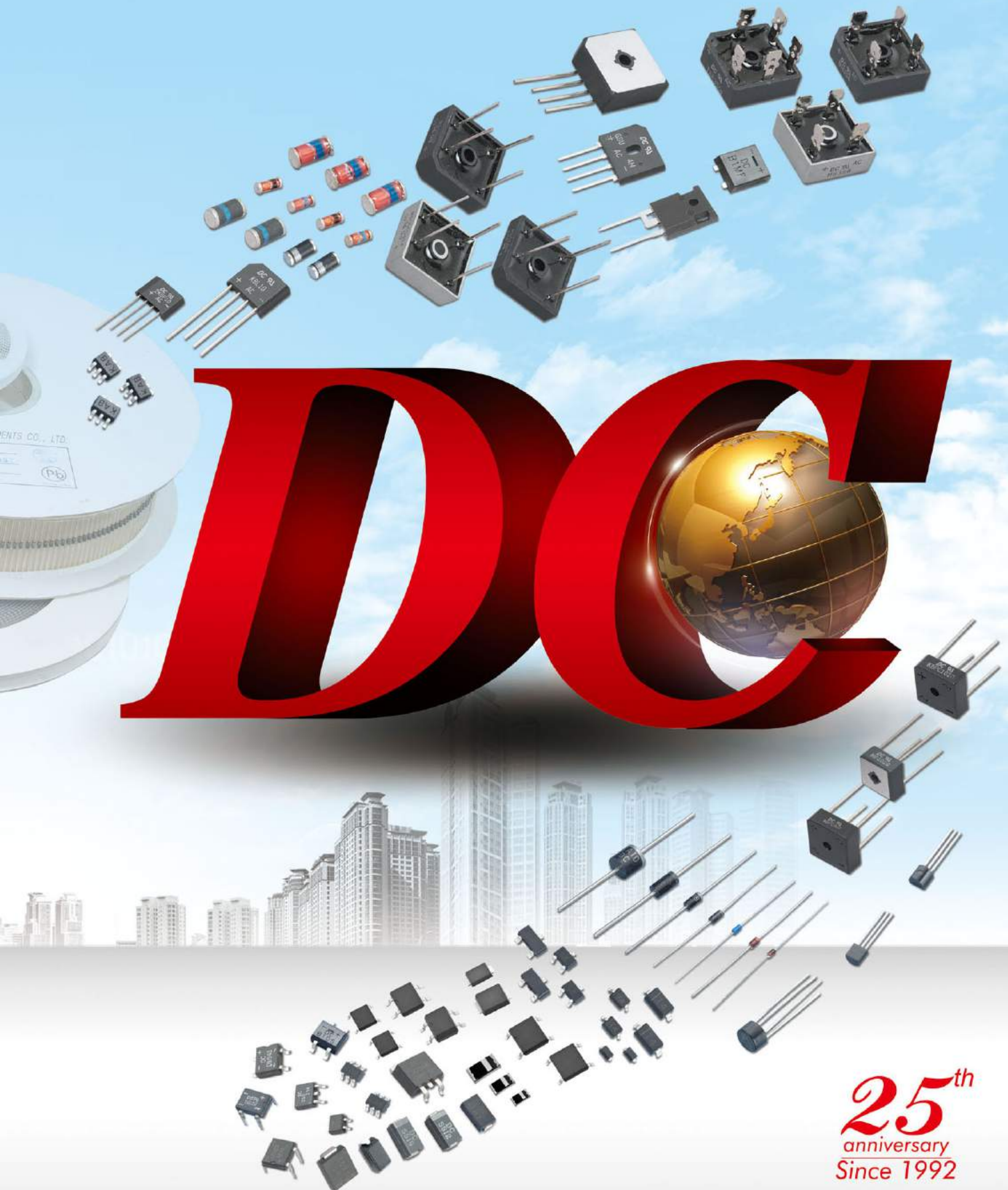




DC COMPONENTS CO., LTD.

Discrete Semiconductors Specialists



25th
anniversary
Since 1992



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The information contained in this catalogue is intended to provide typical description of the product so as to facilitate the customer's reference of the device in the application. The information presented in this document is believed to be accurate and reliable. However, no responsibility is assumed by *DC COMPONENTS* for its use.

The devices listed in this catalogue are intended for use as general electronic components in standard applications (eg: Consumer electronic, Computer equipment, Office equipment, etc.), and not recommended for use in a high specific application where a failure or malfunction of the device could result in human injury or death (eg: Aerospace equipment, Submarine cables, Combustion equipment, Safety devices, Life support systems, etc.) If customer intended to use *DC COMPONENTS* standard quality grade devices for applications not envisioned by *DC COMPONENTS*, please contact our sales representatives in advance.

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Index	Page	Package
S		
SS22 - SS220	21	SMA(DO-214AC)
SS22F - SS220F	21	SMAFL
SS22BF - SS220BF	22	SMBFL
SS32 - SS320	22	SMA(DO-214AC)
SS32F - SS320F	23	SMAFL
SS32BF - SS320BF	23	SMBFL
SS52F - SS520F	23	SMAFL
SS52BF - SS520BF	23	SMBFL
SZ1110A - SZ1330A	67	SMA(DO-214AC)

