	200	19	43	2.0	4.0	0.13	0.15	10	9.5	21	10	TO-220IS(1)	
KF5N25D	◑	250	4.4	50	2.0	4.0	0.9	1.1	10	2.2	6	10	DPAK(1)	
KF5N25F	◑	250	5	26	2.0	4.0	0.9	1.1	10	2.5	6	10	TO-220IS(1)	
KF9N25D	◑	250	7.5	54.3	2.5	4.5	0.31	0.4	10	3.75	14.5	10	DPAK(1)	DPAK(1)
KF9N25F	◑	250	9	38	2.5	4.5	0.31	0.4	10	4.5	14.5	10	TO-220IS(1)	
KF16N25D	◑	250	13	85	2.0	4.0	0.2	0.24	10	6.5	21	10	DPAK(1)	
KF16N25F	◑	250	16	41.7	2.0	4.0	0.2	0.24	10	8	21	10	TO-220IS(1)	
KF3N40W	◑	400	2	2	2.5	4.5	2.8	3.4	10	1	4.4	10	SOT-223	IPAK(1)
KF3N40D	◑	400	2.2	40	2.5	4.5	2.8	3.4	10	1.1	4.4	10	DPAK(1)	
KF3N40I	◑	400	2.2	40	2.5	4.5	2.8	3.4	10	1.1	4.4	10	IPAK(1)	
KF5N40D	◑	400	4.2	50	2.5	4.5	1.3	1.6	10	2.1	5.4	10	DPAK(1)	
KF9N40D	◑	400	6.5	78	2.5	4.5	0.7	0.83	10	3.25	13	10	DPAK(1)	
KF3N50DZ	◑	500	2.5	40	2.5	4.5	2.0	2.5	10	1.25	8	10	DPAK(1)	TO-220AB
KF3N50IZ	◑	500	2.5	40	2.5	4.5	2.0	2.5	10	1.25	8	10	IPAK(1)	
KF3N50FZ	◑	500	3	25	2.5	4.5	2.0	2.5	10	1.5	8	10	TO-220IS(1)	
KF5N50DZ	◑	500	4.3	59.5	2.5	4.5	1.10	1.4	10	2.15	12	10	DPAK(1)	
KF5N50IZ	◑	500	4.3	59.5	2.5	4.5	1.10	1.4	10	2.15	12	10	IPAK(1)	
KF5N50PZ	◑	500	5	83	2.5	4.5	1.15	1.4	10	2.5	12	10	TO-220AB	TO-220IS(1)
KF5N50FZA	◑	500	5	37.9	2.5	4.5	1.15	1.4	10	2.5	12	10	TO-220IS(1)	
KF7N50D	◑	500	5.5	69.4	2.5	4.5	0.83	1.0	10	2.7	16	10	DPAK(1)	
KF7N50I	◑	500	5.5	69.4	2.5	4.5	0.83	1.0	10	2.7	16	10	IPAK(1)	
KF7N50P	◑	500	7	100	2.5	4.5	0.83	1.0	10	3.5	16	10	TO-220AB	

Note) Additional Function Code : Z → Built in ESD Zener diode
S → Built in ESD Zener diode & Fasf Recovery Diode

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

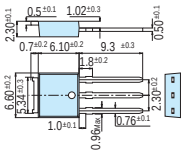
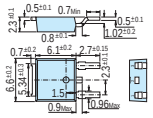
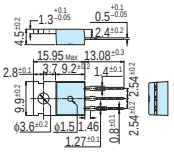
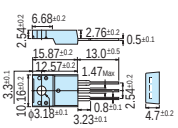
▣ High Voltage MOSFET (Planar)

Type No	AEC-Q	Max. Ratings			V_{th} (V)		$R_{DS(ON)}$ (Ω)				Q_g (nC)		Package	Outline (Unit: mm)
		BV_{DSS} (V)	I_D (A)	P_D (W)	Min.	Max.	Typ.	Max.	V_{GS} (V)	I_D (A)	Typ.	V_{GS} (V)		
KF7N50F	◑	500	7	41.7	2.5	4.5	0.83	1.0	10	3.5	16	10	TO-220IS(1)	
KF9N50P	◑	500	9	125	2.5	4.5	0.64	0.75	10	4.5	19	10	TO-220AB	
KF9N50F	◑	500	9	41	2.5	4.5	0.64	0.75	10	4.5	19	10	TO-220IS(1)	IPAK(1)
KF11N50P	◑	500	11	178	2.5	4.5	0.42	0.52	10	5.5	26	10	TO-220AB	
KF11N50F	◑	500	11	46.3	2.5	4.5	0.42	0.52	10	5.5	26	10	TO-220IS(1)	
KF13N50P	◑	500	13	208	2.5	4.5	0.35	0.44	10	6.5	35	10	TO-220AB	
KF13N50F	◑	500	13	49.8	2.5	4.5	0.35	0.44	10	6.5	35	10	TO-220IS(1)	
KF5N53DS	◑	525	4.1	59.5	2.5	4.5	1.35	1.5	10	2.15	12	10	DPAK(1)	
KF5N53FS	◑	525	5	37.9	2.5	4.5	1.25	1.5	10	2.5	12	10	TO-220IS(1)	
KF1N60D	◑	600	1.0	28	2.5	4.5	8	10	10	0.5	4.0	10	DPAK(1)	DPAK(1)
KF1N60I	◑	600	1.0	28	2.5	4.5	8	10	10	0.5	4.0	10	IPAK(1)	
KF2N60D	◑	600	2.0	40.3	2.5	4.5	3.7	4.4	10	1	6.0	10	DPAK(1)	
KF2N60I	◑	600	2.0	40.3	2.5	4.5	3.7	4.4	10	1	6.0	10	IPAK(1)	
KF2N60F	◑	600	2.0	28.4	2.5	4.5	3.7	4.4	10	1	6.0	10	TO-220IS(1)	
KF3N60D	◑	600	2.3	44.6	2.5	4.5	2.8	3.3	10	1.15	8.5	10	DPAK(1)	
KF3N60I	◑	600	2.3	44.6	2.5	4.5	2.8	3.3	10	1.15	8.5	10	IPAK(1)	TO-220AB
KF3N60F	◑	600	3.0	31	2.5	4.5	2.8	3.3	10	1.5	8.5	10	TO-220IS(1)	
KF4N60D	◑	600	3.2	59.5	2.5	4.5	1.9	2.5	10	1.6	10	10	DPAK(1)	
KF4N60I	◑	600	3.2	59.5	2.5	4.5	1.9	2.5	10	1.6	10	10	IPAK(1)	
KF4N60F	◑	600	4.0	37.9	2.5	4.5	1.9	2.5	10	2	10	10	TO-220IS(1)	
KF5N60D	◑	600	3.5	59.5	2.5	4.5	1.7	2	10	1.75	11	10	DPAK(1)	
KF5N60I	◑	600	3.5	59.5	2.5	4.5	1.7	2	10	1.75	11	10	IPAK(1)	TO-220IS(1)
KF5N60P	◑	600	4.5	83	2.5	4.5	1.7	2	10	2.25	11	10	TO-220AB	
KF5N60F	◑	600	4.5	38	2.5	4.5	1.7	2	10	2.25	11	10	TO-220IS(1)	
KF6N60D	◑	600	5.0	69.4	2.5	4.5	1.2	1.4	10	2.5	16	10	DPAK(1)	
KF6N60I	◑	600	5.0	69.4	2.5	4.5	1.2	1.4	10	2.5	16	10	IPAK(1)	

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ High Voltage MOSFET (Planar)

Type No.	AEC-Q	Max. Ratings			V_{th} (V)		$R_{DS(ON)}$ (Ω)				Q_g (nC)		Package	Outline (Unit: mm)
		BV_{DSS} (V)	I_D (A)	P_D (W)	Min.	Max.	Typ.	Max.	V_{GS} (V)	I_D (A)	Typ.	V_{GS} (V)		
KF6N60F	◑	600	6.0	41.7	2.5	4.5	1.2	1.4	10	3	16	10	TO-220IS(1)	
KF7N60P	◑	600	7.0	108	2.5	4.5	0.95	1.2	10	3.5	19	10	TO-220AB	
KF7N60F	◑	600	7.0	41	2.5	4.5	0.95	1.2	10	3.5	19	10	TO-220IS(1)	IPAK(1) 
KF8N60P	◑	600	8.0	160	2.5	4.5	0.85	1.05	10	4	22	10	TO-220AB	
KF8N60F	◑	600	8.0	44.6	2.5	4.5	0.85	1.05	10	4	22	10	TO-220IS(1)	
KF10N60P	◑	600	10	178	2.5	4.5	0.59	0.73	10	5	26	10	TO-220AB	
KF10N60F	◑	600	10	46	2.5	4.5	0.59	0.73	10	5	26	10	TO-220IS(1)	
KF12N60P	◑	600	12	215	2.5	4.5	0.51	0.6	10	6	36	10	TO-220AB	
KF12N60F	◑	600	12	49.8	2.5	4.5	0.51	0.6	10	6	36	10	TO-220IS(1)	
KF4N65F	◑	650	3.6	37.9	2.5	4.5	2.1	2.5	10	1.8	12	10	TO-220IS(1)	DPAK(1) 
KF4N65FM	◑	650	3.6	37.9	2.5	4.5	2.1	2.5	10	1.8	15	10	TO-220IS(1)	
KF5N65D	◑	650	4.4	69.4	2.5	4.5	1.5	1.75	10	2.2	14.5	10	DPAK(1)	
KF5N65I	◑	650	4.4	69.4	2.5	4.5	1.5	1.75	10	2.2	14.5	10	IPAK(1)	
KF5N65P	◑	650	5	100	2.5	4.5	1.5	1.75	10	2.5	14.5	10	TO-220AB	
KF5N65F	◑	650	5	41.7	2.5	4.5	1.5	1.75	10	2.5	14.5	10	TO-220IS(1)	
KF7N65P	◑	650	7	160	2.5	4.5	1.0	1.2	10	3.5	24	10	TO-220AB	TO-220AB 
KF7N65F	◑	650	7	44.6	2.5	4.5	1.0	1.2	10	3.5	24	10	TO-220IS(1)	
KF7N65FM	◑	650	7	44.6	2.5	4.5	1.0	1.2	10	3.5	24	10	TO-220IS(1)	
KF7N68F	◑	680	7	44.6	2.5	4.5	1.0	1.25	10	3.5	24	10	TO-220IS(1)	
KF10N68F	◑	680	10	46	2.5	4.5	0.76	0.95	10	5	24	10	TO-220IS(1)	
KF12N68F	◑	680	12	50	2.5	4.5	0.58	0.71	10	6	30	10	TO-220IS(1)	
KF6N70F	◑	700	6	41	2.5	4.5	1.42	1.65	10	3	19	10	TO-220IS(1)	TO-220IS(1) 
KF3N80D	◑	800	2.7	69.4	2.5	4.5	3.4	4.2	10	1.35	12	10	DPAK(1)	
KF3N80I	◑	800	2.7	69.4	2.5	4.5	3.4	4.2	10	1.35	12	10	IPAK(1)	
KF3N80F	◑	800	3	32	2.5	4.5	3.4	4.2	10	1.5	12	10	TO-220IS(1)	
KF4N80F	◑	800	4	43	2.5	4.5	2.2	2.6	10	2	17	10	TO-220IS(1)	
KF7N80F	◑	800	7	44.6	2.5	4.5	1.2	1.45	10	3.5	45	10	TO-220IS(1)	

Note) * : Under development
Note) Additional Function Code : M → Reduced EMI Level
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ High Voltage MOSFET (Super Junction)

ype No.	AEC-Q	Max. Ratings			V_{th} (V)		$R_{DS(ON)}$ (Ω)				Q_g (nC)		Package	Outline (Unit: mm)
		BV_{DSS} (V)	I_D (A)	P_D (W)	Min.	Max.	Typ.	Max.	V_{GS} (V)	I_D (A)	Typ.	V_{GS} (V)		
KPS8N60D	◑	600	8	69.4	2.0	4.0	0.52	0.58	10	4	15	10	DPAK(1)	
KPS8N60F	◑	600	8	34.7	2.0	4.0	0.50	0.58	10	4	15	10	TO-220IS(1)	DPAK(1)
KPS11N60D	◑	600	11	73.5	2.0	4.0	0.33	0.38	10	5.5	23	10	DPAK(1)	
KPS11N60F	◑	600	11	36.8	2.0	4.0	0.33	0.38	10	5.5	23	10	TO-220IS(1)	
KPS15N60F	◑	600	15	39.1	2.0	4.0	0.24	0.28	10	7.5	32	10	TO-220IS(1)	
KPS8N65D	◑	650	8	73.5	2.0	4.0	0.50	0.58	10	4	20	10	DPAK(1)	
KPS8N65F	◑	650	8	40.3	2.0	4.0	0.50	0.58	10	4	20	10	TO-220IS(1)	TO-220IS(1)
KPS11N65D	◑	650	11	83.3	2.0	4.0	0.33	0.38	10	5.5	28	10	DPAK(1)	
KPS11N65F	◑	650	11	40.3	2.0	4.0	0.33	0.38	10	5.5	28	10	TO-220IS(1)	
KPS15N65F	◑	650	15	46.3	2.0	4.0	0.24	0.28	10	7.5	38	10	TO-220IS(1)	

Note) KPS** : Super Junction 2nd ver.