T		
TB05S - TB10S	81	ABS
TBR1500 - TBR1516	93	TBR
TBR2500 - TBR2516	93	TBR
TBR3500 - TBR3516	93	TBR

U		
UF03AFL - UF03MFL	35	SOD-123FL
UF05AFL - UF05MFL	35	SOD-123FL
UF1A - UF1M	35	SMB(DO-214AA)
UF1AFL - UF1MFL	35	SOD-123FL
UF2A - UF2M	36	SMB(DO-214AA)
UF2AFL - UF2MFL	36	SOD-123FL
UF3A - UF3M	36	SMC(DO-214AB)
UF4001 - UF4007	37	DO-41
UF5400 - UF5408	37	DO-27
UMB05F - UMB10F	78	MBF
UMB05S - UMB10S	78	MBS
US1A - US1M	35	SMA(DO-214AC)
US1AF - US1MF	35	SMAFL
US1ABF - US1MBF	35	SMBFL
US2AF - US2MF	36	SMAFL
US2ABF - US2MBF	36	SMBFL
US3AF - US3MF	36	SMAFL
US3ABF - US3MBF	36	SMBFL
UTB05F - UTB10F	78	ABF
UTB05S - UTB10S	78	ABS

W		
W005M(G) - 10M(G)	82	WOM

Schottky Barrier Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	20	30	40	50	60	Package	FIG. No.	Page
0.05	-	-	DL60P	-	-	Mini Melf(DL-35)	38	19
0.2	-	BAT42W/ BAT43W	-			SOD-123	13	
	-	BAT42WS/ BAT43WS/ BAT54WS	-			SOD-323	14	
	-	BAT54	BAS40	-		SOT-23	10	
	-	BAT54 A/C/S	BAS40- 04/05/06	-				
	-	BAT54x(W)*	BAS40-x(W)*	-		SOT-323*	11	
	-	BAS85	-			Mini Melf(DL-35)	38	
	-	LL42/LL43	-					
0.35	DLM103C	DLM103B	DLM103A	-		Micro Melf	36	
	DLQ103C	DLQ103B	DLQ103A	-		Quadro Melf	37	
	LL103C	LL103B	LL103A	-		Mini Melf(DL-35)	38	
	SD103CW	SD103BW	SD103AW	-		SOD-123	13	
	SD103CWS	SD103BWS	SD103AWS	-		SOD-323	14	
0.5	SM120M	SM130M	SM140M	SM150M	SM160M	SM-2(DO-213AA)	41	20
	SS0520	SS0530	SS0540	-		SOD-123	13	

Schottky Barrier Rectifiers (SMD Type)

PRV(V)									
Type No.	70	80	100	120	150	200	Package	FIG. No.	Page
Io(A)									
0.2	BAS70	-					SOT-23	10	19
	BAS70-04/05/06	-							
	BAS70-x(W)*	-					SOT-323*	11	
0.5	-	SM180M	SM1100M	-			SM-2(DO-213AA)	41	20

NOTE: * Suffix "W" stands for "SOT-323" package. (e.g.: BAT54AW, BAS40-05W, BAS70-06W,...etc.)

Schottky Barrier Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	20	30	40	45	50	60	Package	FIG. No.	Page
1.0	1N5817FL	1N5818FL	1N5819FL	-	-	-	SOD-123FL	16	20
	1N5817W	1N5818W	1N5819W	-	-	-	SOD-123	13	
	1N5817WS	1N5818WS	1N5819WS	-	-	-	SOD-323	14	
	SK12	SK13	SK14	-	SK15	SK16	SMB(DO-214AA)	29	
	SK12FL	SK13FL	SK14FL	-	SK15FL	SK16FL	SOD-123FL	16	
	SM5817	SM5818	SM5819	-	SM150	SM160	SM-1(DO-213AB)	40	
	SM5817S	SM5818S	SM5819S	-	SM150S	SM160S	SM-2(DO-213AA)	41	
	SS12	SS13	SS14	-	SS15	SS16	SMA(DO-214AC)	28	
2.0	SS12F	-	SS14F	-	-	SS16F	SMAFL	32	21
	SM220	SM230	SM240	-	SM250	SM260	SM-1(DO-213AB)	40	
	SK22	SK23	SK24	-	SK25	SK26	SMB(DO-214AA)	29	
	SK22FL	SK23FL	SK24FL	-	SK25FL	SK26FL	SOD-123FL	16	
	SS22	SS23	SS24	-	SS25	SS26	SMA(DO-214AC)	28	
	SS22F	-	SS24F	-	-	SS26F	SMAFL	32	
	SS22BF	-	SS24BF	-	-	SS26BF	SMBFL	33	
	SM320	SM330	SM340	-	SM350	SM360	SM-1(DO-213AB)	40	22
3.0	SK32	SK33	SK34	-	SK35	SK36	SMC(DO-214AB)	30	
	SK32B	SK33B	SK34B	-	SK35B	SK36B	SMB(DO-214AA)	29	
	SK32FL	SK33FL	SK34FL	-	SK35FL	SK36FL	SOD-123FL	16	
	SS32	SS33	SS34	-	SS35	SS36	SMA(DO-214AC)	28	
	SS32F	-	SS34F	-	-	SS36F	SMAFL	32	
	SS32BF	-	SS34BF	-	-	SS36BF	SMBFL	33	
	SD520S	SD530S	SD540S	-	SD550S	SD560S	TO-252(DPAK)	43	23
	SK52	SK53	SK54	-	SK55	SK56	SMC(DO-214AB)	30	
5.0	SS52F	-	SS54F	-	-	SS56F	SMAFL	32	
	SS52BF	-	SS54BF	-	-	SS56BF	SMBFL	33	
	SD820D	SD830D	SD840D	-	SD850D	SD860D	TO-263(D ² PAK)	44	
	SD820S	SD830S	SD840S	-	SD850S	SD860S	TO-252(DPAK)	43	
	-	-	-	S10P45	-	-	TO-277A	34	24
	SD1020D	SD1030D	SD1040D	-	SD1050D	SD1060D	TO-263(D ² PAK)	44	
	SD1020S	SD1030S	SD1040S	-	SD1050S	SD1060S	TO-252(DPAK)	43	
	-	-	-	S15P45	-	-	TO-277A	34	
16	SD1620D	SD1630D	SD1640D	-	SD1650D	SD1660D	TO-263(D ² PAK)	44	

Schottky Barrier Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	80	100	120	150	200	Package	FIG. No.	Page
1.0	SK18	SK110	-	SK150	SK120	SMB(DO-214AA)	29	20
	SK18FL	SK110FL	-	SK115FL	SK120FL	SOD-123FL	16	
	SM180	SM1100	-	-	-	SM-1(DO-213AB)	40	
	SM180S	SM1100S	-	-	-	SM-2(DO-213AA)	41	
	SS18	SS110	-	SS150	SS120	SMA(DO-214AC)	28	
	SS18F	SS110F	SS112F	SS115F	SS120F	SMAFL	32	
2.0	SM280	SM2100	-	-	-	SM-1(DO-213AB)	40	21
	SK28	SK210	-	SK215	SK220	SMB(DO-214AA)	29	
	SK28FL	SK210FL	SK212FL	SK215FL	SK220FL	SOD-123FL	16	
	SS28	SS210	-	SS215	SS220	SMA(DO-214AC)	28	
	SS28F	SS210F	SS212F	SS215F	SS220F	SMAFL	32	
	SS28BF	SS210BF	SS212BF	SS215BF	SS220BF	SMBFL	33	
3.0	SM380	SM3100	-	-	-	SM-1(DO-213AB)	40	22
	SK38	SK310	-	SK315	SK320	SMC(DO-214AB)	30	
	SK38B	SK310B	-	SK315B	SK320B	SMB(DO-214AA)	29	
	SK38FL	SK310FL	SK312FL	SK315FL	SK320FL	SOD-123FL	16	
	SS38	SS310	-	SS315	SS320	SMA(DO-214AC)	28	
	SS38F	SS310F	SS312F	SS315F	SS320F	SMAFL	32	
5.0	SS38BF	SS310BF	SS312BF	SS315BF	SS320BF	SMBFL	33	23
	SD580S	SD5100S	-	-	-	TO-252(DPAK)	43	
	SK58	SK510	-	SK515	SK520	SMC(DO-214AB)	30	
	SS58F	SS510F	SS512F	SS515F	SS520F	SMAFL	32	
	SS58BF	SS510BF	SS512BF	SS515BF	SS520BF	SMBFL	33	
	SD880D	SD8100D	-	-	-	TO-263(D ² PAK)	44	24
8.0	SD880S	SD8100S	-	-	-	TO-252(DPAK)	43	
	SD1080D	SD10100D	-	-	-	TO-263(D ² PAK)	44	
10	SD1080S	SD10100S	-	-	-	TO-252(DPAK)	43	
	SD1680D	SD16100D	-	-	-	TO-263(D ² PAK)	44	

Schottky Barrier Rectifiers (Axial Lead Type & Power Pack Type)

PRV(V) Type No. Io(A)	20	30	40	50	Package	FIG. No.	Page
0.05	-		1N60P	-			
0.2	-	BAT42/BAT43	-		DO-35	8	
	-	BAT85	-				
0.35	SD103C	SD103B	SD103A	-			25
1.0	1N5817	1N5818	1N5819	SR150	DO-41	3	
	1S2	1S3	1S4	1S5	R-1	1	
2.0	SR220	SR230	SR240	SR250	DO-15	4	
3.0	1N5820	1N5821	1N5822	SR350	DO-27	5	
5.0	SD520	SD530	SD540	SD550	TO-251	42	
	SR520	SR530	SR540	SR550	DO-27	5	26
8.0	SD820	SD830	SD840	SD850	TO-251	42	
	SR820	SR830	SR840	SR850	TO-220A*	47	
10	SD1020	SD1030	SD1040	SD1050	TO-251	42	
	SR1020	SR1030	SR1040	SR1050			
16	SR1620	SR1630	SR1640	SR1650	TO-220*	45	
20	SR2020	SR2030	SR2040	SR2050			27
30	SR3020	SR3030	SR3040	SR3050			
50	SR5020	SR5030	SR5040	SR5050	TO-3P	50	

Schottky Barrier Rectifiers (Axial Lead Type & Power Pack Type)

PRV(V) Type No. Io(A)	60	80	100	150	200	Package	FIG. No.	Page
1.0	SR160	SR180	SR1100	SR1500	SR1200	DO-41	3	
	1S6	1S8	1S10	-		R-1	1	25
2.0	SR260	SR280	SR2100	SR2150	SR2200	DO-15	4	
3.0	SR360	SR380	SR3100	SR3150	SR3200	DO-27	5	
5.0	SD560	SD580	SD5100	SD5150	SD5200	TO-251	42	
	SR560	SR580	SR5100	SR5150	SR5200	DO-27	5	26
8.0	SD860	SD880	SD8100	SD8150	SD8200	TO-251	42	
	SR860	SR880	SR8100	SR8150	SR8200	TO-220A*	47	
10	SD1060	SD1080	SD10100	SD10150	SD10200	TO-251	42	
	SR1060	SR1080	SR10100	SR10150	SR10200			
16	SR1660	SR1680	SR16100	SR16150	SR16200	TO-220*	45	27
20	SR2060	SR2080	SR20100	SR20150	SR20200			
30	SR3060		-					
50	SR5060		-			TO-3P	50	

*ITO-220/ITO-220A Package also available upon request.