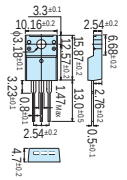
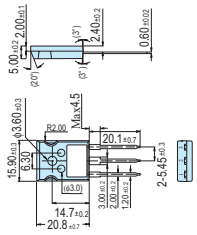
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
N7002	DIODES	2N7002KA	2SK2992	TOSHIBA	KF8N60F	2SK4104	TOSHIBA	KF9N50F	FDN352AP	FAIRCHILD	KMB3D0P30SA
2N7002	FAIRCHILD	2N7002KA	2SK2998	ROHM	KTK5132U	2SK4105	TOSHIBA	KF11N50F	FDN360P	FAIRCHILD	KMB3D0P30SA
2N7002	INFINEON	2N7002KA	2SK3018	ROHM	KTK5132E	2SK4106	TOSHIBA	KF6N60F	FDP047N08	FAIRCHILD	KMB2D0N60SA
2N7002	NXP	2N7002KA	2SK3019	TOSHIBA	KF2N60F	2SK4110	TOSHIBA	KF10N60F	FDP085N10A	Fairchaild	KU086N10P
2N7002	ONSEMI	2N7002KA	2SK3067	TOSHIBA	KF11N50F	2SK4111	TOSHIBA	KF8N60F	FDP3632	FAIRCHILD	KU086N10P
2N7002	PANJIT	2N7002KA	2SK3068	TOSHIBA	KU310N10P	2SK4178	SANYO	KF3N60F	FDPF12N50T	FAIRCHILD	KF11N50F
2N7002	PHILIPS	2N7002KA	2SK3084	TOSHIBA	KF5N60P	2SK4197FS	RENESAS	KU086N10P	FDPF12N60NZ	FAIRCHILD	KF12N60F
2N7002	ST	2N7002KA	2SK3085	NEC	KF2N60D	2SK4201	Analog Power	KMA3D7P20SA	FDPF5N50FT	FAIRCHILD	KF5N50FZA
2N7002	VISHAY	2N7002KA	2SK3113	RENESAS	KF2N60D	AM2327P	AOS	KMB3D0P30SA	FDPF5N50NZ	FAIRCHILD	KF5N50FZA
2N7002A	NXP	2N7002KA	2SK3113B	NEC	KF5N60F	AO3409L	AOS	KMA3D7P20SA	FDPF7N50U	FAIRCHILD	KF9N50F
2N7002A	ONSEMI	2N7002KA	2SK3114	RENESAS	KF4N60F	AO3415AL	AOS	KMB4D0N30SA	FDS9435A	FAIRCHILD	KTK5134S
2N7002BK	DIODES	2N7002KA	2SK3114B	NEC	KF6N60F	AO3434	AOS	KMA3D7P20SA	FDV301N	PANASONIC	KTK5132V
2N7002E	DIODES	2N7002KA	2SK3115	RENESAS	KF7N60F	AO3435	AOS	KMA3D0N20SA	FK330301	PANASONIC	KTK5132V
2N7002E	ONSEMI	2N7002KA	2SK3115B	RENESAS	KF7N60P	AO3438	AOS	2N7002KA	FK3303010L	PANASONIC	KTK5132V
2N7002E	VISHAY	2N7002KA	2SK3116B	TOSHIBA	KF11N50F	AOD1N60	AOS	KF1N60D	FMA08N60GX	Fuji Electric	KF8N60P
2N7002K	AUK	2N7002KU	2SK3126	TOSHIBA	KF7N60F	AOD2910	AOS	KUS220N10D	FMA19N60E	Fuji Electric	KPS11N60F
2N7002K	NXP	2N7002KA	2SK3217	TOSHIBA	KF10N68F	AOD3N40	AOS	KF3N40D	FMP12N50E	Fuji Electric	KF11N50P
2N7002K	ONSEMI	2N7002KA	2SK3265	RENESAS	KF10N60F	AOD4186	AOS	KF3N50DZ	FMV05N50E	Fuji Electric	KF5N50FZA
2N7002K	PANJIT	2N7002KA	2SK3298B	RENESAS	KF10N60P	AOD482	AOS	KU310N10D	FMV07N50E	Fuji Electric	KF9N50F
2N7002K	VISHAY	2N7002KA	2SK3299B	NEC	KF5N50PZ	AOD4N60	AOS	KF5N60D	FMV08N50ESC	Fuji Electric	KF7N50F
2N7002KU	ONSEMI	2N7002KA	2SK3305	RENESAS	KF5N50PZ	AOTF10N60	AOS	KF10N60F	FMV11N60E	Fuji Electric	KF10N60F
2N7002P	NXP	2N7002KA	2SK3305B	RENESAS	KF5N50FZA	AOTF10N60L	AOS	KF10N60F	FMV12N50E	Fuji Electric	KF11N50F
2N7002PT	CHENMKO	2N7002KA	2SK3306B	TOSHIBA	KF11N50P	AOTF12N50	AOS	KF11N50F	FMV12N60ESC	Fuji Electric	KF12N60F
2N7002T	FAIRCHILD	2N7002KA	2SK3309	TOSHIBA	KF11N50F	AOTF12N60	AOS	KF12N60F	FMV16N60E	FAIRCHILD	KPS11N60F
2SJ347	TOSHIBA	KTJ6131E	2SK3310	TOSHIBA	KF7N60F	AOTF266L	AOS	KUS035N06F	FQD2N80TM	FAIRCHILD	KF3N80D
2SJ557A	RENESAS	KMB3D0P30SA	2SK3312	TOSHIBA	KF11N50F	AOTF298L	AOS	KUS140N10F	FQD3N50C	FAIRCHILD	KF3N50DZ
2SJ625	NEC	KMA2D4P20SA	2SK3313	TOSHIBA	KF5N50FZA	AOTF4N60	AOS	KF5N60F	FQD6N40C	FAIRCHILD	KF5N40D
2SJ648	NEC	KML0D3P20V	2SK3316	RENESAS	KF9N50P	AOTF5N50	AOS	KF5N50FZA	FQP10N60C	FAIRCHILD	KF10N60P
2SK1010	Fuji Electric	KF5N50PZ	2SK3325B	NEC	KF9N50F	AOTF7N60	AOS	KF7N60F	FQP13N50C	FAIRCHILD	KF13N50P
2SK1062	TOSHIBA	2N7002KA	2SK3326	RENESAS	KF9N50F	AOTF7N65L	AOS	KF7N65F	FQP3N80C	FAIRCHILD	KF3N80F
2SK1133	RENESAS	2N7002KA	2SK3367	TOSHIBA	KF3N50DZ	AOTF8N50	AOS	KF9N50F	FQP4N60C	FAIRCHILD	KF5N60P
2SK1155	Hitachi	KF5N50PZ	2SK3373	TOSHIBA	KF10N60P	AOTF8N65	AOS	KF7N65F	FQP5N60	FAIRCHILD	KF5N60P
2SK1159	Hitachi	KF9N50P	2SK3399	TOSHIBA	KF13N50P	AOU2N60	ADVANCED	KF2N60I	FQP5N80	FAIRCHILD	KF4N80F
2SK1284	KEXIN	KU3600N10D	2SK3403	TOSHIBA	KF11N50F	AP04N70BI	APEC	KF4N65F	FQP7N80C	FAIRCHILD	KF7N80F
2SK1351	TOSHIBA	KF5N50FZA	2SK3407	TOSHIBA	KF5N50PZ	AP09N50I	APEC	KF9N50F	FQP8N60	FAIRCHILD	KF7N60P
2SK1399	NEC	2N7002KA	2SK3417	TOSHIBA	KF10N60P	AP13N50I	APEC	KF11N50F	FQP8N60C	FAIRCHILD	KF7N60P
2SK1445LS	SANYO	KF5N50FZA	2SK3437	Fuji Electric	KF12N60F	AP2301GN	APEC	KMA2D4P20SA	FQP8N80	FAIRCHILD	KF7N80F
2SK1459LS	SANYO	KF3N80F	2SK3451	NEC	KF11N50F	AP2309AGN	APEC	KMB3D0P30SA	FQPF10N50CF	FAIRCHILD	KF11N50F
2SK1580	NEC	KTK5132U	2SK3455	RENESAS	KF11N50F	AP2317GN	APEC	KMA3D7P20SA	FQPF10N60C	FAIRCHILD	KF10N60P
2SK1581	NEC	2N7002KA	2SK3455B	NEC	KU310N10D	AP2319GN	APEC	KMB3D0P30SA	FQPF12N60	FAIRCHILD	KF12N60F
2SK1581	RENESAS	2N7002KA	2SK3483	NEC	KU310N10D	AP9962AGM	APEC	KF7N80F	FQPF13N50	FAIRCHILD	KF13N50F
2SK1582	RENESAS	2N7002KA	2SK3484	TOSHIBA	KF3N40D	APM2303A	ANPEC	KMB3D0P30SA	FQPF13N50C	FAIRCHILD	KF13N50F
2SK1590	NEC	2N7002KA	2SK3498	NEC	KTK5132E	APM2305	ANPEC	KMA3D7P20SA	FQPF3N80C	FAIRCHILD	KF3N80F
2SK1626	RENESAS	KF5N50FZA	2SK3503	Fuji Electric	KF13N50F	APM4550JC	NXP	KMB3D0P30SA	FQPF4N60	FAIRCHILD	KF5N60F
2SK1657	NEC	KTK5132S	2SK3505	Fuji Electric	KF5N50PZ	BSH105	NXP	KMA3D0N20SA	FQPF5N50C	FAIRCHILD	KF5N50FZA
2SK1819	Fuji Electric	KF5N50FZA	2SK3517	Fuji Electric	KF9N50F	BSH108	INFINEON	KMB4D0N30SA	FQPF5N50CF	FAIRCHILD	KF5N50FZA
2SK1821	Fuji Electric	KF2N60F	2SK3520	Fuji Electric	KF7N60F	BSP149	INFINEON	KF4N20LW	FQPF5N50T	FAIRCHILD	KF3N50FZ
2SK1824	NEC	KTK5132E	2SK3525	Fuji Electric	KF7N80F	BSP296L6327	DIODES	KU360N10W	FQPF5N60C	FAIRCHILD	KF5N60F
2SK1830	TOSHIBA	KTK5131E	2SK3530	ROHM	KTK5132V	BSS138	FAIRCHILD	2N7002KA	FQPF6N60	FAIRCHILD	KF6N60F
2SK1920	SANYO	KF9N25D	2SK3541	TOSHIBA	KF3N50FZ	BSS138	INFINEON	2N7002KA	FQPF6N80C	FAIRCHILD	KF7N80F
2SK2009	TOSHIBA	2N7002KA	2SK3543	TOSHIBA	KF9N50F	BSS138	ONSEMI	2N7002KA	FQPF7N60	FAIRCHILD	KF7N60F
2SK2040	NEC	KF2N60D	2SK3561	TOSHIBA	KF6N60F	BSS138	ZETEX	2N7002KA	FQPF7N65	FAIRCHILD	KF7N65F
2SK2044LS	SANYO	KF5N60F	2SK3562	TOSHIBA	KF5N50FZA	BSS138N	DIODES	2N7002KA	FQPF7N65C	FAIRCHILD	KF7N65F
2SK2045LS	SANYO	KF6N60F	2SK3562	TOSHIBA	KF7N60F	BSS138TA	INFINEON	2N7002KA	FQPF8N60	FAIRCHILD	KF7N60F
2SK2071	Fuji Electric	KF2N60D	2SK3563	TOSHIBA	KF5N60F	BSS159N	INFINEON	2N7002KA	FQPF8N60C	FAIRCHILD	KF7N60F
2SK2099	Fuji Electric	KF9N25D	2SK3567	TOSHIBA	KF11N50F	BSS315P	CET	KMB3D0P30SA	FQPF8N80C	FAIRCHILD	KF7N80F
2SK2101	Fuji Electric	KF7N80F	2SK3568	TOSHIBA	KF10N60F	CEF07N7	CET	KF6N70F	FQPF9N25C	FAIRCHILD	KF9N25F
2SK2158	NEC	2N7002KA	2SK3569	RENESAS	KMB4D0N30SA	CES2307	JESTEK	KMB3D0P30SA	FQPF9N50	FAIRCHILD	KF9N50F
2SK2350	TOSHIBA	KF9N25F	2SK3577	Fuji Electric	KU310N10P	CJ2301	JCST	KMA2D4P20SA	FQPF9N50C	FAIRCHILD	KF9N50F
2SK2364	NEC	KF9N50F	2SK3599	NEC	KML0D4N20V	CJ2303	SANYO	KMB3D0P30SA	FQT7N10	FAIRCHILD	KU3600N10W
2SK2417	TOSHIBA	KF9N25F	2SK3663	TOSHIBA	KF8N60F	CPH3313	SANYO	KMA2D4P20SA	FQU5N60C	MITSUBISHI	KF5N60I
2SK2466	TOSHIBA	KU310N10P	2SK3667	Fuji Electric	KF10N60F	CPH3355	SANYO	KMB3D0P30SA	FS5AS	MITSUBISHI	KF2N60F
2SK2542	TOSHIBA	KF9N50P	2SK3677	Fuji Electric	KF5N60F	CPH3413	SANYO	KMA3D0N20SA	FS5KM	MITSUBISHI	KF5N50FZA
2SK2543	TOSHIBA	KF9N50F	2SK3691	NEC	KF9N25D	CPH3414	SANYO	KMB4D0N30SA	FS7KM	RENESAS	KF7N60F
2SK2544	TOSHIBA	KF7N60P	2SK3712	RENESAS	KF9N25F	CPH3423	UTC	KMB2D0N60SA	FS7KM	UTC	KF7N60F
2SK2545	TOSHIBA	KF7N60F	2SK3712	TOSHIBA	KF3N50FZ	DG10N60	UTC	KF10N60P	GF4435	TOSHIBA	KF5N60F
2SK2599	TOSHIBA	KF3N50FZ	2SK3757	TOSHIBA	KF3N50FZ	DG7N60	INCHANGE	KF7N60P	H2SK2543	TOSHIBA	KF9N50F
2SK2640	Fuji Electric	KF9N50F	2SK3766	TOSHIBA	KF2N60F	DMN3033LSD	DIODES	KF7N60P	H2SK3455	RENESAS	KF5N50FZA
2SK2661	TOSHIBA	KF5N50PZ	2SK3767	TOSHIBA	KF12N60F	DMN5L06K	DIODES	2N7002KA	H2SK3505	SANYO	KF11N50F
2SK2662	ROHM	KTK5134S	2SK3797	SANYO	KF1N60I	DMN601K	DIODES	2N7002KA	H2SK3561	TOSHIBA	KF13N50F
2SK2662	TOSHIBA	KF5N50FZA	2SK3850	SANYO	KF1N60D	DMP2130L	DIODES	KMA3D7P20SA	H2SK3932	Fuji Electric	KF9N50F
2SK2731	TOSHIBA	KF5N60F	2SK3850	TOSHIBA	KF5N50DZ	DMP3160L	DIODES	KMB3D0P30SA	HFDPF7N50F	FAIRCHILD	KF9N50F
2SK2750	Fuji Electric	KF9N50P	2SK3863	TOSHIBA	KF5N50DZ	DMP3160LQ	ROHM	KMB3D0P30SA	HFS7N80	SEMIHOW	KF7N50F
2SK2757	TOSHIBA	KF9N50P	2SK3868	TOSHIBA	KF11N50F	EM6K1	ROHM	KTK5132V	HSTP9NK50ZFP	ST	KF7N80F
2SK2776	TOSHIBA	KF7N60F	2SK3869	TOSHIBA	KF11N50F	FCPF11N60	FAIRCHILD	KPS11N60F	HTK8A50D	TOSHIBA	KF9N50F
2SK2777	TOSHIBA	KTK5132E	2SK3879	TOSHIBA	KF6N60F	FDD3N50NZ	FAIRCHILD	KF3N50DZ	INJ0203BC1	ISAHAYA	KF9N50F
2SK2825	TOSHIBA	KF11N50F	2SK3947	TOSHIBA	KF13N50F	FDD5N50	FAIRCHILD	KF5N50DZ	INK0001AC1	ISAHAYA	KMA2D4P20SA
2SK2842	TOSHIBA	KF10N60F	2SK4012	TOSHIBA	KF7N80F	FDD6N25	FAIRCHILD	KF5N25D	INK0010AC1	ISAHAYA	2N7002KA
2SK2843	RENESAS	KTK5132U	2SK4013	TOSHIBA	KF10N60F	FDD6N50	FAIRCHILD	KF7N50D	IPA032N06N3G	INFINEON	KUS035N06F
2SK2858	TOSHIBA	KF3N50FZ	2SK4015	TOSHIBA	KF12N60F	FDD8447L	FAIRCHILD	KF9N25D	IPA045N10N3	INFINEON	KUS045N10F
2SK2862	TOSHIBA	KF2N60D	2SK4016	TOSHIBA	KF1N60I	FDD850N10L	FAIRCHILD	KU310N10D	IPA083N10N5	INFINEON	KUS086N10F
2SK2865	TOSHIBA	KF10N60P	2SK4026	TOSHIBA	KF9N50F	FDD86102	FAIRCHILD	KUS220N10D	IPA60R280C6	INFINEON	KPS15N60F
2SK2866	Fuji Electric	KF5N50FZA	2SK4042	RENESAS	KF1N60D	FDN304P	FAIRCHILD	KMA2D4P20SA	IPA60R280E6	INFINEON	KPS15N60F
2SK2876	TOSHIBA	KF10N60P	2SK4080	RENESAS	KF2N60I	FDN306P	FAIRCHILD	KMA2D4P20SA	IPA60R380C6	INFINEON	KPS11N60F
2SK2889	TOSHIBA	KF9N25F	2SK4081	RENESAS	KF4N60F	FDN308P	FAIRCHILD	KMA2D4P20SA	IPA60R380E6	INFINEON	KPS11N60F
2SK2914	SANYO	KF4N20LW	2SK4082	SANYO	KF12N60F	FDN335N	FAIRCHILD	KMA3D0N20SA	IPA60R400CE	INFINEON	KPS11N60F
2SK2951	TOSHIBA	KF9N50F	2SK4087LS	SANYO	KF9N50F	FDN336P	FAIRCHILD	KMA2D4P20SA	IPA60R600C6	INFINEON	KPS8N60F
2SK2972	TOSHIBA	KF5N50PZ	2SK4097LS	SANYO	KF7N60F	FDN337N	FAIRCHILD	KMB4D0N30SA	IPA60R600E6	INFINEON	KPS8N60F
2SK2991	TOSHIBA	KF4N20LW	2SK4098FS	TOSHIBA	KF5N50FZA	FDN342P	FAIRCHILD	KMA2D4P20SA	IPA60R650CE	INFINEON	KPS8N60F