Schottky Barrier Rectifiers (Photovoltaic Solar Cell Protection)

PRV(V) Type No. Io(A)	20	30	40	45	50	Package	FIG. No.	Page
10	-	10SQ030	10SQ040	-	10SQ050	R-6	9	28
	-	SQ1030	SQ1040	-	SQ1050	DO-27	5	
12	-	12SQ030	12SQ040	-	12SQ050	R-6	9	
	-	SQ1230	SQ1240	-	SQ1250	DO-27	5	
15	-	15SQ030	15SQ040	-	15SQ050	R-6	9	
	-	SQ1530	SQ1540	-	SQ1550	DO-27	5	
20	-		SD2040	SD2045	-	TO-220A	47	29
	-		SD2040A	SD2045A	-			
	-		SDA2040	SDA2045	-			
	-		SDC2040C	SDC2045C	-			
	-		SP2040	SP2045	-	TO-263(D ² PAK)	44	
	-		SPA2040	SPA2045	-			
	-			SPB2045	SPB2050			
	-		SPC2040C	SPC2045C	-			

Schottky Barrier Rectifiers (Photovoltaic Solar Cell Protection)

PRV(V) Type No. Io(A)	60	80	100	150	200	Package	FIG. No.	Page
10	10SQ060	10SQ080	10SQ100	-	-	R-6	9	28
	SQ1060	SQ1080	SQ10100	-	-	DO-27	5	
12	12SQ060	12SQ080	12SQ100	-	-	R-6	9	
	SQ1260	SQ1280	SQ12100	-	-	DO-27	5	
15	15SQ060	15SQ080	15SQ100	-	-	R-6	9	
	SQ1560	SQ1580	SQ15100	-	-	DO-27	5	

Super Fast Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	150	200	300	400	600	Package	FIG. No.	Page
0.3	SF03AFL	SF03BFL	SF03CFL	SF03DFL	SF03EFL	SF03GFL	SF03JFL	SOD-123FL	16	30
0.5	SF05AFL	SF05BFL	SF05CFL	SF05DFL	SF05EFL	SF05GFL	SF05JFL			
1	ES1A	ES1B	ES1C	ES1D	ES1E	ES1G	ES1J	SMA(DO-214AC)	28	
	ES1AF	ES1BF	ES1CF	ES1DF	ES1EF	ES1GF	ES1JF	SMAFL	32	
	ES1ABF	ES1BBF	ES1CBF	ES1DBF	ES1EBF	ES1GBF	ES1JBF	SMBFL	33	
	ER1A	ER1B	ER1C	ER1D	ER1E	ER1G	ER1J	SMB(DO-214AA)	29	
	ESM101	ESM102	ESM103	ESM104	ESM105	ESM106	ESM108	SM-1(DO-213AB)	40	
	SF1AFL	SF1BFL	SF1CFL	SF1DFL	SF1EFL	SF1GFL	SF1JFL	SOD-123FL	16	
2	ER2A	ER2B	ER2C	ER2D	ER2E	ER2G	ER2J	SMB(DO-214AA)	29	31
	ES2AF	ES2BF	ES2CF	ES2DF	ES2EF	ES2GF	ES2JF	SMAFL	32	
	ES2ABF	ES2BBF	ES2CBF	ES2DBF	ES2EBF	ES2GBF	ES2JBF	SMBFL	33	
	SF2AFL	SF2BFL	SF2CFL	SF2DFL	SF2EFL	SF2GFL	SF2JFL	SOD-123FL	16	
3	ER3A	ER3B	ER3C	ER3D	ER3E	ER3G	ER3J	SMC(DO-214AB)	30	32
	ES3AF	ES3BF	ES3CF	ES3DF	ES3EF	ES3GF	ES3JF	SMAFL	32	
	ES3ABF	ES3BBF	ES3CBF	ES3DBF	ES3EBF	ES3GBF	ES3JBF	SMBFL	33	

Super Fast Rectifiers (Axial Lead Type & Power Pack Type)

PRV(V) Type No. Io(A)	50	100	150	200	300	400	600	Package	FIG. No.	Page
1	SF11	SF12	SF13	SF14	SF15	SF16	SF18	DO-41	3	33
2	SF21	SF22	SF23	SF24	SF25	SF26	SF28	DO-15	4	
3	SF31	SF32	SF33	SF34	SF35	SF36	SF38	DO-27	5	
5	SF51	SF52	SF53	SF54	SF55	SF56	SF58			
8	SF81	SF82	SF83	SF84	SF85	SF86	SF88	TO-220A*	47	34
16	SF161	SF162	SF163	SF164	SF165	SF166	SF168	TO-220*	45	
30	SF301	SF302	SF303	SF304	SF305	SF306	SF308	TO-3P	50	

*ITO-220/ITO-220A Package also available upon request.

Ultra Fast Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
0.3	UF03AFL	UF03BFL	UF03DFL	UF03GFL	UF03JFL	UF03KFL	UF03MFL	SOD-123FL	16	35
0.5	UF05AFL	UF05BFL	UF05DFL	UF05GFL	UF05JFL	UF05KFL	UF05MFL			
1	UF1A	UF1B	UF1D	UF1G	UF1J	UF1K	UF1M	SMB(DO-214AA)	29	
	UF1AFL	UF1BFL	UF1DFL	UF1GFL	UF1JFL	UF1KFL	UF1MFL	SOD-123FL	16	
	US1A	US1B	US1D	US1G	US1J	US1K	US1M	SMA(DO-214AC)	28	
	US1AF	US1BF	US1DF	US1GF	US1JF	US1KF	US1MF	SMAFL	32	
	US1ABF	US1BBF	US1DBF	US1GBF	US1JBF	US1KBF	US1MBF	SMBFL	33	
	UF2A	UF2B	UF2D	UF2G	UF2J	UF2K	UF2M	SMB(DO-214AA)	29	36
2	UF2AFL	UF2BFL	UF2DFL	UF2GFL	UF2JFL	UF2KFL	UF2MFL	SOD-123FL	16	
	US2AF	US2BF	US2DF	US2GF	US2JF	US2KF	US2MF	SMAFL	32	
	US2ABF	US2BBF	US2DBF	US2GBF	US2JBF	US2KBF	US2MBF	SMBFL	33	
	UF3A	UF3B	UF3D	UF3G	UF3J	UF3K	UF3M	SMC(DO-214AB)	30	
	US3AF	US3BF	US3DF	US3GF	US3JF	US3KF	US3MF	SMAFL	32	
3	US3ABF	US3BBF	US3DBF	US3GBF	US3JBF	US3KBF	US3MBF	SMBFL	33	

Ultra Fast Rectifiers (Axial Lead Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
1	UF4001	UF4002	UF4003	UF4004	UF4005	UF4006	UF4007	DO-41	3	37
3	UF5400	UF5401	UF5402	UF5404	UF5406	UF5407	UF5408	DO-27	4	

High Efficiency Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	300	400	600	800	1000	Package	FIG. No.	Page
1	HSM101	HSM102	HSM103	HSM104	HSM105	HSM106	HSM107	HSM108	SM-1(DO-213AB)	40	38

High Efficiency Rectifiers (Axial Lead Type & Power Pack Type)

PRV(V) Type No. Io(A)	50	100	200	300	400	600	800	1000	Package	FIG. No.	Page	
	1	1H1 HER101	1H2 HER102	1H3 HER103	1H4 HER104	1H5 HER105	1H6 HER106	1H7 HER107	1H8 HER108	R-1 DO-41	1 3	38
	1.5	HER151	HER152	HER153	HER154	HER155	HER156	HER157	HER158	DO-15	4	
2	HER201	HER202	HER203	HER204	HER205	HER206	HER207	HER208	DO-27	5	39	
3	HER301	HER302	HER303	HER304	HER305	HER306	HER307	HER308				
5	HER501	HER502	HER503	HER504	HER505	HER506	HER507	HER508	TO-220A	47		
8	HER801	HER802	HER803	HER804	HER805	HER806	-	-				
16	HER1601	HER1602	HER1603	HER1604	HER1605	HER1606	-	-	TO-220	45		
30	HER3001	HER3002	HER3003	HER3004	HER3005	HER3006	-	-	TO-3P	50		

Fast Recovery Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
0.3	FR03AFL	FR03BFL	FR03DFL	FR03GFL	FR03JFL	FR03KFL	FR03MFL	SOD-123FL	16	40
0.5	FR05AFL	FR05BFL	FR05DFL	FR05GFL	FR05JFL	FR05KFL	FR05MFL		41	
0.7	RGL34A	RGL34B	RGL34D	RGL34G	RGL34J	RGL34K	RGL34M	SM-2(DO-213AA)	16	
1	FR07AFL	FR07BFL	FR07DFL	FR07GFL	FR07JFL	FR07KFL	FR07MFL	SOD-123FL	29	41
	FR1A	FR1B	FR1D	FR1G	FR1J	FR1K	FR1M	SMB(DO-214AA)	16	
	FR1AFL	FR1BFL	FR1DFL	FR1GFL	FR1JFL	FR1KFL	FR1MFL	SOD-123FL	40	
	FSM101	FSM102	FSM103	FSM104	FSM105	FSM106	FSM107	SM-1(DO-213AB)	28	
	RS1A	RS1B	RS1D	RS1G	RS1J	RS1K	RS1M	SMA(DO-214AC)	32	
	RS1AF	RS1BF	RS1DF	RS1GF	RS1JF	RS1KF	RS1MF	SMAFL	33	
	RS1ABF	RS1BBF	RS1DBF	RS1GBF	RS1JBF	RS1KBF	RS1MBF	SMBFL	40	42
	SM4933	SM4934	SM4935	SM4936	SM4937	-	-	SM-1(DO-213AB)	29	
2	FR2A	FR2B	FR2D	FR2G	FR2J	FR2K	FR2M	SMB(DO-214AA)	32	
	RS2AF	RS2BF	RS2DF	RS2GF	RS2JF	RS2KF	RS2MF	SMAFL	33	41
	RS2ABF	RS2BBF	RS2DBF	RS2GBF	RS2JBF	RS2KBF	RS2MBF	SMBFL	16	
	FR2AFL	FR2BFL	FR2DFL	FR2GFL	FR2JFL	FR2KFL	FR2MFL	SOD-123FL	30	
3	FR3A	FR3B	FR3D	FR3G	FR3J	FR3K	FR3M	SMC(DO-214AB)	32	42
	RS3AF	RS3BF	RS3DF	RS3GF	RS3JF	RS3KF	RS3MF	SMAFL	33	
	RS3ABF	RS3BBF	RS3DBF	RS3GBF	RS3JBF	RS3KBF	RS3MBF	SMBFL		