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
IPA65R280C6	INFINEON	KPS15N65F	NTR1P02LT1G	ONSEMI	KMA2D4P20SA	SPA04N60C3	INFINEON	KF8N60F	STP4NK80ZFP	ST	KF3N80F
IPA65R280E6	INFINEON	KPS15N65F	NTR2101PT1G	ONSEMI	KMA3D7P20SA	SPA07N60C3	INFINEON	KF12N60F	STP6NK60ZFP	ST	KF6N60F
IPA65R380C6	INFINEON	KPS11N65F	NTR4101PT1G	ONSEMI	KMA3D7P20SA	SPA07N60C3	INFINEON	KPS8N60F	STP6NK60ZFP	ST	KF7N60F
IPA65R380E6	INFINEON	KPS11N65F	NTR4501	ONSEMI	KMA3D0N20SA	SPA07N65C3	INFINEON	KPS8N65F	STP7NK40ZFP	ST	KF5N50FZA
IPA65R600C6	INFINEON	KPS8N65F	NTR4501N	ONSEMI	KMA3D0N20SA	SPA11N60C3	INFINEON	KPS11N60F	STP7NK80ZFP	ST	KF7N80F
IPA65R60E6	INFINEON	KPS8N65F	NTR4502PT1G	ONSEMI	KMB3D0P30SA	SPA11N65C3	INFINEON	KPS11N65F	STP80NF10FP	ST	KUS140N10F
IPD60N10S4L	INFINEON	KUS086N10D	NTR4503NT1G	ONSEMI	KMB4D0N30SA	SPA15N60C3	INFINEON	KPS15N60F	STP8NK80ZFP	ST	KF7N80F
IPD60R380C6	INFINEON	KPS11N60D	P0260AI	Niko-Semi	KF2N60I	SPA15N65C3	INFINEON	KPS15N65F	STP9NK50Z	ST	KF9N50P
IPD60R380E6	INFINEON	KPS11N60D	P0260ATF	Niko-Semi	KF2N60F	SPD03N60C3	INFINEON	KF6N60D	STP9NK50ZFP	ST	KF9N50F
IPD60R380P6	INFINEON	KPS11N60D	P0460ATF	Niko-Semi	KF5N60F	SQ2301ES	VISHAY	KMA3D7P20SA	SUP85N10	VISHAY	KU086N10P
IPD60R3K3C6	INFINEON	KPS11N60F	P0660ATF	Niko-Semi	KF7N60F	SSM3J01T	TOSHIBA	KMB3D0P30SA	SVF12N60F	SILAN	KF10N60F
IPD60R400CE	INFINEON	KPS11N60D	P0850ATF	Niko-Semi	KF9N50F	SSM3J14T	TOSHIBA	KMB3D0P30SA	SVF2N60F	SILAN	KF2N60F
IPD60R600C6	INFINEON	KPS8N60D	P1060ATF	Niko-Semi	KF10N60F	SSM3J15FS	TOSHIBA	KTK5132S	SVF7N65	SILAN	KF7N65F
IPD60R600E6	INFINEON	KPS8N60D	P5002CMG	Niko-Semi	KMA3D0N20SA	SSM3J15FV	TOSHIBA	KTJ6131V	SVF7N80F	SILAN	KF7N80F
IPD60R600P6	INFINEON	KPS8N60D	PFF10N65	POWER DEVICES	KF10N65F	SSM3J305T	TOSHIBA	KMB3D0P30SA	TK10A50D	TOSHIBA	KF11N50F
IPD65R380C6	INFINEON	KPS11N65D	PHT4NQ10LT	NXP	KU3610N10W	SSM3J325F	TOSHIBA	KMA2D4P20SA	TK10A50D	TOSHIBA	KF9N50F
IPD65R380E6	INFINEON	KPS11N65D	PMBF170	NXP	2N7002KA	SSM3J35MFV	TOSHIBA	KML0D3P20V	TK10A60D	TOSHIBA	KF10N60F
IPD65R600C6	INFINEON	KPS8N65D	PMV48XP	NXP	KMA3D7P20SA	SSM3J36MFV	TOSHIBA	KML0D3P20V	TK10A60W	TOSHIBA	KPS11N60F
IPD65R600E6	INFINEON	KPS8N65D	PMV65XP	NXP	KMA3D7P20SA	SSM3K01T	TOSHIBA	KMB4D0N30SA	TK10P60W	TOSHIBA	KPS11N60D
IPP040N06N3G	INFINEON	KF3N60D	PZ2N7002M	UNIKC	2N7002KA	SSM3K03FE	TOSHIBA	KTK5132U	TK11A45D	TOSHIBA	KF11N50F
IRF8010	IR	KF9N25F	QN7002	RENESAS	2N7002KA	SSM3K03FV	TOSHIBA	KTK5132V	TK11A50D	TOSHIBA	KF11N50F
IRF830PBF	VISHAY	KU086N10P	R5007ANXFU9C#F65	ROHM	KF7N50F	SSM3K104TU	TOSHIBA	KMA3D0N20SA	TK11A60D	TOSHIBA	KF12N60F
IRF840	IR	KF5N50PZ	R5013ANX	ROHM	KF13N50F	SSM3K12T	TOSHIBA	KMB4D0N30SA	TK11A65W	TOSHIBA	KPS11N65F
IRF840	ST	KF9N50P	R6006AND	ROHM	KF6N60F	SSM3K14T	TOSHIBA	KMB4D0N30SA	TK12A45D	TOSHIBA	KF11N50F
IRFB3206GPbF	IR	KF11N50F	R6012ANXFU7C7	ROHM	KF12N60F	SSM3K15AMFV	TOSHIBA	KTK5132V	TK12A50D	TOSHIBA	KF11N50F
IRFB4710PBF	IR	KU086N10P	RCD075N19	ROHM	KF9N25D	SSM3K15FS	TOSHIBA	KTK5132E	TK12A55D	TOSHIBA	KF12N60F
IRFBC40PBF	VISHAY	KU086N10P	RDX045N60	ROHM	KF5N60F	SSM3K15FU	TOSHIBA	KTK5132U	TK12A60D	TOSHIBA	KF11N50F
IRFI4510G	INFINEON	KUS140N10F	RHK003N06	ROHM	2N7002KA	SSM3K15FV	TOSHIBA	KTK5132V	TK12A60U	TOSHIBA	KP11N60F
IRFL210TRPBF	VISHAY	KF7N60P	RJK1008DPN	RENESAS	KU086N10P	SSM3K16FS	TOSHIBA	KTK5132U	TK12A60W	TOSHIBA	KPS11N60F
IRFM210BTF	FAIRCHILD	KF4N20LW	RJK5006DPD	RENESAS	KF7N50D	SSM3K16FU	TOSHIBA	KTK5132U	TK12A65D	TOSHIBA	KF11N50F
IRFR3410	IR	KF4N20LW	RJK6034DPD	RENESAS	KF1N60D	SSM3K16FV	TOSHIBA	KTK5132V	TK12D60U	TOSHIBA	KF12N60P
IRFR420	IR	KU310N10D	RJK60S1DPP	RENESAS	KF8N60F	SSM3K301T	TOSHIBA	KMA3D6N20SA	TK12P60W	TOSHIBA	KPS11N60D
IRFU210PBF	VISHAY	KF3N50DZ	RJK60S2DPP	RENESAS	KF10N60F	SSM3K303T	TOSHIBA	KMB4D0N30SA	TK13A45D	TOSHIBA	KF13N50F
IRFUC20PBF	IR	KF4N20LI	RJK60S3DPP	RENESAS	KF12N60F	SSM3K316T	TOSHIBA	KMB4D0N30SA	TK13A50D	TOSHIBA	KF13N50F
IRLML2402	IR	KF2N60I	RJU002N06	ROHM	2N7002KU	SSM3K320T	TOSHIBA	KMB4D0N30SA	TK13A60D	TOSHIBA	KF12N60F
IRLML2502TRPBF	IR	KMA3D7P20SA	RK7002	ROHM	2N7002KA	SSM3K329R	TOSHIBA	KMB4D0N30SA	TK14A65W	TOSHIBA	KPS15N65F
IRLML5203TRPBF	IR	KMB4D0N30SA	RK7002A	ROHM	2N7002KA	SSM3K37MFV	TOSHIBA	KML0D4N20V	TK14A65W5	TOSHIBA	KPS15N65F
IRLML6401	IR	KMB3D0P30SA	RK7002B	ROHM	2N7002KA	SSM3K7002BF	TOSHIBA	2N7002KA	TK15A60U	TOSHIBA	KPS15N60F
IRLML6402PbF	IR	KMA3D7P20SA	RK7002BT116	ROHM	2N7002KA	SSM3K7002F	TOSHIBA	2N7002KA	TK2A65D	TOSHIBA	KF4N65F
JCS13N50FT	JILINSINO-MICRO	KF13N50F	RK7002T116	ROHM	2N7002KA	SID100N10F7	ST	KUS086N10D	TK2P60D	TOSHIBA	KF2N60D
JCS4N60F	JILINSINO-MICRO	KF5N60F	RQJ0303PGDQA	RENESAS	KMB3D0P30SA	SID10N60M2	ST	KPS8N60D	TK2Q60D	TOSHIBA	KF2N60I
JCS5N50FT	JILINSINO-MICRO	KF5N50FZA	RQK0604GDQA	RENESAS	KMB2D0N60SA	SID10NM60N	ST	KPS8N60D	TK3A65D	TOSHIBA	KF4N65F
JCS730C	JILINSINO-MICRO	KF5N50PZ	RRR015P03	ROHM	KMB3D0P30SA	SID10NM60ND	ST	KPS8N60D	TK3A65DA	TOSHIBA	KF4N65F
JCS740C	JILINSINO-MICRO	KF5N50PZ	RRR030P03	ROHM	KMB3D0P30SA	SID13N60M2	ST	KPS11N60D	TK40A10N1	TOSHIBA	KUS086N10F
JCS7N60F	JILINSINO-MICRO	KF7N60F	RRR030P03GZ	ROHM	KMB3D0P30SA	SID13NM50MD	ST	KPS11N60D	TK4A50D	TOSHIBA	KF5N50FZA
JCS9N50F	JILINSINO-MICRO	KF9N50F	RRR030P03TL	ROHM	KMB3D0P30SA	SID13NM60N	ST	KPS11N60D	TK4A60D	TOSHIBA	KF6N60F
L2N7002LT1G	LRC	2N7002KA	RSF015N06	ROHM	KMB2D0N60SA	SID15N65M5	ST	KPS11N65D	TK4A60DA	TOSHIBA	KF6N60F
L2N7002LT1G	ONSEMI	2N7002KA	RSR015P03	ROHM	KMB3D0P30SA	STD30N10F7	ST	KUS220N10D	TK4A60DB	TOSHIBA	KF5N60F
LN2302LT1G	LRC	KMA3D0N20SA	RSR020N06	ROHM	KMB2D0N60SA	STD3NK80Z	ST	KF3N80D	TK4A65DA	TOSHIBA	KF4N65F
LSK3541FS8T2L	ROHM	KTK5132V	RSR020P03FRATL	ROHM	KMB3D0P30SA	STD5N52U	ST	KF5N53DS	TK4P60DB	TOSHIBA	KF5N60D
MDD3N50G	MagnaChip	KF3N50DZ	RSR025N03	ROHM	KMB4D0N30SA	STD8N65M5	ST	KPS8N65D	TK55D10J1	TOSHIBA	KU086N10P
MDD4N20YRH	MagnaChip	KF4N20LD	RSR025P03	ROHM	KMB3D0P30SA	STF100N10F7	ST	KUS086N10F	TK5A50D	TOSHIBA	KF5N50FZA
MDD5N40RH	MagnaChip	KF5N40D	RTM002P02	ROHM	KML0D3P20V	STF10N60M2	ST	KPS8N60F	TK5A53D	TOSHIBA	KF5N53FS
MDD5N50Z	MagnaChip	KF5N50DZ	RTR020N05	ROHM	KMB3D5N40SA	STF10NK50Z	ST	KF9N50F	TK5A60D	TOSHIBA	KF6N60F
MDD6N60G	MagnaChip	KF6N60D	RTR020P02	ROHM	KMA2D4P20SA	STF10NM60N	ST	KPS8N60F	TK5A65D	TOSHIBA	KF7N65F
MDD7N25	MagnaChip	KF9N25D	RTR025N03	ROHM	KMB4D0N30SA	STF11N65K3	ST	KF12N68F	TK5A65DA	TOSHIBA	KF5N65F
MDF10N60G	MagnaChip	KF10N60F	RTR025N05	ROHM	KMB3D5N40SA	STF11NM60ND	ST	KF12N60F	TK5P50D	TOSHIBA	KF5N50DZ
MDF10N65B	MagnaChip	KF10N65F	RTR025P02TL	ROHM	KMA2D4P20SA	STF13N60M2	ST	KPS11N60F	TK5P53D	TOSHIBA	KF5N53DS
MDF10N65B	MagnaChip	KF10N68F	RTR030N05	ROHM	KMB3D5N40SA	STF13NK50Z	ST	KF11N50F	TK65A10N1	TOSHIBA	KUS045N10F
MDF11N60	MagnaChip	KF12N60F	RTR030P02	ROHM	KMA3D7P20SA	STF13NM60N	ST	KPS11N60F	TK6A55DA	TOSHIBA	KF6N60F
MDF11N65B	MagnaChip	KF12N68F	RTR040N03	ROHM	KMB4D0N30SA	STF150N10F7	ST	KUS045N10F	TK6A60D	TOSHIBA	KF7N60F
MDF4N60B	MagnaChip	KF5N60F	RUC002N05	ROHM	2N7002KA	STF15N65M5	ST	KPS11N65F	TK6A65D	TOSHIBA	KF7N65F
MDF4N65BTH	MagnaChip	KF4N65F	RUE003N02	ROHM	KML0D4N20V	STF16N65M5	ST	KPS15N65F	TK7A50D	TOSHIBA	KF7N50F
MDF5N50BTH	MagnaChip	KF5N50FZA	RUM002N02	ROHM	KML0D4N20V	STF18N60M2	ST	KPS15N60F	TK8A25DA	TOSHIBA	KF9N25F
MDF6N60	MagnaChip	KF6N60F	RUM003N02	ROHM	KML0D4N20V	STF2HNK60Z	ST	KF2N60F	TK8A50D	TOSHIBA	KF9N50F
MDF7N50TH	MagnaChip	KF7N50F	RUR020N02TL	ROHM	KMA3D0N20SA	STF5N52U	ST	KF5N53FS	TK8A60DA	TOSHIBA	KF8N60F
MDF7N65BTH	MagnaChip	KF7N65F	RZM001P02	ROHM	KML0D3P20V	STF8N65M5	ST	KPS8N65F	TK8A60W5	TOSHIBA	KPS8N60F
MDF8N60	MagnaChip	KF8N60F	RZM002P02	ROHM	KML0D3P20V	STF9NM60N	ST	KF10N60F	TK8A65D	TOSHIBA	KF10N65F
MDF9N50	MagnaChip	KF9N50F	RZR020P01	ROHM	KMA2D4P20SA	STJ004SF	AUK	KMB3D0P30SA	TK8A6W	TOSHIBA	KPS8N60F
MDHT3N40URH	MagnaChip	KF3N40W	SI2301	VISHAY	KMA2D4P20SA	STK003SF	AUK	KMB4D0N30SA	TK8P25DA	TOSHIBA	KF9N25D
MDHT4N20Y	MagnaChip	KF4N20LW	SI2301BDS	VISHAY	KMA2D4P20SA	STK0380D	AUK	KF3N80D	TK8P60W	TOSHIBA	KPS8N60D
MDP11N60	MagnaChip	KF12N60P	SI2301CDS	VISHAY	KMA3D7P20SA	STK0460F	AUK	KF4N60F	TK98P60W5	TOSHIBA	KPS8N60D
MDP7N60	MagnaChip	KF7N60P	SI2301DS	VISHAY	KMA2D4P20SA	STK7002	AUK	2N7002KA	TK9A45D	TOSHIBA	KF9N50F
MDP8N60	MagnaChip	KF8N60P	SI2302ADS	VISHAY	KMA3D0N20SA	STK7002B	AUK	2N7002KA	TMD2N60AZ	TRINNO	KF2N60D
MDP9N60	MagnaChip	KF10N60P	SI2302CDS	VISHAY	KMA3D0N20SA	STN1N20	ST	KF4N20LW	TMD5N60AZ	TRINNO	KF5N60D
MDP9N60TH	MagnaChip	KF10N60P	SI2303BDS	VISHAY	KMB3D0P30SA	STN4NF20L	ST	KF4N20LW	TMPF10N60A	TRINNO	KF10N60F
ME2N7002E	MATSUKI	2N7002KA	SI2303CDS	VISHAY	KMB3D0P30SA	STP10NK60Z	ST	KF10N60P	TMPF4N65AZ	TRINNO	KF4N65F
MMD60R360P	Magnachip	KPS11N60D	SI2306BDS	VISHAY	KMB4D0N30SA	STP10NK60ZFP	ST	KF10N60F	TMPF7N65Z	TRINNO	KF7N65F
MMD60R580P	Magnachip	KPS8N60D	SI2307CDS	VISHAY	KMB3D0P30SA	STP11NK50ZFP	ST	KF11N50F	TMU6N65G	TRINNO	KF5N65I
MMF60R360P	Magnachip	KPS11N60F	Si2308BDS	VISHAY	KMB2D0N60SA	STP11NM60FDFP	ST	KF12N60F	TSM2311	TAIWAN	KMA3D7P20SA
MMF60R580P	Magnachip	KPS8N60F	SI2308DS	VISHAY	KMB2D0N60SA	STP12NM50	ST	KF13N50P	U2N7002	DIODES	2N7002KA
NDD02N60Z	ONSEMI	KF2N60D	SI2318DS	VISHAY	KMB3D5N40SA	STP12NM50FP	ST	KF13N50F	UPA572T	NEC	KTK5132U
NDD03N80Z-T4G	ONSEMI	KF3N80I	SMK0460D	AUK	KF5N60D	STP12NM50FP	ST	KF13N50F	UT2301G	UTC	KMA2D4P20SA
NDF04N60ZG	ONSEMI	KF5N60F	SMK0460F	AUK	KF4N60F	STP14NK50ZFP	ST	KF13N50F	VNP35N07	ST	KU310N10P
NDF05N50ZG	ONSEMI	KF5N50FZA	SMK0765F	AUK	KF7N65F	STP24NF10	ST	KU310N10P	WFF13N50N	WINSEMI	KF13N50F
NDF08N50ZG	ONSEMI	KF7N50F	SMK0825FZ	AUK	KF9N25F	STP30NF10	ST	KU310N10P	WPM2026	WILLSEMI	KMA3D7P20SA
NDF11N50ZH	ONSEMI	KF11N50F	SMK830FC	KODENSHI	KF5N50FZA	STP3NK60ZFP	ST	KF3N60F	WPM2341	WILLSEMI	KMA3D7P20SA
NDS7002AD87Z	FAIRCHILD	2N7002KA	SMN01L20Q	AUK	KF4N20LW	STP4NK60ZFP	ST	KF4N60F	YTA830	TOSHIBA	KF5N50PZ
NTD6414ANT4G	ONSEMI	KU310N10D	SMN04L20D	AUK	KF4N20LD	STP4NK60ZFP	ST	KF5N60F	YTA840	TOSHIBA	KF9N50P