Fast Recovery Rectifiers (Axial Lead Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
1	1F1	1F2	1F3	1F4	1F5	1F6	1F7	R-1	1	43
	1N4933(G)*	1N4934(G)*	1N4935(G)*	1N4936(G)*	1N4937(G)*	-		DO-41	3	
	-			BA157(G)*	BA158(G)*	-	BA159(G)*			
	FR101(G)*	FR102(G)*	FR103(G)*	FR104(G)*	FR105(G)*	FR106(G)*	FR107(G)*			
	RL101F(G)*	RL102F(G)*	RL103F(G)*	RL104F(G)*	RL105F(G)*	RL106F(G)*	RL107F(G)*			
1.5	FR151(G)*	FR152(G)*	FR153(G)*	FR154(G)*	FR155(G)*	FR156(G)*	FR157(G)*	DO-15	4	44
2	-	BY296	BY297	BY298	-	BY299	-			
	FR201(G)*	FR202(G)*	FR203(G)*	FR204(G)*	FR205(G)*	FR206(G)*	FR207(G)*			
3	-	BY396	BY397	BY398	-	BY399	-	DO-27	5	
	FR301(G)*	FR302(G)*	FR303(G)*	FR304(G)*	FR305(G)*	FR306(G)*	FR307(G)*			
5	FR501(G)*	FR502(G)*	FR503(G)*	FR504(G)*	FR505(G)*	FR506(G)*	FR507(G)*			
6	FR601(G)*	FR602(G)*	FR603(G)*	FR604(G)*	FR605(G)*	FR606(G)*	FR607(G)*			

NOTE: * Suffix "G" = stands for "Glass Passivated Junction".

General Purpose Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
0.3	S03AFL	S03BFL	S03DFL	S03GFL	S03JFL	S03KFL	S03MFL	SOD-123FL	16	45
0.5	S05AFL	S05BFL	S05DFL	S05GFL	S05JFL	S05KFL	S05MFL	SM-2(DO-213AA)	41	
	GL34A	GL34B	GL34D	GL34G	GL34J	GL34K	GL34M	SOD-123FL	16	
0.7	S07AFL	S07BFL	S07DFL	S07GFL	S07JFL	S07KFL	S07MFL	SMA(DO-214AC)	28	
1	GS1A	GS1B	GS1D	GS1G	GS1J	GS1K	GS1M	SMA-L	31	46
	M1	M2	M3	M4	M5	M6	M7	SMB(DO-214AA)	29	
	S1A	S1B	S1D	S1G	S1J	S1K	S1M	SMAFL	32	
	S1AF	S1BF	S1DF	S1GF	S1JF	S1KF	S1MF	SMBFL	33	
	S1ABF	S1BBF	S1DBF	S1GBF	S1JBF	S1KBF	S1MBF	SOD-123FL	16	
	S1AFL	S1BFL	S1DFL	S1GFL	S1JFL	S1KFL	S1MFL	SM-1(DO-213AB)	40	
	SM4001	SM4002	SM4003	SM4004	SM4005	SM4006	SM4007	SM-2(DO-213AA)	41	
	SM4001S	SM4002S	SM4003S	SM4004S	SM4005S	SM4006S	SM4007S	SM-1(DO-213AB)	40	
1.5	SM5391	SM5392	SM5393	SM5395	SM5397	SM5398	SM5399	SMB(DO-214AA)	29	47
2	S2A	S2B	S2D	S2G	S2J	S2K	S2M	SMAFL	32	
	S2AF	S2BF	S2DF	S2GF	S2JF	S2KF	S2MF	SMBFL	33	
	S2ABF	S2BBF	S2DBF	S2GBF	S2JBF	S2KBF	S2MBF	SOD-123FL	16	
	S2AFL	S2BFL	S2DFL	S2GFL	S2JFL	S2KFL	S2MFL	SMC(DO-214AB)	30	
3	S3A	S3B	S3D	S3G	S3J	S3K	S3M	SMAFL	32	
	S3AF	S3BF	S3DF	S3GF	S3JF	S3KF	S3MF	SMBFL	33	
	S3ABF	S3BBF	S3DBF	S3GBF	S3JBF	S3KBF	S3MBF	SM-1(DO-213AB)	40	
	SM5400	SM5401	SM5402	SM5404	SM5406	SM5407	SM5408			

General Purpose Rectifiers (Axial Lead Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page	
	1	1A1	1A2	1A3	1A4	1A5	1A6	1A7	R-1	1	48
		1N4001(G)*	1N4002(G)*	1N4003(G)*	1N4004(G)*	1N4005(G)*	1N4006(G)*	1N4007(G)*	DO-41	3	
1N4001A(G)*		1N4002A(G)*	1N4003A(G)*	1N4004A(G)*	1N4005A(G)*	1N4006A(G)*	1N4007A(G)*	A-405	2		
RL101(G)*		RL102(G)*	RL103(G)*	RL104(G)*	RL105(G)*	RL106(G)*	RL107(G)*				
1.5	1N5391(G)*	1N5392(G)*	1N5393(G)*	1N5395(G)*	1N5397(G)*	1N5398(G)*	1N5399(G)*	DO-15	4	49	
2	RL201(G)*	RL202(G)*	RL203(G)*	RL204(G)*	RL205(G)*	RL206(G)*	RL207(G)*				
2.5	RL251(G)*	RL252(G)*	RL253(G)*	RL254(G)*	RL255(G)*	RL256(G)*	RL257(G)*	R-3	1		
3	1N5400(G)*	1N5401(G)*	1N5402(G)*	1N5404(G)*	1N5406(G)*	1N5407(G)*	1N5408(G)*	DO-27	5		
6	6A05(G)*	6A1(G)*	6A2(G)*	6A4(G)*	6A6(G)*	6A8(G)*	6A10(G)*	R-6	9	50	
	P600A	P600B	P600D	P600G	P600J	P600K	P600M				
	6A05M	6A1M	6A2M	6A4M	6A6M	6A8M	6A10M	R-6M			
8	8A05	8A1	8A2	8A4	8A6	8A8	8A10	R-6			
10	10A05	10A1	10A2	10A4	10A6	10A8	10A10				

NOTE: * Suffix "G" = stands for "Glass Passivated Junction".