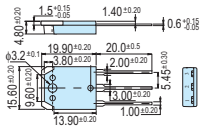
Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
ZXMN2A01F	DIODES	KMA3D0N20SA									
ZXMP3F30FHTA	DIODES	KMB3D0P30SA									

▣ IGBT with Anti-Parallel Diode (Hard Switching)

Type No.	AEC-Q	BV_{CES} (V)	I_C (A)		$V_{CE\ (SAT)}$ (V)	Package	Outline (Unit: mm)
			@25℃	@100℃	Typ.		
KGF12N60FDA	◑	600	12	6	1.50	TO-220IS(1)	
KGT15N60FDA	◑	600	15	7.5	1.70		
KGF15N60FDA	◑	600	15	7.5	1.65		
KGF20N60KDA	◑	600	40	20	1.70	TO-247	
KGF30N60KDA	◑	600	60	30	1.65		
KGF40N60KDA	◑	600	80	40	1.65		
KGF40N65KDC	◑	650	80	40	1.75		
KGF50N60KDA	◑	600	100	50	1.65		
KGF75N60KDB	◑	600	100	75	1.55		
KGF15N120KDA	◑	1200	30	15	2.00		
KGF25N120KDA	◑	1200	50	25	2.00		
KGF40N120KDA	◑	1200	80	40	1.90		
KGF40N120KDF	◑	1200	80	40	2.1		

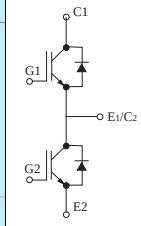
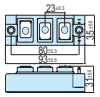
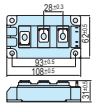
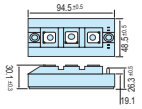
Note) * : Under development
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ IGBT with Anti-Parallel Diode (Soft Switching)

Type No.	AEC-Q	BV_{CES} (V)	I_C (A)		$V_{CE\ (SAT)}$ (V)	Package	Outline (Unit: mm)
			@25℃	@100℃	Typ.		
KGT15N120NDH	◑	1200	30	15	1.85	TO-3P(N)-E	
KGF15N120NDS	◑	1200	30	15	1.8		
KGF25N135NDH	◑	1350	50	25	1.8		
KGF25N135NRH	◑	1350	50	25	1.7		
KGF30N135NDH	◑	1350	60	30	1.8		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

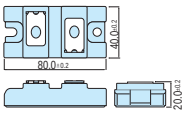
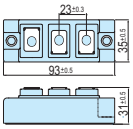
▣ 2 in 1 IGBT Module

Type No.	AEC-Q	Internal Circuit	BV_{CES} (V)	I_C (A) @25℃	I_C (A) @80℃	$V_{CE(SAT)}$ (V)	V_F (V)	IGBT Type	Package	Outline (Unit: mm)
GM75HB06BLA	-		600	100	75*	1.7	1.7	Trench NPT	GMB01	GMB01  GMB02  GMB03 
GM100HB06BLA	-		600	130	100	2.1	1.4	Trench NPT	GMB01	
GM150HB06BLA	-		600	200	150	2.0	1.4	Trench NPT	GMB01	
GM150HB06ILA	-		600	200	150	2.0	1.4	Trench NPT	GMB03	
GM200HB06CLA	-		600	260	200	2.0	1.5	Trench NPT	GMB02	
GM200HB06ILA	-		600	260	200	2.0	1.5	Trench NPT	GMB03	
GM100HB12BTA	-		1200	160	100	2.1	2.2	Trench Field Stop	GMB01	

Note) * : @60℃

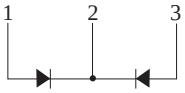
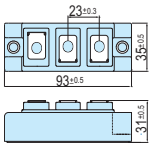
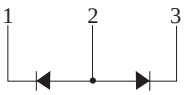
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 1 in 1 DIODE Module

Type No.	AEC-Q	Internal Circuit	V_R (V)	I_{RM}(uA) @Tc=25℃	$I_{F(AV)}$ (A) @Tc=100℃	V_F Typ (V)	V_F @I_F (A)	Package	Outline (Unit: mm)
DM300S06AF	-		600	3.2	300	1.4	300	DMS01	
DM300S06BF	-		600	3.2	300	1.4	300	DMB02	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

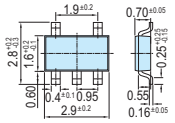
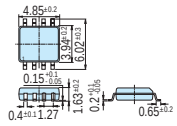
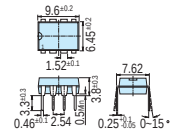
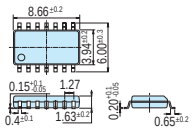
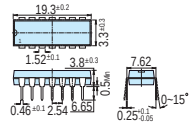
▣ 2 in 1 DIODE Module

Type No.	AEC-Q	Internal Circuit	V_R (V)	I_{RM}(uA) @Tc=25℃	$I_{F(AV)}$ (A) @Tc=100℃	V_F Typ (V)	V_F @I_F (A)	Package	Outline (Unit: mm)
DM200CK06BF	-	 Common Cathode	600	1.6	200	1.5	200	DMB02	DMB02 
DM300CK06BF	-		600	3.2	300	1.4	300	DMB02	
DM200CA06BF	-	 Common Anode	600	1.6	200	1.5	200	DMB02	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

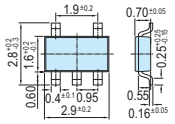
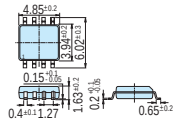
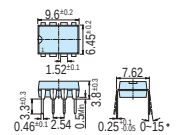
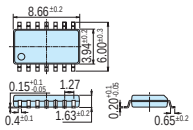
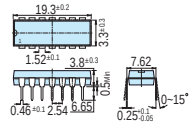
▣ Industrial & General Purpose IC

▣ OP Amp.

Type No.	AEC-Q	Channel	Supply Voltage V_{CC}(V)	Input Offset Voltage V_{IO}(mV)	Input Offset Current I_I(nA)	Package	Outline (Unit : mm)
KIA75S358F	○	1	±18 or 36	2	45	TSV	
KIA75S558F	○	1					
KIA358F	○	2	±18 or 36	2	45	FLP-8	
KIA4558F	○	2	±18 or 36	0.5	60		
KIA358P	○	2	±18 or 36	2	45	DIP-8	
KIA4558P	○	2	±18 or 36	0.5	60		
KIA324F	○	4	±18 or 36	2	45	FLP-14	
KIA324P	○	4	±18 or 36	2	45	DIP-14	

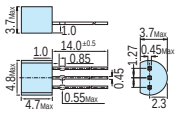
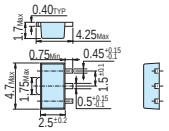
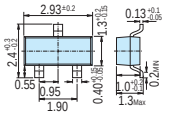
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Comparator

Type No.	AEC-Q	Channel	Supply Voltage V_{CC}(V)	Input Offset Voltage V_{IO}(mV)	Input Offset Current I_I(nA)	Package	Outline (Unit : mm)
KIA75S393F	○	1	±18 or 36	2	25	TSV	
KIA393F	○	2	±18 or 36	2	25	FLP-8	
KIA393P	○	2	±18 or 36	2	25	DIP-8	
KIA339F	○	4	±18 or 36	2	25	FLP-14	
KIA339P	○	4	±18 or 36	2	25	DIP-14	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

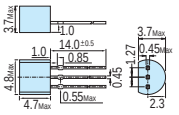
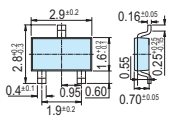
▣ 2.5V Voltage Stabilizer

Type No.	Mark	AEC-Q	Max. Ratings		Voltage Reference Tolerance V_{ret} (%)	Minimum Cathode Current I_{min} (mA)	Package	Outline (Unit : mm)
			V_{KA}(V)	I_K(mA)				
KIA431	-	◑	37	150	2.2	1.0	TO-92	
KIA431Z	-	◑	37	150	1.5			
KIA431A	-	◑	37	150	1.0			
KIA431B	-	◑	37	150	0.5			
*KIA431AC	-	◑	37	150	1.0	0.6		
*KIA431BC	-	◑	37	150	0.5			
KIA431F	3A	○	37	150	2.2	1.0	SOT-89	
KIA431ZF	3Z	○	37	150	1.5			
KIA431AF	3B	○	37	150	1.0			
KIA431BF	3C	○	37	150	0.5			
*KIA431ACF	3E	○	37	150	1.0	0.6		
*KIA431BCF	3F	○	37	150	0.5			
KIA431M	43C	○	37	150	2.2	1.0	SOT-23	
KIA431ZM	43Z	○	37	150	1.5			
KIA431AM	43A	○	37	150	1.0			
KIA431BM	43B	○	37	150	0.5			
KIA431ACM	4AC	○	37	150	1.0	0.6		
KIA431BCM	4BC	○	37	150	0.5			

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

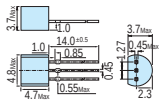
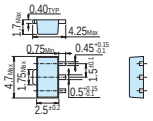
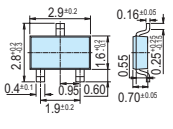
▣ 1.24V Voltage Stabilizer

Type No.	Mark	AEC-Q	Max. Ratings		Voltage Reference Tolerance V_{ret} (%)	Minimum Cathode Current I_{min} (mA)	Package	Outline (Unit : mm)
			V_{KA}(V)	I_K(mA)				
KIA2431P	-	◑	16	50	1.5	0.08	TO-92	
KIA2431AP	-	◑	16	50	1.0			
KIA2431S	24A	○	16	50	1.5		TSM	
KIA2431AS	24B	○	16	50	1.0			

Note) * : Under development

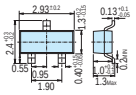
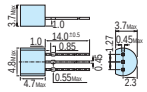
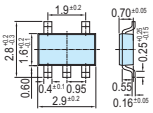
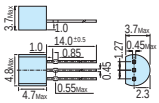
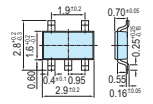
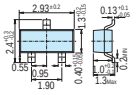
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Bipolar Voltage Detector (Active Low, Open Collector Output Type)

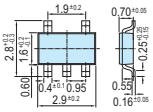
Type No.	Mark	AEC-Q	Max. Ratings		Detecting Volts. V_S (V)			Low-Level Output Volts. V_{OL} (V)	Hysteresis Volts. ΔV_S (mV)			Circuit Current at on. I_{CCL} (μA)		Circuit Current at off. I_{CCH} (μA)		Package	Outline (Unit : mm)
			V_{CC} (V)	P_D(mW) (Ta=25℃)	(R_L=200Ω, V_{OL} ≤ 0.4V)			R_L=200Ω	R_L=200Ω			V_{CC} = V_{smin} - 0.05V		V_{CC} = 5.25V			
					Min.	Typ.	Max.	Max.	Min.	Typ.	Max.	Typ.	Max.	Typ.	Max.		
KIA7019AP	-	◑	15	400	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	TO-92	
KIA7021AP	-	◑	15	400	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50		
KIA7023AP	-	◑	15	400	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50		
KIA7025AP	-	◑	15	400	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50		
KIA7027AP	-	◑	15	400	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50		
KIA7029AP	-	◑	15	400	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50		
KIA7031AP	-	◑	15	400	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50		
KIA7032AP	-	◑	15	400	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50		
KIA7033AP	-	◑	15	400	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50		
KIA7034AP	-	◑	15	400	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50		
KIA7035AP	-	◑	15	400	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50		
KIA7036AP	-	◑	15	400	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50		
KIA7039AP	-	◑	15	400	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50		
KIA7042AP	-	◑	15	400	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50		
KIA7045AP	-	◑	15	400	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50		
KIA7019AF	6A	○	15	500	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	SOT-89	
KIA7021AF	6B	○	15	500	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50		
KIA7023AF	6C	○	15	500	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50		
KIA7025AF	6D	○	15	500	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50		
KIA7027AF	6E	○	15	500	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50		
KIA7029AF	6F	○	15	500	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50		
KIA7031AF	6G	○	15	500	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50		
KIA7032AF	6H	○	15	500	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50		
KIA7033AF	6J	○	15	500	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50		
KIA7034AF	6K	○	15	500	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50		
KIA7035AF	6L	○	15	500	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50		
KIA7036AF	6M	○	15	500	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50		
KIA7039AF	6N	○	15	500	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50		
KIA7042AF	6P	○	15	500	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50		
KIA7045AF	6R	○	15	500	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50		
KIA7019AT	6A	○	15	350	1.75	1.9	2.05	0.4	30	50	100	300	500	30	50	TSM	
KIA7021AT	6B	○	15	350	1.95	2.1	2.25	0.4	30	50	100	300	500	30	50		
KIA7023AT	6C	○	15	350	2.15	2.3	2.45	0.4	30	50	100	300	500	30	50		
KIA7025AT	6D	○	15	350	2.35	2.5	2.65	0.4	30	50	100	300	500	30	50		
KIA7027AT	6E	○	15	350	2.55	2.7	2.85	0.4	30	50	100	300	500	30	50		
KIA7029AT	6F	○	15	350	2.75	2.9	3.05	0.4	30	50	100	300	500	30	50		
KIA7031AT	6G	○	15	350	2.95	3.1	3.25	0.4	30	50	100	300	500	30	50		
KIA7032AT	6H	○	15	350	3.05	3.2	3.35	0.4	30	50	100	300	500	30	50		
KIA7033AT	6J	○	15	350	3.15	3.3	3.45	0.4	30	50	100	300	500	30	50		
KIA7034AT	6K	○	15	350	3.25	3.4	3.55	0.4	30	50	100	300	500	30	50		
KIA7035AT	6L	○	15	350	3.35	3.5	3.65	0.4	30	50	100	300	500	30	50		
KIA7036AT	6M	○	15	350	3.45	3.6	3.75	0.4	30	50	100	300	500	30	50		
KIA7039AT	6N	○	15	350	3.75	3.9	4.05	0.4	30	50	100	300	500	30	50		
KIA7042AT	6P	○	15	350	4.05	4.2	4.35	0.4	30	50	100	300	500	30	50		
KIA7045AT	6R	○	15	350	4.35	4.5	4.65	0.4	30	50	100	300	500	30	50		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

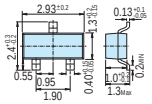
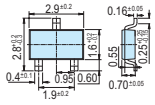
▣ CMOS Detector (Active Low, CMOS/Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold V_{th} (V)			Accuracy (%)	Supply Current I_{DD}(μA)		Package	Outline (Unit : mm)
			$V_{DD(Max)}$ (V)	I_{OUT} (mA)	Min.	Max.	Step.		Typ.	Max.		
KIC7108~60M	○	CMOS	12	20	0.8	6.0	0.1	±1	0.25	1.0	SOT-23	
KIC7108~60P	◑		12	20	0.8	6.0	0.1	±1	0.25	1.0	TO-92	
KIC7108~60T5	○		12	20	0.8	6.0	0.1	±1	0.25	1.0	TSV	
KIC 7508~60P	◑	Open-drain	12	20	0.8	6.0	0.1	±1	0.25	1.0	TO-92	
KIC7508~60T5	○		12	20	0.8	6.0	0.1	±1	0.25	1.0	TSV	
KIC7508~60M/M2	○		12	20	0.8	6.0	0.1	±1	0.25	1.0	SOT-23	

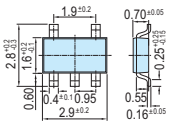
▣ CMOS External Delay Reset IC (Active Low, CMOS/Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold V_{th} (V)			Accuracy (%)	Supply Current I_{DD}(μA)		Package	Outline (Unit : mm)
			$V_{DD(Max)}$ (V)	I_{OUT} (mA)	Min.	Max.	Step.		Typ.	Max.		
KIC7208~60T5	○	CMOS	12	20	0.8	6.0	0.1	±1	0.35	1.0	TSV	
KIC7608~60T5	○	Open-drain										

▣ CMOS Internal Delay Reset IC (Active Low, CMOS/Open-drain Output Type)

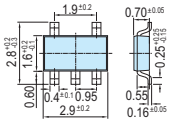
Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold V_{th} (V)			Accuracy (%)	Delay Time (ms)	Supply Current I_{DD}(μA)		Package	Outline (Unit : mm)
			$V_{DD(Max)}$ (V)	I_{OUT} (mA)	Min.	Max.	Step.			Typ.	Max.		
KIC73A~E16~50M/M2	○	CMOS	7	20	1.6	5.0	0.1	±1	A : 240 B : 50 C : 100 D : 200 E : 400	0.5	2.0	SOT-23	SOT-23 
KIC73A~E16~50T/T2	○											TSM	
KIC77A~E16~50M/M2	○	Open-drain										SOT-23	TSM 
KIC77A~E16~50T/T2	○											TSM	

▣ CMOS Internal Delay Reset + Manual Reset (Active Low, Open-drain Output Type)

Type No.	AEC-Q	Output Type	Max. Ratings		Reset Threshold V_{th} (V)			Accuracy (%)	Delay Time (ms)	Supply Current I_{DD}(μA)		Package	Outline (Unit : mm)
			$V_{DD(Max)}$ (V)	I_{OUT} (mA)	Min.	Max.	Step.			Typ.	Max.		
KIC79A~D16~46T5	○	Open-drain	6	20	1.6	4.6	0.1	1.5%	A : 20 B : 50 C : 100 D : 200	1.0	2.0	TSV	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 150mA Small Package CMOS LDO Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (%/V)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Tj=25℃) Min.	Typ.	Max	V_{IN} (V)	Ta=25℃ Max.	V_{IN} (V) Min.	Max.	Ta=25℃ Typ.	I_{OUT} (mA) Min.	Max.	(Tj=25℃) Typ.	I_{OUT} (mA)		
KIC3213T12	○	5.5	0.15	0.9	1.180	1.2	1.220	2.5	0.1	V_O +0.5	5.5	30	1	150	0.5	150	TSV	
KIC3213T13	○	5.5	0.15	0.9	1.280	1.3	1.320	2.5	0.1	V_O +0.5	5.5	30	1	150	0.5	150		
KIC3213T14	○	5.5	0.15	0.9	1.380	1.4	1.420	2.5	0.1	V_O +0.5	5.5	30	1	150	0.5	150		
KIC3213T15	○	5.5	0.15	0.9	1.480	1.5	1.520	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.5	150		
KIC3213T16	○	5.5	0.15	0.9	1.584	1.6	1.616	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.38	150		
KIC3213T17	○	5.5	0.15	0.9	1.683	1.7	1.717	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.38	150		
KIC3213T18	○	5.5	0.15	0.9	1.782	1.8	1.818	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.34	150		
KIC3213T19	○	5.5	0.15	0.9	1.881	1.9	1.919	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.34	150		
KIC3213T20	○	5.5	0.15	0.9	1.980	2.0	2.020	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.34	150		
KIC3213T21	○	5.5	0.15	0.9	2.079	2.1	2.121	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.28	150		
KIC3213T22	○	5.5	0.15	0.9	2.178	2.2	2.222	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.28	150		
KIC3213T23	○	5.5	0.15	0.9	2.277	2.3	2.323	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.28	150		
KIC3213T24	○	5.5	0.15	0.9	2.376	2.4	2.424	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.28	150		
KIC3213T25	○	5.5	0.15	0.9	2.475	2.5	2.525	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.28	150		
KIC3213T26	○	5.5	0.15	0.9	2.574	2.6	2.626	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.22	150		
KIC3213T27	○	5.5	0.15	0.9	2.673	2.7	2.727	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.22	150		
KIC3213T28	○	5.5	0.15	0.9	2.772	2.8	2.828	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.22	150		
KIC3213T29	○	5.5	0.15	0.9	2.871	2.9	2.929	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.21	150		
KIC3213T30	○	5.5	0.15	0.9	2.970	3.0	3.030	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.21	150		
KIC3213T31	○	5.5	0.15	0.9	3.069	3.1	3.131	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.21	150		
KIC3213T32	○	5.5	0.15	0.9	3.168	3.2	3.232	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.21	150		
KIC3213T33	○	5.5	0.15	0.9	3.267	3.3	3.333	V_O +1	0.1	V_O +0.5	5.5	30	1	150	0.21	150		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 0.15A 3-Terminal Voltage Regulator

Type No.	Mark	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (mV)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
			V_{IN}	(V)	I_O	(Tj=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT} (mA)		(Ta=25℃)	I_{OUT} (mA)		
						Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA78L05F	8A	○	35	0.15	500	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	SOT-89	
KIA78L06F	8B	○	35	0.15	500	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40		
KIA78L08F	8D	○	35	0.15	500	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40		
KIA78L09F	8E	○	35	0.15	500	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40		
KIA78L10F	8F	○	35	0.15	500	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40		
KIA78L12F	8G	○	35	0.15	500	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40		
KIA78L15F	8I	○	35	0.15	500	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40		
KIA78L18F	8J	○	40	0.15	500	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40		
KIA78L20F	8K	○	40	0.15	500	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40		
KIA78L24F	8L	○	40	0.15	500	23	24	25	33	350	27.5	38	200	1	100	1.7	40		
KIA78L05BP	-	◑	35	0.15	800	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	TO-92L	
KIA78L06BP	-	◑	35	0.15	800	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40		
KIA78L08BP	-	◑	35	0.15	800	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40		
KIA78L09BP	-	◑	35	0.15	800	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40		
KIA78L10BP	-	◑	35	0.15	800	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40		
KIA78L12BP	-	◑	35	0.15	800	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40		
KIA78L15BP	-	◑	35	0.15	800	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40		
KIA78L18BP	-	◑	40	0.15	800	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40		
KIA78L20BP	-	◑	40	0.15	800	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40		
KIA78L24BP	-	◑	40	0.15	800	23	24	25	33	350	27.5	38	200	1	100	1.7	40		
KIA78S05P	-	◑	35	0.15	600	4.8	5	5.2	10	150	7	20	60	1	100	1.7	40	TO-92	
KIA78S06P	-	◑	35	0.15	600	5.76	6	6.24	11	150	8.1	21	70	1	100	1.7	40		
KIA78S08P	-	◑	35	0.15	600	7.7	8	8.3	14	175	10.5	23	80	1	100	1.7	40		
KIA78S09P	-	◑	35	0.15	600	8.64	9	9.36	15	200	11.4	24	90	1	100	1.7	40		
KIA78S10P	-	◑	35	0.15	600	9.6	10	10.4	16	230	12.5	25	90	1	100	1.7	40		
KIA78S12P	-	◑	35	0.15	600	11.5	12	12.5	19	250	14.5	27	100	1	100	1.7	40		
KIA78S15P	-	◑	35	0.15	600	14.4	15	15.6	23	300	17.5	30	150	1	100	1.7	40		
KIA78S18P	-	◑	40	0.15	600	17.3	18	18.7	27	325	21.4	33	170	1	100	1.7	40		
KIA78S20P	-	◑	40	0.15	600	19.2	20	20.8	29	330	23.5	35	180	1	100	1.7	40		
KIA78S24P	-	◑	40	0.15	600	23	24	25	33	350	27.5	38	200	1	100	1.7	40		

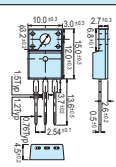
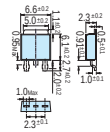
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 0.25A 3-Terminal Low Dropout Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)					Reg Line (mV)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=-40 85℃)			V_{IN} (V)		(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT} (mA)		(Ta=25℃)	I_{OUT} (mA)		
					Min.	Typ.	Max.	Min.	Max.	Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA78DL05F	○	29	0.25	1.3	4.5	5	5.5	5.35	26	30	6	26	50	10	200	0.15	50	DPAK	
KIA78DL06F	○	29	0.25	1.3	5.4	6	6.6	6.35	26	36	7	26	60	10	200	0.15	50		
KIA78DL08F	○	29	0.25	1.3	7.2	8	8.8	8.35	26	45	9	26	80	10	200	0.15	50		
KIA78DL09F	○	29	0.25	1.3	8.1	9	9.9	9.35	26	50	10	26	90	10	200	0.15	50		
KIA78DL10F	○	29	0.25	1.3	9	10	11	10.35	26	60	11	26	100	10	200	0.15	50		
KIA78DL12F	○	29	0.25	1.3	10.8	12	13.2	12.35	26	70	13	26	120	10	200	0.15	50		
KIA78DL15F	○	29	0.25	1.3	13.5	15	16.5	15.35	26	80	16	26	150	10	200	0.15	50		
KIA78DL05PI	○	29	0.25	2.0	4.5	5	5.5	5.35	26	30	6	26	50	10	200	0.15	50	TO-220IS	
KIA78DL06PI	○	29	0.25	2.0	5.4	6	6.6	6.35	26	36	7	26	60	10	200	0.15	50		
KIA78DL08PI	○	29	0.25	2.0	7.2	8	8.8	8.35	26	45	9	26	80	10	200	0.15	50		
KIA78DL09PI	○	29	0.25	2.0	8.1	9	9.9	9.35	26	50	10	26	90	10	200	0.15	50		
KIA78DL10PI	○	29	0.25	2.0	9	10	11	10.35	26	60	11	26	100	10	200	0.15	50		
KIA78DL12PI	○	29	0.25	2.0	10.8	12	13.2	12.35	26	70	13	26	120	10	200	0.15	50		
KIA78DL15PI	○	29	0.25	2.0	13.5	15	16.5	15.35	26	80	16	26	150	10	200	0.15	50		

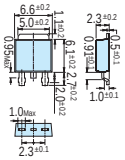
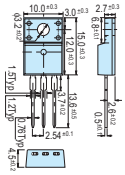
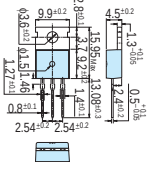
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 0.5A 3-Terminal Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (mV)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Tj=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT} (mA)		(Ta=25℃)	I_{OUT} (mA)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA78M05PI	○	35	0.5	2.0	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	TO-220IS	
KIA78M08PI	○	35	0.5	2.0	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500		
KIA78M12PI	○	35	0.5	2.0	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500		
KIA78M15PI	○	35	0.5	2.0	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500		
KIA78M05F	○	35	0.5	1.3	4.8	5	5.2	10	100	7.2	25	100	5	500	2	500	DPAK	
KIA78M08F	○	35	0.5	1.3	7.7	8	8.3	14	100	10.5	25	100	5	500	2	500		
KIA78M12F	○	35	0.5	1.3	11.5	12	12.5	19	100	14.5	30	240	5	500	2	500		
KIA78M15F	○	35	0.5	1.3	14.4	15	15.6	23	100	17.5	30	300	5	500	2	500		

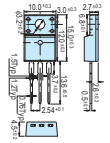
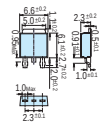
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 1A 3-Terminal Voltage Regulator

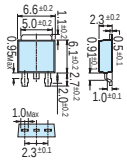
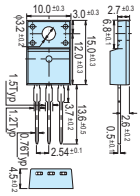
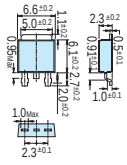
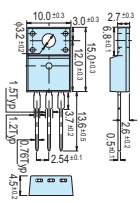
Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (mV)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Tj=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT}		(Ta=25℃)	I_{OUT} (A)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA7805AF	○	35	1	1.3	4.8	5	5.2	10	100	7	25	100	5	1.4	2	1	DPAK	
KIA7806AF	○	35	1	1.3	5.75	6	6.25	11	120	8	25	120	5	1.4	2	1		
KIA7807AF	○	35	1	1.3	6.72	7	7.28	12	140	9	25	140	5	1.4	2	1		
KIA7808AF	○	35	1	1.3	7.7	8	8.3	14	160	10.5	25	160	5	1.4	2	1		
KIA7809AF	○	35	1	1.3	8.64	9	9.36	15	180	11.5	26	180	5	1.4	2	1		
KIA7810AF	○	35	1	1.3	9.6	10	10.4	1 6	200	12.5	27	200	5	1.4	2	1		
KIA7812AF	○	35	1	1.3	11.5	12	12.5	19	240	14.5	30	240	5	1.4	2	1		
KIA7815AF	○	35	1	1.3	14.4	15	15.6	23	300	17.5	30	300	5	1.4	2	1		
KIA7818AF	○	40	1	1.3	17.3	18	18.7	27	360	21	33	360	5	1.4	2	1		
KIA7820AF	○	40	1	1.3	19.2	20	20.8	29	400	23	35	400	5	1.4	2	1		
KIA7824AF	○	40	1	1.3	23	24	25	33	480	27	38	480	5	1.4	2	1		
KIA7805API	○	35	1	2.0	4.8	5	5.2	10	100	7	25	100	5	1.4	2	1	TO-220IS	
KIA7806API	○	35	1	2.0	5.75	6	6.25	11	120	8	25	120	5	1.4	2	1		
KIA7807API	○	35	1	2.0	6.72	7	7.28	12	140	9	25	140	5	1.4	2	1		
KIA7808API	○	35	1	2.0	7.7	8	8.3	14	160	10.5	25	160	5	1.4	2	1		
KIA7809API	○	35	1	2.0	8.64	9	9.36	15	180	11.5	26	180	5	1.4	2	1		
KIA7810API	○	35	1	2.0	9.6	10	10.4	16	200	12.5	27	200	5	1.4	2	1		
KIA7812API	○	35	1	2.0	11.5	12	12.5	19	240	14.5	30	240	5	1.4	2	1		
KIA7815API	○	35	1	2.0	14.4	15	15.6	23	300	17.5	30	300	5	1.4	2	1		
KIA7818API	○	40	1	2.0	17.3	18	18.7	27	360	21	33	360	5	1.4	2	1		
KIA7820API	○	40	1	2.0	19.2	20	20.8	29	400	23	35	400	5	1.4	2	1		
KIA7824API	○	40	1	2.0	23	24	25	33	480	27	38	480	5	1.4	2	1		
KIA7805AP	◑	32	1	1.9	4.8	5	5.2	10	100	7	25	100	5	1.5	2	1	TO-220AB	
KIA7806AP	◑	32	1	1.9	5.75	6	6.25	11	120	8	25	120	5	1.5	2	1		
KIA7807AP	◑	32	1	1.9	6.72	7	7.28	12	140	9	25	140	5	1.5	2	1		
KIA7808AP	◑	32	1	1.9	7.7	8	8.3	14	160	10.5	25	160	5	1.5	2	1		
KIA7809AP	◑	32	1	1.9	8.64	9	9.36	15	180	11.5	26	180	5	1.5	2	1		
KIA7810AP	◑	32	1	1.9	9.6	10	10.4	16	200	12.5	27	200	5	1.5	2	1		
KIA7812AP	◑	32	1	1.9	11.5	12	12.5	19	240	14.5	30	240	5	1.5	2	1		
KIA7815AP	◑	32	1	1.9	14.4	15	15.6	23	300	17.5	30	300	5	1.5	2	1		
KIA7818AP	◑	40	1	1.9	17.3	18	18.7	27	360	21	33	360	5	1.5	2	1		
KIA7820AP	◑	40	1	1.9	19.2	20	20.8	29	400	23	35	400	5	1.5	2	1		
KIA7824AP	◑	40	1	1.9	23	24	25	33	480	27	38	480	5	1.5	2	1		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 1A 3-Terminal Adjustable Voltage Regulator

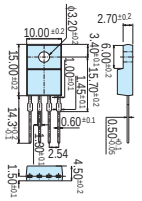
Type No.	AEC-Q	Max. Ratings			Reg Line (%/V)			Reg Load (%)			Adjustable Pin Current I_{adj} (μA)			Current Limit I_O (MAX) (A) (V_{IN} - V_{OUT})≤15V, P≤P_{MAX}			Package	Outline (Unit : mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	I_O=10(mA)	V_{IN} - V_{OUT} (V)		(Ta=25℃)	I_{OUT} (mA)									
					Max.	Min.	Max.	Max.	Min.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.		
KIA317PI	○	40	1.5	2.0	0.04	3	40	0.5	10	I_{MAX}	-	50	100	1.5	2.2	3.4	TO-220IS	
KIA317F	○	40	1.5	1.3	0.04	3	40	0.5	10	I_{MAX}	-	50	100	1.5	2.2	3.4	DPAK	