PRV(V) Type No. Io(A)	200	400	600	800	1300	1600	1800	2000	Package	FIG. No.	Page
1	-				BY133	EM513	EM516	EM520	DO-41	3	48
3	BY251	BY252	BY253	BY254	BY255	-			DO-27	5	49

High Speed Switching Diodes (SMD Type & Axial Lead Type)

PRV(V) Type No. P _{tot} (W)	50	75	100		120	200	250	Package	FIG. No.	Page
0.2	-		1N4148WS	1N4448WS	-			SOD-323	14	52
	-		1N914WS	BAV16WS	BAV19WS	BAV20WS	BAV21WS			
	-		BAS16W	BAS19W	BAS20W	BAS21W	SOT-323	11		
	-	BAV70W	BAV99W	-						
	-	BAW56W	BAL99W	-						
	-	MMBD4148W	MMBD4448W	-						
0.25	-		MMBD914	BAS16	BAS19	BAS20	BAS21	SOT-23	10	
	-		BAV70	BAV99	-					
	-		BAW56	BAL99	-					
	-		MMBD4148	MMBD4448	-					
0.35	-			BAV16W	-			SOD-123	13	
0.41	1N4150W	1N4151W	1N4148W	1N4448W	BAV19W	BAV20W	BAV21W			
0.4	-				BAV19	BAV20	BAV21	DO-35	8	
0.5	-		1N914B(M)*	-			DO-35/ DO-34*	7 / 8	53	
	1N4150(M)*	1N4151(M)*	1N4148(M)*	1N4448(M)*	-					
	-		DL914B	-			Mini Melf(DL-35)	38		
	DL4150	DL4151	DL4148	DL4448	-			Micro Melf		36
	-		DLM4148	DLM4448	-			Quadro Melf		37
	-		DLQ4148	DLQ4448	-			1206C		35
	-		CD4148W	-			0805C			
	-		CD4148WS	-			0603C			
	-		CD4148WT	-						

NOTE: * Suffix "M" stands for "DO-34" package. (e.g.: 1N4148M, 1N4150M,...etc.)

High Voltage Rectifiers (Axial Lead Type)

PRV(V) Type No. I _o (A)	1200	1500	1800	2000	2500	3000	4000	5000	Package	FIG. No.	Page
0.2/0.5	R1200	R1500	R1800	R2000	R2500	R3000	R4000	R5000	DO-41/ DO-15	3 / 4	51
	R1200F	R1500F	R1800F	R2000F	R2500F	R3000F	R4000F	R5000F			

DIACS (Trigger) (SMD Type & Axial Lead Type)

Voltage (V)	TYPE No.	Package	FIG. No.	Page
32	DB3	DO-35/ A-405*	8 / 2	51
34	DC34			
40	DB4			
60	DB6			
32	DLDB3	Mini Melf (DL-35)	38	
34	DLDC34			
40	DLDB4			
60	DLDB6			

NOTE: * Also available in A-405 (Plastic) package.

Zener Diodes (SMD Type)

P _{tot} (W)	SERIES TYPE No.	Package	FIG. No.	Page
0.2	BZX584C2V4 - BZX584C51	SOD-523	15	54
	BZT52C2V4S - BZT52C51S	SOD-323	14	57
	CDZ55VC2V0T - CDZ55C75T	0603C	35	60
	MMSZ5221BS - MMSZ5260BS	SOD-323	14	58
	BZX84C2V4W - BZX84C75W	SOT-323	11	55
	MMBZ5221BW - MMBZ5259BW			56
0.35	BZX84C2V4 - BZX84C51	SOT-23	10	55
	MMBZ5221B - MMBZ5259B			56
0.5	BZT52C2V4 - BZT52C51	SOD-123	13	57
	BZM55C2V4 - BZM55C47	Micro Melf	36	62
	BZQ55C2V4 - BZQ55C47	Quadro Melf	37	62
	BZV55C2V4 - BZV55C47	Mini Melf(DL-35)	38	61
	CDZ55VC2V0 - CDZ55C75	1206C	35	64
	CDZ55VC2V0S - CDZ55C75S	0805C		
	DL5221B - DL5261B	Mini Melf(DL-35)	38	60
	DLM5221B - DLM5261B	Micro Melf	36	63
	DLQ5221B - DLQ5261B	Quadro Melf	37	
	MMSZ5221B - MMSZ5260B	SOD-123	13	58
1	DL4728A - DL4764A	Melf(DL-41)	39	66
	DZL1110A - DZL1330A	SOD-123FL	16	69
	DZL4728A - DZL4764A			
	MMSZ1110A - MMSZ1200A	SOD-123	14	70
	MMSZ4735A - MMSZ4764A			
	SMA4728A - SMA4764A	SMA(DO-214AC)	28	67
	SZ1110A - SZ1330A			
	SMAF4728A - SMAF4777A	SMAFL	32	68
1.5	SMA5920B - SMA5956B	SMA(DO-214AC)	28	72
	SMB5920B - SMB5956B	SMB(DO-214AA)	29	
2	SMA2EZ6.2 - SMA2EZ330	SMA(DO-214AC)	28	73
	SMB2EZ6.2 - SMB2EZ330	SMB(DO-214AA)	29	
3	SMA3EZ6.2 - SMA3EZ200	SMA(DO-214AC)	28	74
	SMB3EZ6.2 - SMB3EZ200	SMB(DO-214AA)	29	
5	SMB5341B - SMB5388B	SMB(DO-214AA)		30
	SMC5341B - SMC5388B	SMC(DO-214AB)		

Zener Diodes (Axial Lead Type)