▣ 1A 3-Terminal Low Dropout Voltage Regulator

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (%)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit: mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT} (mA)		(Ta=25℃)	V_{IN} (V)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA78D15AF	○	15	1	1	1.47	1.5	1.53	2.5	0.1	3.00	4.00	100	1	1000	0.25	0.95Vo	DPAK	
KIA78D18AF	○	15	1	1	1.76	1.8	1.84	2.5	0.1	3.30	4.30	100	1	1000	0.25	0.95Vo		
KIA78D20AF	○	15	1	1	1.96	2.0	2.04	2.5	0.1	3.50	4.50	100	1	1000	0.25	0.95Vo		
KIA78D25AF	○	15	1	1	2.45	2.5	2.55	4.5	0.1	4.00	5.00	100	1	1000	0.25	0.95Vo		
KIA78D30AF	○	15	1	1	2.94	3.0	3.06	5.0	0.1	4.50	5.50	100	1	1000	0.25	0.95Vo		
KIA78D33AF	○	15	1	1	3.23	3.3	3.37	5.3	0.1	4.80	5.80	100	1	1000	0.25	0.95Vo		
KIA78D35AF	○	15	1	1	3.43	3.5	3.57	5.5	0.1	5.00	6.00	100	1	1000	0.25	0.95Vo		
KIA78D05AF	○	15	1	1	4.90	5.0	5.10	7.0	0.1	6.50	7.50	100	1	1000	0.25	0.95Vo		
KIA78D15API	○	15	1	2.0	1.47	1.5	1.53	2.5	0.1	3.00	4.00	100	1	1000	0.25	0.95Vo	TO-220IS	
KIA78D18API	○	15	1	2.0	1.76	1.8	1.84	2.5	0.1	3.30	4.30	100	1	1000	0.25	0.95Vo		
KIA78D20API	○	15	1	2.0	1.96	2.0	2.04	2.5	0.1	3.50	4.50	100	1	1000	0.25	0.95Vo		
KIA78D25API	○	15	1	2.0	2.45	2.5	2.55	4.5	0.1	4.00	5.00	100	1	1000	0.25	0.95Vo		
KIA78D30API	○	15	1	2.0	2.94	3.0	3.06	5.0	0.1	4.50	5.50	100	1	1000	0.25	0.95Vo		
KIA78D33API	○	15	1	2.0	3.23	3.3	3.37	5.3	0.1	4.80	5.80	100	1	1000	0.25	0.95Vo		
KIA78D35API	○	15	1	2.0	3.43	3.5	3.57	5.5	0.1	5.00	6.00	100	1	1000	0.25	0.95Vo		
KIA78D05API	○	15	1	2.0	4.90	5.0	5.10	7.0	0.1	6.50	7.50	100	1	1000	0.25	0.95Vo		
KIA78D25F	○	35	1	1.3	2.438	2.5	2.562	4.2	2.5	3.2	10	50	5	1000	0.5	0.95Vo	DPAK	
KIA78D33F	○	35	1	1.3	3.22	3.3	3.38	5	2.5	4	10	66	5	1000	0.5	0.95Vo		
KIA78D05F	○	35	1	1.3	4.88	5	5.12	7	2.5	6	12	100	5	1000	0.5	0.95Vo		
KIA78D06F	○	35	1	1.3	5.85	6	6.15	8	2.5	7	15	120	5	1000	0.5	0.95Vo		
KIA78D08F	○	35	1	1.3	7.8	8	8.2	10	2.5	9	25	160	5	1000	0.5	0.95Vo		
KIA78D09F	○	35	1	1.3	8.78	9	9.22	15	2.5	10	25	180	5	1000	0.5	0.95Vo		
KIA78D10F	○	35	1	1.3	9.75	10	10.25	16	2.5	11	26	200	5	1000	0.5	0.95Vo		
KIA78D12F	○	35	1	1.3	11.7	12	12.3	18	2.5	13	29	240	5	1000	0.5	0.95Vo		
KIA78D15F	○	35	1	1.3	14.7	15	15.3	21	2.5	16	32	300	5	1000	0.5	0.95Vo		
KIA78D25PI	○	35	1	2.0	2.438	2.5	2.562	4.2	2.5	3.2	10	50	5	1000	0.5	0.95Vo	TO-220IS	
KIA78D33PI	○	35	1	2.0	3.22	3.3	3.38	5	2.5	4	10	66	5	1000	0.5	0.95Vo		
KIA78D05PI	○	35	1	2.0	4.88	5	5.12	7	2.5	6	12	100	5	1000	0.5	0.95Vo		
KIA78D06PI	○	35	1	2.0	5.85	6	6.15	8	2.5	7	15	120	5	1000	0.5	0.95Vo		
KIA78D08PI	○	35	1	2.0	7.8	8	8.2	10	2.5	9	25	160	5	1000	0.5	0.95Vo		
KIA78D09PI	○	35	1	2.0	8.78	9	9.22	15	2.5	10	25	180	5	1000	0.5	0.95Vo		
KIA78D10PI	○	35	1	2.0	9.75	10	10.25	16	2.5	11	26	200	5	1000	0.5	0.95Vo		
KIA78D12PI	○	35	1	2.0	11.7	12	12.3	18	2.5	13	29	240	5	1000	0.5	0.95Vo		
KIA78D15PI	○	35	1	2.0	14.7	15	15.3	21	2.5	16	32	300	5	1000	0.5	0.95Vo		

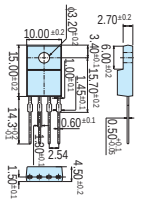
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 1A 4-Terminal Low Dropout Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (%)			Reg Load (%)			Dropout Voltage V_D (V)		Package	Outline (Unit: mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT}		(Ta=25℃)	V_{IN} (V)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA78R00PI	○	35	1	1.5	1.26	1.29	1.32	15	2.5	11	28	2	5	1	0.5	0.95Vo	TO-220IS-4	
KIA78R25PI	○	35	1	1.5	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	1	0.5	0.95Vo		
KIA78R33PI	○	35	1	1.5	3.22	3.3	3.38	5	2.5	4	10	2	5	1	0.5	0.95Vo		
KIA78R05PI	○	35	1	1.5	4.88	5	5.12	7	2.5	6	12	2	5	1	0.5	0.95Vo		
KIA78R06PI	○	35	1	1.5	5.85	6	6.15	8	2.5	7	15	2	5	1	0.5	0.95Vo		
KIA78R08PI	○	35	1	1.5	7.8	8	8.2	10	2.5	9	25	2	5	1	0.5	0.95Vo		
KIA78R09PI	○	35	1	1.5	8.78	9	9.22	15	2.5	10	25	2	5	1	0.5	0.95Vo		
KIA78R10PI	○	35	1	1.5	9.75	10	10.25	16	2.5	11	26	2	5	1	0.5	0.95Vo		
KIA78R12PI	○	35	1	1.5	11.7	12	12.3	18	2.5	13	29	2	5	1	0.5	0.95Vo		
KIA78R15PI	○	35	1	1.5	14.7	15	15.3	21	2.5	16	32	2	5	1	0.5	0.95Vo		

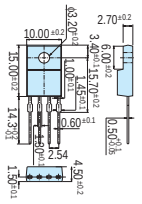
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 2A 4-Terminal Low Dropout Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (%)			Reg Load (%)			Dropout Voltage V_D (V)		Package	Outline (Unit: mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT}		(Ta=25℃)	V_{IN} (V)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA278R00PI	○	35	2	1.5	1.26	1.29	1.32	15	2.5	11	28	2	5	2	0.5	0.95Vo	TO-220IS-4	
KIA278R25PI	○	35	2	1.5	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	2	0.5	0.95Vo		
KIA278R33PI	○	35	2	1.5	3.22	3.3	3.38	5	2.5	4	10	2	5	2	0.5	0.95Vo		
KIA278R05PI	○	35	2	1.5	4.88	5	5.12	7	2.5	6	12	2	5	2	0.5	0.95Vo		
KIA278R06PI	○	35	2	1.5	5.85	6	6.15	8	2.5	7	15	2	5	2	0.5	0.95Vo		
KIA278R08PI	○	35	2	1.5	7.8	8	8.2	10	2.5	9	25	2	5	2	0.5	0.95Vo		
KIA278R09PI	○	35	2	1.5	8.78	9	9.22	15	2.5	10	25	2	5	2	0.5	0.95Vo		
KIA278R10PI	○	35	2	1.5	9.75	10	10.25	16	2.5	11	26	2	5	2	0.5	0.95Vo		
KIA278R12PI	○	35	2	1.5	11.7	12	12.3	18	2.5	13	29	2	5	2	0.5	0.95Vo		
KIA278R15PI	○	35	2	1.5	14.7	15	15.3	21	2.5	16	32	2	5	2	0.5	0.95Vo		

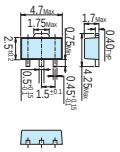
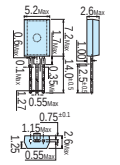
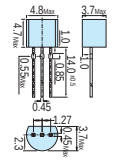
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 3A 4-Terminal Low Dropout Voltage Regulator (On/Off Controllable)

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (%)			Reg Load (%)			Dropout Voltage V_D (V)		Package	Outline (Unit: mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT}		(Ta=25℃)	V_{IN} (V)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Max.			
KIA378R00PI	○	35	3	1.5	1.26	1.29	1.32	15	2.5	11	28	2	5	3	0.5	0.95Vo	TO-220IS-4	
KIA378R25PI	○	35	3	1.5	2.438	2.5	2.562	4.2	2.5	3.2	10	2	5	3	0.5	0.95Vo		
KIA378R33PI	○	35	3	1.5	3.22	3.3	3.38	5	2.5	4	10	2	5	3	0.5	0.95Vo		
KIA378R05PI	○	35	3	1.5	4.88	5	5.12	7	2.5	6	12	2	5	3	0.5	0.95Vo		
KIA378R06PI	○	35	3	1.5	5.85	6	6.15	8	2.5	7	15	2	5	3	0.5	0.95Vo		
KIA378R08PI	○	35	3	1.5	7.8	8	8.2	10	2.5	9	25	2	5	3	0.5	0.95Vo		
KIA378R09PI	○	35	3	1.5	8.78	9	9.22	15	2.5	10	25	2	5	3	0.5	0.95Vo		
KIA378R10PI	○	35	3	1.5	9.75	10	10.25	16	2.5	11	26	2	5	3	0.5	0.95Vo		
KIA378R12PI	○	35	3	1.5	11.7	12	12.3	18	2.5	13	29	2	5	3	0.5	0.95Vo		
KIA378R15PI	○	35	3	1.5	14.7	15	15.3	21	2.5	16	32	2	5	3	0.5	0.95Vo		

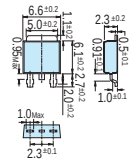
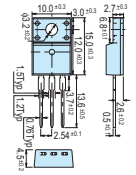
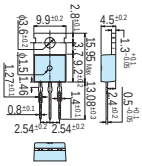
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ 0.15A 3-Terminal Voltage Regulator (Negative)

Type No.	Mark	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (mV)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
			V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT} (mA)		(Ta=25℃)	I_{OUT} (mA)		
						Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.	Max.	Typ.			
KIA79L05F	9A	○	-35	0.15	500	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	SOT-89	
KIA79L06F	9B	○	-35	0.15	500	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40		
KIA79L08F	9C	○	-35	0.15	500	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40		
KIA79L09F	9D	○	-35	0.15	500	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40		
KIA79L10F	9E	○	-35	0.15	500	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40		
KIA79L12F	9F	○	-35	0.15	500	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40		
KIA79L05BP	-	◑	-35	0.15	800	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	TO-92L	
KIA79L06BP	-	◑	-35	0.15	800	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40		
KIA79L08BP	-	◑	-35	0.15	800	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40		
KIA79L09BP	-	◑	-35	0.15	800	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40		
KIA79L10BP	-	◑	-35	0.15	800	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40		
KIA79L12BP	-	◑	-35	0.15	800	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40		
KIA79S05P	-	◑	-35	0.15	600	-5.2	-5	-4.8	-10	150	-20	-7	60	1	100	1.7	40	TO-92	
KIA79S06P	-	◑	-35	0.15	600	-6.24	-6	-5.76	-11	150	-21	-8.1	70	1	100	1.7	40		
KIA79S08P	-	◑	-35	0.15	600	-8.3	-8	-7.7	-14	175	-23	-10.5	80	1	100	1.7	40		
KIA79S09P	-	◑	-35	0.15	600	-9.36	-9	-8.64	-15	200	-24	-11.4	90	1	100	1.7	40		
KIA79S10P	-	◑	-35	0.15	600	-10.4	-10	-9.6	-16	230	-25	-12.5	90	1	100	1.7	40		
KIA79S12P	-	◑	-35	0.15	600	-12.5	-12	-11.5	-19	250	-27	-14.5	100	1	100	1.7	40		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

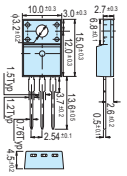
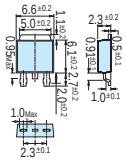
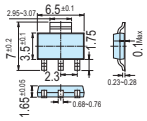
▣ 1A 3-Terminal Voltage Regulator (Negative)

Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (mV)			Reg Load (mV)			Dropout Voltage V_D (V)		Package	Outline (Unit: mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT} (mA)		(Ta=25℃)	I_{OUT} (A)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA7905F	○	-35	1	1.3	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1.5	2	1	DPAK	
KIA7906F	○	-35	1	1.3	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1		
KIA7907F	○	-35	1	1.3	-7.28	-7.0	-6.72	-12	70	-15	-10	140	5	1.5	2	1		
KIA7908F	○	-35	1	1.3	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1.5	2	1		
KIA7909F	○	-35	1	1.3	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1.5	2	1		
KIA7910F	○	-35	1	1.3	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1.5	2	1		
KIA7912F	○	-35	1	1.3	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1.5	2	1		
KIA7915F	○	-35	1	1.3	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1.5	2	1		
KIA7918F	○	-40	1	1.3	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1.5	2	1		
KIA7920F	○	-40	1	1.3	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1.5	2	1		
KIA7924F	○	-40	1	1.3	-25	-24	-23	-33	240	-36	-30	480	5	1.5	2	1		
KIA7905PI	○	-35	1	2.0	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1.5	2	1	TO-220IS	
KIA7906PI	○	-35	1	2.0	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1		
KIA7907PI	○	-35	1	2.0	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1		
KIA7908PI	○	-35	1	2.0	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1.5	2	1		
KIA7909PI	○	-35	1	2.0	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1.5	2	1		
KIA7910PI	○	-35	1	2.0	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1.5	2	1		
KIA7912PI	○	-35	1	2.0	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1.5	2	1		
KIA7915PI	○	-35	1	2.0	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1.5	2	1		
KIA7918PI	○	-40	1	2.0	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1.5	2	1		
KIA7920PI	○	-40	1	2.0	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1.5	2	1		
KIA7924PI	○	-40	1	2.0	-25	-24	-23	-33	240	-36	-30	480	5	1.5	2	1		
*KIA7905P	◑	-35	1	1.9	-5.2	-5	-4.8	-10	50	-12	-8	100	5	1.5	2	1	TO-220AB	
*KIA7906P	◑	-35	1	1.9	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1		
*KIA7907P	◑	-35	1	1.9	-6.25	-6	-5.75	-11	60	-13	-9	120	5	1.5	2	1		
*KIA7908P	◑	-35	1	1.9	-8.3	-8	-7.7	-14	80	-17	-11	160	5	1.5	2	1		
*KIA7909P	◑	-35	1	1.9	-9.3	-9	-8.7	-15	90	-19	-13	150	5	1.5	2	1		
*KIA7910P	◑	-35	1	1.9	-10.4	-10	-9.6	-16	100	-20	-14	180	5	1.5	2	1		
*KIA7912P	◑	-35	1	1.9	-12.5	-12	-11.5	-18	120	-22	-16	240	5	1.5	2	1		
*KIA7915P	◑	-35	1	1.9	-15.6	-15	-14.4	-23	150	-26	-20	300	5	1.5	2	1		
*KIA7918P	◑	-40	1	1.9	-18.7	-18	-17.3	-27	180	-30	-24	360	5	1.5	2	1		
*KIA7920P	◑	-40	1	1.9	-20.8	-20	-19.2	-30	180	-32	-26	360	5	1.5	2	1		
*KIA7924P	◑	-40	1	1.9	-25	-24	-23	-33	240	-36	-30	480	5	1.5	2	1		

Note) * : Under development

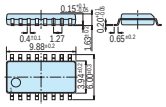
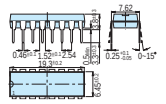
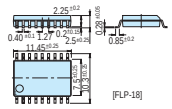
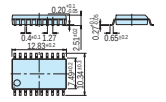
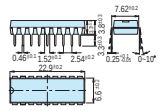
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

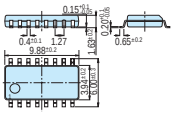
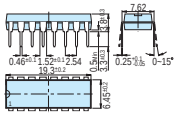
▣ 1A 3-Terminal Low Dropout Voltage Regulator (Quasi-LDO Type)

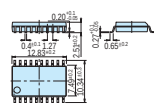
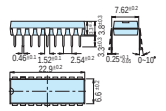
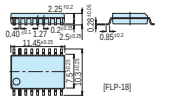
Type No.	AEC-Q	Max. Ratings			Output Voltage V_{OUT}(V)				Reg Line (mV)			Reg Load (%)			Dropout Voltage V_D (V)		Package	Outline (Unit : mm)
		V_{IN} (V)	I_O (A)	P_D (W) (Ta=25℃)	(Ta=25℃)			V_{IN} (V)	(Ta=25℃)	V_{IN} (V)		(Ta=25℃)	I_{OUT}		(Ta=25℃)	V_{IN} (V)		
					Min.	Typ.	Max.		Max.	Min.	Max.	Max.	Min.(mA)	Max.(A)	Typ.			
KIA1117BPI00	○	15	1	2.0	1.225	1.25	1.275	2.75	10	2.75	10	1	10	1	1.1	0.95Vo	TO-220IS	
KIA1117BPI12	○	15	1	2.0	1.176	1.2	1.224	2.7	10	2.7	10	1	10	1	1.1	0.95Vo		
KIA1117BPI15	○	15	1	2.0	1.47	1.5	1.53	3	10	3	10	1	10	1	1.1	0.95Vo		
KIA1117BPI18	○	15	1	2.0	1.764	1.8	1.836	3.3	10	3.3	10	1	10	1	1.1	0.95Vo		
KIA1117BPI25	○	15	1	2.0	2.45	2.5	2.55	4	10	4	10	1	10	1	1.1	0.95Vo		
KIA1117BPI33	○	15	1	2.0	3.234	3.3	3.366	4.8	10	4.8	10	1	10	1	1.1	0.95Vo		
KIA1117BPI50	○	15	1	2.0	4.9	5	5.1	6.5	10	6.5	10	1	10	1	1.1	0.95Vo		
KIA1117BF00	○	15	1	1.3	1.225	1.25	1.275	2.75	10	2.75	10	1	10	1	1.1	0.95Vo	DPAK	
KIA1117BF12	○	15	1	1.3	1.176	1.2	1.224	2.7	10	2.7	10	1	10	1	1.1	0.95Vo		
KIA1117BF15	○	15	1	1.3	1.47	1.5	1.53	3	10	3	10	1	10	1	1.1	0.95Vo		
KIA1117BF18	○	15	1	1.3	1.764	1.8	1.836	3.3	10	3.3	10	1	10	1	1.1	0.95Vo		
KIA1117BF25	○	15	1	1.3	2.45	2.5	2.55	4	10	4	10	1	10	1	1.1	0.95Vo		
KIA1117BF33	○	15	1	1.3	3.234	3.3	3.366	4.8	10	4.8	10	1	10	1	1.1	0.95Vo		
KIA1117BF50	○	15	1	1.3	4.9	5	5.1	6.5	10	6.5	10	1	10	1	1.1	0.95Vo		
KIA1117BS00	◑	15	1	1.0	1.225	1.25	1.275	2.75	10	2.75	10	1	10	1	1.1	0.95Vo	SOT-223(3)	
KIA1117BS12	◑	15	1	1.0	1.176	1.2	1.224	2.7	10	2.7	10	1	10	1	1.1	0.95Vo		
KIA1117BS15	◑	15	1	1.0	1.47	1.5	1.53	3	10	3	10	1	10	1	1.1	0.95Vo		
KIA1117BS18	◑	15	1	1.0	1.764	1.8	1.836	3.3	10	3.3	10	1	10	1	1.1	0.95Vo		
KIA1117BS25	◑	15	1	1.0	2.45	2.5	2.55	4	10	4	10	1	10	1	1.1	0.95Vo		
KIA1117BS33	◑	15	1	1.0	3.234	3.3	3.366	4.8	10	4.8	10	1	10	1	1.1	0.95Vo		
KIA1117BS50	◑	15	1	1.0	4.9	5	5.1	6.5	10	6.5	10	1	10	1	1.1	0.95Vo		

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Transistor Array & Interface Driver IC

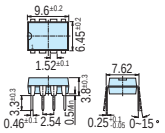
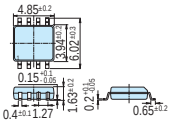
Type No.	AEC-Q	Function	Unit	Clamp Diode	V_{CE} (sas)	I_{OUT} (mA/ch)	Package	Outline (Unit : mm)
KID65001AF	○	Darlington Driver	7	●	50	500	FLP-16	
KID65002AF	○	Darlington Driver	7	●	50	500		
KID65003AF	○	Darlington Driver	7	●	50	500		
KID65004AF	○	Darlington Driver	7	●	50	500		
KID65001AP	◑	Darlington Driver	7	●	50	500	DIP-16	
KID65002AP	◑	Darlington Driver	7	●	50	500		
KID65003AP	◑	Darlington Driver	7	●	50	500		
KID65004AP	◑	Darlington Driver	7	●	50	500		
KID65083BF	◑	Darlington Driver	8	●	50	500	FLP-18	
KID65083AF	◑	Darlington Driver	8	●	50	500	FLP-20	
KID65084AF	◑	Darlington Driver	8	●	50	500		
KID65083AP	○	Darlington Driver	8	●	50	500	DIP-18(1)	
KID65084AP	○	Darlington Driver	8	●	50	500		

Type No.	AEC-Q	Function	Unit	Clamp Diode	V_{CEO}(V)	I_C (mA)	Package	Outline (Unit : mm)
KID65501F	◑	Single Driver (Common Emitter)	7		35	200	FLP-16	
KID65502F	◑	Single Driver (Common Emitter)	7		35	200		
KID65503F	◑	Single Driver (Common Emitter)	7		35	200		
KID65504F	◑	Single Driver (Common Emitter)	7		35	200		
KID65505F	◑	Single Driver (Common Collector)	7		35	200		
KID65506F	◑	Single Driver (Common Collector)	7		35	200		
KID65507F	◑	Single Driver (Isolated)	5		35	200		
KID65501P	◑	Single Driver (Common Emitter)	7		35	200	DIP-16	
KID65502P	◑	Single Driver (Common Emitter)	7		35	200		
KID65503P	◑	Single Driver (Common Emitter)	7		35	200		
KID65504P	◑	Single Driver (Common Emitter)	7		35	200		
KID65505P	◑	Single Driver (Common Collector)	7		35	200		
KID65506P	◑	Single Driver (Common Collector)	7		35	200		
KID65507P	◑	Single Driver (Isolated)	5		35	200		

Type No.	AEC-Q	Function	Unit	Clamp Diode	V_{CC} (V)	I_{OUT} (mA/ch)	Package	Outline (Unit : mm)
KID65783AF	○	High Voltage Source Driver	8	●	50	-500	FLP-20	
KID65783AP	○	High Voltage Source Driver	8	●	50	-500	DIP-18(1)	
KID65783BF	◑	High Voltage Source Driver	8	●	50	-500	FLP-18	

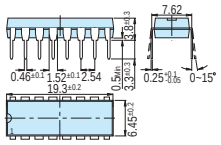
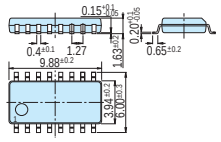
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Switching Regulator IC (DC/DC Converter)

Type No.	AEC-Q	Max Ratings		Threshold Voltage V_{TH} (V)	Frequency f_{osc} (kHz)	Package	Outline (Unit : mm)
		V_{CC}(V)	I_{SW} (A)				
KIA34063A	◑	40	1.5	1.25	33	DIP-8	
KIA34063AF	○	40	1.5	1.25	33	FLP-8	

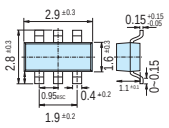
Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ Power Supply Controller

Type No.	AEC-Q	Topology	Function	Control Mode	V_{IN} (Max.) (V)	Duty Cycle (Max.) (%)	Frequency (Max.) (kHz)	Package	Outline (Unit : mm)
KIA494AP	◑	Buck, Boost, Fly-back, Forward, Half-bridge, Full-bridge, Push-Pull	Standard PWM Controller	Voltage	40	45 ↑	300	DIP-16	
KIA494AF	◑	Buck, Boost, Fly-back, Forward, Half-bridge, Full-bridge, Push-Pull	Standard PWM Controller	Voltage	40	45 ↑	300	FLP-16	

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

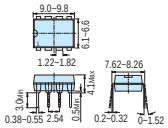
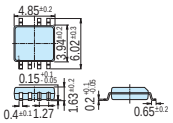
▣ AC/DC Control IC

Type No.	AEC-Q	Topology	Function	Control Mode	V_{IN} (Max.) (V)	Duty Cycle (Max.) (%)	Frequency (Max.) (kHz)	Startup Current (uA)	UVLO Threshold on/off(V)	Protection	Package	Outline (Unit : mm)
KIC3926S	◑	Fly-back, SSR	Quasi-Resonant PWM Controller	Current	30	80	69	3	15.5 7.5	VDD OVP Output OVP OCP OTP	SOT23-6L(1)	

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

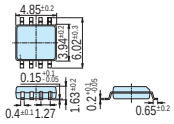
▣ AC/DC Control IC with MOSFET

Type No.	AEC-Q	Topology	Function	Control Mode	BV_{DSS} (V)	I_D (A)	V_{IN} (Max.)	Duty Cycle (Max.)(%)	Frequency (Max.) (kHz)	Startup Current (uA)	UVLO Threshold on/off (V)	Protection	Package	Outline (Unit : mm)
KIC3801P	◑	Fly-back, SSR	PFM PWM	Current	650	1	28	77	67	3	15.5 8.3	OVP OLP OCP OTP	DIP-8(2)	
KIC3802P	◑	Fly-back, SSR	PFM PWM	Current	650	2.5	28	77	67	3	15.5 8.3	OVP OLP OCP OTP		
KIC3803P	◑	Fly-back, SSR	PFM PWM	Current	650	7	28	77	67	3	16.5 8.5	OVP OLP OCP OTP		
KIC3821F	◑	Fly-back, PSR	PFM	Current	600	2	27	50	-	1.5	17.8 8.8	OVP OLP OTP	FLP-7	
KIC3822F	◑	Fly-back, PSR	PFM	Current	600	4	27	50	-	1.5	17.8 8.8	OVP OLP OTP		

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

▣ LED Driver IC

Type No.	AEC-Q	Topology	Function	Control Mode	V_{IN} (Max.)	Current Accuracy (%)	Efficiency (%)	Protection	Package	Outline (Unit : mm)
KIC3522F	◑	Fly-back, PSR	Isolated PFC	Current	23	±2.5	90	Open/Short LED Protection	FLP-8	

Note) * : Under development

Note) ○ : AEC-Q Completion, ◑ : AEC-Q Underdevelopment

Type No.	Maker	KEC	Type No.	Maker	KEC	Type No.	Maker	KEC
Voltage Regulator			**LM78L12**	Fairchild	KIA78L12BP	**S-1172B33**	Seiko	KIC3241S33
78L05A	ESTEK	KIA78S05P	**LM78L15ACZ/D75Z**	N/S	KIA78S15P	**Quasi LDO**		
A278R33PIC	A/I	KIA278R33PI	**LM7905**	Fairchild	KIA7905PI	**A1117-1.8**	A/I	KIA1117DS18
A7805~24	NEC	KIA7805~24API	**LM7905CT**	Fairchild	KIA7905PI	**A1117-2.5**	A/I	KIA1117DS25
A78R05PIC	NEC	KIA78R05PI	**MC7805**	Fairchild	KIA7805API	**A1117-3.3**	A/I	KIA1117DS33
AN7805~24	Panasonic	KIA7805~24API	**MC7805~24CT**	ON Semi	KIA7805~24API	**AP1117EL-13**	Diodes Inc	KIA1117DS00
AN78L05~24	Panasonic	KIA78S05-24P	**MC7805ACTG**	ON Semi	KIA7805API	**AZ1117BH-1.8TR-E1**	BCD	KIA1117DS18
AS7809DTRE1	BCD	KIA7809AF	**MC7805BDTRKG**	ON Semi	KIA7805AF	**AZ1117BH-ADJTR-E1**	BCD	KIA1117DS00
AS78L05RTR-E1	BCD	KIA78L05F	**MC7805CTG**	ON Semi	KIA7805API	**AZ1117D-1.5E**	BCD	KIA1117DF15
AS78L15RTR-E1	BCD	KIA78L05F	**MC7812CTG**	ON Semi	KIA7812API	**AZ1117H-****	BCD	KIA1117DS**
AZ7805D-E1	BCD	KIA7805AF	**MC78L05~24AC/C**	ON Semi	KIA78S05~24P	**AZ1117R-****	Diodes	KIA1117DS**
AZ7808D-E1	BCD	KIA7808AF	**MC78L05ACPRAG**	ON Semi	KIA78S05P	**LD1117ASTR**	STM	KIA1117DS**
AZ7809D-E1	BCD	KIA7809AF	**MC78L24ACPG**	ON Semi	KIA78S24P	**LD1117AS12TR**	STM	KIA1117DS**
BA178FP/T**	Rohm	KIA78**AF/API	**MC78M05BDTRKG**	ON Semi	KIA78M05F	**LD1117AS18TR**	STM	KIA1117DS**
BA17805FP-E2	Rohm	KIA7805AF	**MC78M05BTG**	ON Semi	KIA78M05PI	**LD1117AS33TR**	STM	KIA1117DS**
BA17805T-F	Rohm	KIA7805API	**MC78M05CDTRKG**	ON Semi	KIA78M05F	**LM1117IMP****	TI	KIA1117DS**
BA178MFP/T**	Rohm	KIA78M**F/PI	**MC78M12BDTRKG**	ON Semi	KIA78M05PI	**NCP1117ST****	ON-Semi	KIA1117DS**
BA178M05FP	Rohm	KIA78M05F	**MC7905BT**	ON Semi	KIA7905PI	**AZ1117S****	Diodes	KIA1117BF**
BA178M05T/FP	Rohm	KIA78M05PI/F	**MC7905CT**	ON Semi	KIA7905PI	**AZ1117D****	BCD	KIA1117BF**
BA178M12FP	Rohm	KIA78M12F	**NJM78xxDLA**	NJRC	KIA78**AF	**LD1117ADT**TR**	STM	KIA1117BF**
BA178M15T/FP	Rohm	KIA78M15PI/F	**PC78050~24A**	NEC	KIA78**API	**LM1117DT****	TI	KIA1117BF**
BA7805CP	Rohm	KIA7805API	**PC78L05~15J**	NEC	KIA78L05~15F	**NCP1117DT****	ON-Semi	KIA1117BF**
BA7805FP	Rohm	KIA7805AF	**PC78M05~24A**	NEC	KIA78M05~24PI	**AZ1117T****	Diodes	KIA1117BPI**
BA7806CP	Rohm	KIA7806API	**PQ**RF11**	Sharp	KIA78R**PI	**AZ1117T****	BCD	KIA1117BPI**
BA7806FP	Rohm	KIA7806AF	**PQ**RF21**	Sharp	KIA278R**PI	**LD1117AV33**	STM	KIA1117BPI**
BA7807CP	Rohm	KIA7807API	**PQ*RF33**	Sharp	KIA378R**PI	**Voltage Dectector**		
BA7807FP	Rohm	KIA7807AF	**PQ050RDC1SZF**	Sharp	KIA78R05PI	**APX809-**SA**	Diodes	KIC71**M/P/T5
BA7808CP	Rohm	KIA7808API	**PQ05RD21**	Sharp	KIA278R05PI	**APX803-**SA**	Diodes	KIC75**/M/P/T5
BA7808FP	Rohm	KIA7808AF	**PQ30RV21**	Sharp	KIA278R00PI	**AZ70**R**	Diodes	KIA70**AF/AP/AT
BA7809CP	Rohm	KIA7809API	**PQ30RV31**	Sharp	KIA378R00PI	**AZ70**R**	BCD	KIA70**AF/AP/AT
BA7809FP	Rohm	KIA7809AF	**PQ30RV31J00H**	Sharp	KIA378R00PI	**AZ809BN***	BCD	KIC71**M/P/T5
BA7810CP	Rohm	KIA7810API	**PQ3RD23**	Sharp	KIA278R33PI	**AZ809BN****	BCD	KIC77A~E**M/M2
BA7810FP	Rohm	KIA7810AF	**PQ3RF23**	Sharp	KIA278R33PI	**AZ809N****	BCD	KIC73A~E**M/M2
BA7812CP	Rohm	KIA7812API	**TA58L12S**	Toshiba	KIA78DL12PI	**BD48K**G**	Rohm	KIC75**M/P/T5
BA7812FP	Rohm	KIA7812AF	**TA7805~24S/SB**	Toshiba	KIA7805~24API	**BD52**G**	Rohm	KIC76**T5
BA7815CP	Rohm	KIA7818API	**TA78DL05~15S**	Toshiba	KIA78DL05~15PI	**BU43**G**	Rohm	KIC72**T5
BA7815FP	Rohm	KIA7815AF	**TA78DLxxAF**	Toshiba	KIA78DL**F	**BU45K/L***G**	Rohm	KIC77A~E**M/M2
BA7818CP	Rohm	KIA7818API	**TA78L005~24AP/F**	Toshiba	KIA78L05~24BP/F	**BU46K/L***G**	Rohm	KIC73A~E**M/M2
BA7818FP	Rohm	KIA7818AF	**TA78L05~24S**	Toshiba	KIA78S05~24P	**BU49**G**	Rohm	KIC71**M/P/T5
BA7820CP	Rohm	KIA7820API	**TA78L05S**	Toshiba	KIA78S05P	**CAT803*****	ON-Semi	KIC77A~E**M/M2
BA7820FP	Rohm	KIA7820AF	**TA78L10F**	Toshiba	KIA78L10F	**KA75330Z**	FKS	KIA70**AF/AP/AT
BA7824CP	Rohm	KIA7824API	**TA78L15F**	Toshiba	KIA78L15F	**MAX809*****	ON-Semi	KIC73A~E**M/M2
BA7824FP	Rohm	KIA7824AF	**TA78L24F**	Toshiba	KIA78L24F	**NCP300xSN**T1**	ON-Semi	KIC71**M/P/T5
BA78M05CP	Rohm	KIA78M05PI	**TA78M05~24S/SB**	Toshiba	KIA78M05~24PI	**NCP301*SN**T1**	ON-Semi	KIC75**M/P/T5
BA78M05FP	Rohm	KIA78M05F	**TA78xxF**	Toshiba	KIA78**AF	**NCP302*SN**T1**	ON-Semi	KIC72**T5
BA78M08CP	Rohm	KIA78M08PI	**TA79005~24S/SB**	Toshiba	KIA7905~24PI	**NCP303LSN**T1**	ON-Semi	KIC76**T5
BA78M08FP	Rohm	KIA78M08F	**TA79L05~24P/F**	Toshiba	KIA79L05~24BP/F	**PST523**	Mitsmi	KIA7019～45AP/AF
BA78M12CP	Rohm	KIA78M12PI	**UPC2405AHF-AZ**	NEC	KIA7805API	**STM1001**WX**	STM	KIC77A~E**M/M2
BA78M12FP	Rohm	KIA78M12F	**UPC24M05AHF-AZ**	NEC	KIA78M05PI	**STM1061N**WX**	STM	KIC75**M/P/T5
BA78M15CP	Rohm	KIA78M15PI	**UPC24M12AHF-AZ**	NEC	KIA78M12PI	**STM809*WX**	STM	KIC73A~E**M/M2
BA78M15FP	Rohm	KIA78M15F	**UPC7808AHF-AZ**	NEC	KIA7808API	**TLV803*DBZ**	TI	KIC77A~E**M/M2
KA278R**	Fairchild	KIA278R**PI	**UPC7815AHF-AZ**	NEC	KIA7815API	**TPS3839A**DBZ**	TI	KIC73A~E**M/M2
KA278R12CTU	Fairchild	KIA278R12PI	**UPC78L05T-E1-AZ**	NEC	KIA78L05F	**Voltage Stabilizer**		
KA278R12CYDTU	Fairchild	KIA278R12PI	**UPC79M05HF-AZ**	NEC	KIA78M05PI	**A431**	NEC	KIA431/F/A/AF
KA378R**	Fairchild	KIA378R**PI	**CMOS LDO Regulator**			**AS431AN**	BCD	KIA431BM
KA7812	Fairchild	KIA7812API	**AB2120N*.***	Diodes	KIC3213T**	**AS431LAN/AMI**	Alpha	KIA431BP/BF
KA78R**	Fairchild	KIA78R**PI	**AB2120N*.***	BCD	KIC3213T**	**AS431AZ/AR/AN**	BCD	KIA431B/BF/BM
ICTL78M05CDT	STM	KIA78M05F	**AP2115R5-****	Diodes	KIC3241S**	**AS431BZ/BR/BN**	BCD	KIA43A/AF/AM
L7805ACV	STM	KIA7805API	**AP2115R5-****	BCD	KIC3241S**	**FAN431LZXA**	Fairchild	KIA431B
L7812ACV	STM	KIA7812API	**BU**TD3WG**	BCD	KIC3213T**	**KA431AZTA**	Fairchild	KIA431A
L78L05ACU-TR	STM	KIA78L05F	**CAT6217-***TD**	ON Semi	KIC3213T**	**KA431LZ**	Fairchild	KIA431B
L78L08ACUTR	STM	KIA78L08F	**FAN2558S**	FKS	KIC3213T**	**LM336**	N/S	KIA431/F/A/AF
L78L09ACUTR	STM	KIA78L09F	**LD39015M**R**	STM	KIC3213T**	**LM431AIZ**	FKS	KIA431/F/M
L78L15ABUTR	STM	KIA78L15F	**LP3985IM5-****	TI	KIC3213T**	**LM431BIZ**	FKS	KIA431A/AF/AM
L78L15ACU	STM	KIA78L15F	**NHJ2750F****	NJRC	KIC3213T**	**LM431CIM**	FKS	KIA431B/BF/BM
L78M05ABDT	STM	KIA78M05F	**NJM2842U2-****	NJRC	KIC3241S**	**MM1431AT**	Mitsumi	KIA431A
L78M05CDT	STM	KIA78M05F	**S-1172B10**	Seiko	KIC3241S10	**NJM2373AU**	NJRC	KIA2431AP/AM
L78M15ABV	STM	KIA78M15PI	**S-1172B12**	Seiko	KIC3241S12	**NJM2373U**	NJRC	KIA2431P
L78M00T	Sanyo	KIA78M00PI	**S-1172B15**	Seiko	KIC3241S15	**NJM1431AU**	NJRC	KIA431F
LM340	ON Semi	KIA7812API	**S-1172B18**	Seiko	KIC3241S18	**NJM431L/U**	NJRC	KIA431/F/A/AF
LM78L05ACZ	Fairchild	KIA78S05P	**S-1172B25**	Seiko	KIC3241S25	**PC1093J/T**	NEC	KIA431/F/A/AF

Type No.	Maker	KEC
RC431AM/AT	Fairchild	KIA2431AP
SCV431ASN1	ON Semi	KIA2431P
SL431A-AT	AUK	KIA431A
SN431A	AUK	KIA431A
TA76431AS	Toshiba	KIA431A
TA76431S	Toshiba	KIA431
TA76431S/F	Toshiba	KIA431/F
TA76432FC/S	Toshiba	KIA431AT/AP
TL431	ON Semi	KIA431/F/A/AF
TL431	TI	KIA431/F/A/AF
TL431ACLPRAG	ON Semi	KIA431A
TL431ACZT	STM	KIA431A
TL431ASA	Diodes	KIA431A/AF/AM
TL431AILP	ON Semi	KIA431A/AF/AM
TL431AILP/PK/DBZ	TI	KIA431A/AF/AM
TL431AIZ/AIL3T	STM	KIA431A/AF/AM
TL431BILP/PK/DBZ	TI	KIA431B/BF/BM
TL431BSA	Diodes	KIA431B/BF/BM
TL431ILP	ON Semi	KIA431/F/M
TL431LP/IPK/IDBZ	TI	KIA431/F/M
TL431IA/IL3T	STM	KIA431/F/M
TL431AIDBZR	TI	KIA431AM
TL431AILPRAG	ON Semi	KIA431A
TL431AILPRPG	ON Semi	KIA431A
TL431B	TI	KIA431B
TLBILP	ON Semi	KIA431B/BF/BM
TL431CLP	Fairchild	KIA431
TL431CZ	STM	KIA431
TL431IZT	STM	KIA431
TLV431A	ON Semi	KIA2431AP
TLVH431AILP/DBZ	TI	KIA2431AP
TLV431ALP	ON Semi	KIA2431AP
TLH431ILP/IDBZ	TI	KIA2431P
TS2431AILT	STM	KIA431AM
TS4321ILT	STM	KIA2431AS
TS432ILT	STM	KIA2431AP
Comparator		
BA10339/F	Rohm	KIA339P/F
BA10339F-E2	Rohm	KIA339F
BA10393/F/N	Rohm	KIA393P/F
BA10393F	Rohm	KIA393F
BA2903FV-E2	Rohm	KIA339F
KA393	Fairchild	KIA393P
LM239D	STM	KIA339F
LM239DT	STM	KIA339F
LM2901D	ON Semi	KIA339F
LM2901M	Fairchild	KIA339F
LM2903D	ON Semi	KIA393F
LM2903MX T/R	NSC	KIA393F
LM339/N	N/S	KIA339P/F
LM339D	ON Semi	KIA339F
LM339MX	N/S	KIA339F
LM393	ON Semi	KIA393F
LM393/N	N/S	KIA393P/F
LM393DR2G	ON Semi	KIA339F
LM393DT	STM	KIA393F
LM393N	N/S	KIA393P
LM393N	ON Semi	KIA393P
MJM2901D/M	JRC	KIA339P/F
NCV2903DR2G	ON Semi	KIA393F
NJM2901N	NJRC	KIA339P
NJM2903D	NJRC	KIA393P
NJM2903D/M	JRC	KIA393P/F
NJM2903M	NJRC	KIA393F
PC339C/G	NEC	KIA393P/F
PC393C/G	NEC	KIA393P/F
TA75339P	Toshiba	KIA339P
TA75393P	Toshiba	KIA393P
UPC339C-A	NEC	KIA339P
UPC339G2-A	NEC	KIA339F
UPC393C-A	NEC	KIA393P
UPC393G2-A	NEC	KIA393F
Single Voltage Comparator		
LM397MF/NOPB	N/S	KIA75S393F
LM7219	N/S	KIA75S393F
NJM2406F	NJRC	KIA75S393F
TA75S393F	Toshiba	KIA75S393F
TA75S393F	Toshiba	KIA75S393F
TS391	STM	KIA75S393F
OP Amp		
BA10324/F	Rohm	KIA324P/F
BA10324AFV	Rohm	KIA324F
BA10358/F/N	Rohm	KIA358P/F
BA10358F	Rohm	KIA358F
BA4558/F/N	Rohm	KIA4558P/F
LM224DR2G	ON Semi	KIA324F
LM258D	TI	KIA358F
LM258DT	STM	KIA358F
LM2902DR2G	ON Semi	KIA324F
LM2904D	STM	KIA358F
LM2904DR2	ON Semi	KIA358F
LM2904DT	Rohm	KIA358F
LM324/N	ON Semi	KIA324P/F
LM324D	ON Semi	KIA324F
LM324PWR	N/S	KIA324F
UPC358G2-E1-A	NEC	KIA358F
UPC4558C-A	NEC	KIA4558P
LM358	ON Semi	KIA358P/F
LM358A	STM	KIA358F
LM358ADR2G	ON Semi	KIA358F
LM358AMX	N/S	KIA358F
LM358MX	Fairchild	KIA358F
LM358NGG	ON Semi	KIA358P
MC33078DR2G	ON Semi	KIA358F
MC33272ADR2G	ON Semi	KIA358F
MC33274ADR2G	ON Semi	KIA324F
MC4558C	ON Semi	KIA4558P/F
NJM2902D	NJRC	KIA324P/F
NJM2904D	NJRC	KIA358P
NJM2904M	NJRC	KIA358F
NJM324D	NJRC	KIA324P
NJM4558D	NJRC	KIA4558P
NJM4558D/S/M	JRC	KIA4558P/F
NJM4558M	NJRC	KIA4558F
NJM4580D-D	JRC	KIA358P
PC324C	NEC	KIA324P/F
PC4558C/G	NEC	KIA4558P/F
S4580	AUK	KIA358F
TA75558P	Toshiba	KIA4558P/F
TL074IDR	TI	KIA324F
Single Low Noise OP AMP		
NJM2125	NJRC	KIA75S358F
NJM2125F(TE1)	NJRC	KIA75S558F
NJM2130	NJRC	KIA75S558F
TA75S558F	Toshiba	KIA75S558F
TS931	STM	KIA75S558F
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MC1413BDR2G	ON Semi	KID65001AF
MC1413BDR2G	ON Semi	KID65003AF
MC1413BP/BD	ON Semi	KID65003AP/AF
MC1413PG	ON Semi	KID65003AP
PA2981C	NEC	KID65783AP
TD62001~4P/AP	Toshiba	KID65001~4AP
TD62001AFG(S,EL)	Toshiba	KID65001AF
TD62001APG(5,J,S)	Toshiba	KID65001AP
TD62003AFG(S,EL)	Toshiba	KID65003AF
TD62003APG(5,J,S)	Toshiba	KID65003AP
TD62083AP/AF	Toshiba	KID65083AP/AF
TD62084AP/AF	Toshiba	KID65084AP/AF
TD62501~7P	Toshiba	KID65501~7P
TD62503F	Toshiba	KID65503F
TD62504FG	Toshiba	KID65504F
TD62783AP/AF	Toshiba	KID65783AP/AF
ULN2001~4A	ON Semi	KID65001~4AP
ULN2001~4A/D1	STM	KID65001~4AP/AF
ULN2002A	STM	KID65002AP
ULN2003A	TI	KID65003AP
ULN2003AD	TI	KID65003AF
ULN2003AFW	Toshiba	KID65003AF
ULN2003AN	TI	KID65003AP
ULN2003D1013TR	STM	KID65003AF
ULN2004A	TI	KID65004AP/AF
ULN2004ADR	TI	KID65004AF
ULN2004D1013TR	TI	KID65004AF
ULN2803/4	ON Semi	KID65083/84AP
ULN2803AN/A	TI	KID65083AP/AF
ULQ2002~3AN/AD	TI	KID65002~3AP/AF
ULQ2004ADR	TI	KID65004AF
ULQ2803~4A	STM	KID65083~4AP/AF
DC-DC Conveter Controller		
KA34063A/AD	Fairchild	KIA34063A/AF
MC33063ADR2G	ON Semi	KIA34063AF
MC34063AP/AD	ON Semi	KIA34063A/AF
NJM22360AD/AM	NJRC	KIA34063A/AF
NJM2360AM(TE1)	NJRC	KIA34063AF
DC-DC Conveter Controller		
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TL494	ON Semi	KIA494AP/AF
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NCP380HSNAJ	ON Semi	KIC6961T

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E30A2CR	Alternator Diode	81	KDZ12EV	Zener Diode	59	KDZ9.1VV	Zener Diode	58	KIA1117BPI00	Integrated Circuit	110
E30A2CS	Alternator Diode	81	KDZ12FV	Zener Diode	57	KF10N60F	MOSFET	91	KIA1117BPI12	Integrated Circuit	110
E35A23VBR	Alternator Diode	81	KDZ12V	Zener Diode	60	KF10N60P	MOSFET	91	KIA1117BPI15	Integrated Circuit	110
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E35A23VR	Alternator Diode	81	KDZ13EV	Zener Diode	59	KF11N50F	MOSFET	90	KIA1117BPI25	Integrated Circuit	110
E35A23VS	Alternator Diode	81	KDZ13FV	Zener Diode	57	KF11N50P	MOSFET	90	KIA1117BPI33	Integrated Circuit	110
E35A27VBCRFB	Alternator Diode	81	KDZ13V	Zener Diode	60	KF12N60F	MOSFET	91	KIA1117BPI50	Integrated Circuit	110
E35A27VBCSEB	Alternator Diode	81	KDZ13VV	Zener Diode	58	KF12N60P	MOSFET	91	KIA1117BS00	Integrated Circuit	110
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E35A2CS	Alternator Diode	81	KDZ15FV	Zener Diode	57	KF13N50F	MOSFET	90	KIA1117BS15	Integrated Circuit	110
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E50A23VBS	Alternator Diode	81	KDZ15VV	Zener Diode	58	KF16N25D	MOSFET	89	KIA1117BS25	Integrated Circuit	110
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E50A23VPS	Alternator Diode	81	KDZ16FV	Zener Diode	57	KF19N20D	MOSFET	89	KIA1117BS50	Integrated Circuit	110
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