P _{tot} (W)	SERIES TYPE No.	Package	FIG. No.	Page
0.5	BZX55C2V4 - BZX55C47	DO-35	8	59
	1N5221B - 1N5261B			60
1	1N4728A - 1N4764A	DO-41(G)	6	65
	1EZ6.2 - 1EZ330			71
1.5	1N5920B - 1N5956B	DO-41	3	72
2	2EZ6.2 - 2EZ330	DO-15	4	73
3	3EZ6.2 - 3EZ200			74
5	1N5341B - 1N5388B	DO-201AE	5	75

Transient Voltage Suppressors (T.V.S.) (SMD Type)

P _{tot} (W)	SERIES TYPE No.	Package	FIG. No.	Page
200	SMF5.0A - SMF220A	SOD-123FL	16	94
400	SMAJ5.0 - SMAJ220A	SMA(DO-214AC)	28	95
	SMAFJ5.0 - SMAFJ170A	SMAFL	31	97
600	SMBFJ6.8A - SMBFJ550A	SMBFL	32	98
	SMBJ5.0 - SMBJ220A	SMB(DO-214AA)	29	99
1500	SMCJ5.0 - SMCJ220A	SMC(DO-214AB)	30	101
3000	SMDJ5.0 - SMDJ440A			103
5000	5.0SMDJ11 - 5.0SMDJ440A			105

Transient Voltage Suppressors (T.V.S.) (Axial Lead Type)

P _{tot} (W)	SERIES TYPE No.	Package	FIG. No.	Page
400	P4KE6.8 - P4KE440A	DO-41	3	107
500	SA5.0 - SA220A	DO-15	4	109
600	P6KE6.8 - P6KE440A			111
1500	1.5KE6.8 - 1.5KE440A	DO-201AE	5	113
3000	3KP5.0 - 3KP220A	R-6	9	115
5000	5KP5.0 - 5KP220A			117

Schottky Bridge Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	20	40	60	80	100	150	200	Package	FIG. No.	Page
1	ABK12S	ABK14S	ABK16S	ABK18S	ABK110S	ABK115S	ABK120S	ABS	17	76
	ABK12F	ABK14F	ABK16F	ABK18F	ABK110F	ABK115F	ABK120F	ABF	18	
	BK12F	BK14F	BK16F	BK18F	BK110F	-	-	MBFL	25	
	MBK12F	MBK14F	MBK16F	MBK18F	MBK110F	MBK115F	MBK120F	MBF	26	
	MBK12S	MBK14S	MBK16S	MBK18S	MBK110S	MBK115S	MBK120S	MBS	23	
2	ABK22S	ABK24S	ABK26S	ABK28S	ABK210S	ABK215S	ABK220S	ABS	17	77
	ABK22F	ABK24F	ABK26F	ABK28F	ABK210F	ABK215F	ABK220F	ABF	18	
	BK22F	BK24F	BK26F	BK28F	BK210F	-	-	MBFL	25	
	MBK22F	MBK24F	MBK26F	MBK28F	MBK210F	MBK215F	MBK220F	MBF	26	
	MBK22S	MBK24S	MBK26S	MBK28S	MBK210S	MBK215S	MBK220S	MBS	23	
3	ABK32S	ABK34S	ABK36S	ABK38S	ABK310S	ABK315S	ABK320S	ABS	17	77
	ABK32F	ABK34F	ABK36F	ABK38F	ABK310F	ABK315F	ABK320F	ABF	18	
	BK32F	BK34F	BK36F	BK38F	BK310F	-	-	MBFL	25	
	MBK32F	MBK34F	MBK36F	MBK38F	MBK310F	MBK315F	MBK320F	MBF	26	
	MBK32S	MBK34S	MBK36S	MBK38S	MBK310S	MBK315S	MBK320S	MBS	23	

Super Fast Bridge Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	Package	FIG. No.	Page
1	AFB1AF	AFB1BF	AFB1DF	AFB1GF	AFB1JF	ABF	18	78
	AFB1AS	AFB1BS	AFB1DS	AFB1GS	AFB1JS	ABS	17	
	MFB1AF	MFB1BF	MFB1DF	MFB1GF	MFB1JF	MBF	26	
	MFB1AS	MFB1BS	MFB1DS	MFB1GS	MFB1JS	MBS	23	

High Efficiency Bridge Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
1	UTB05F	UTB1F	UTB2F	UTB4F	UTB6F	UTB8F	UTB10F	ABF	18	78
	UTB05S	UTB1S	UTB2S	UTB4S	UTB6S	UTB8S	UTB10S	ABS	17	
	UMB05F	UMB1F	UMB2F	UMB4F	UMB6F	UMB8F	UMB10F	MBF	26	
	UMB05S	UMB1S	UMB2S	UMB4S	UMB6S	UMB8S	UMB10S	MBS	23	

Fast Recovery Bridge Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
0.5	-	RMB2F	RMB4F	RMB6F	-	-	-	MBFL	25	79
	RMB05S	RMB1S	RMB2S	RMB4S	RMB6S	RMB8S	RMB10S	MBS	23	
0.8	FTB05F	FTB1F	FTB2F	FTB4F	FTB6F	FTB8F	FTB10F	ABF	18	
	FTB05S	FTB1S	FTB2S	FTB4S	FTB6S	FTB8S	FTB10S	ABS	17	
	FMB05F	FMB1F	FMB2F	FMB4F	FMB6F	FMB8F	FMB10F	MBF	26	
	FMB05S	FMB1S	FMB2S	FMB4S	FMB6S	FMB8S	FMB10S	MBS	23	
1	-	RMB12F	RMB14F	RMB16F	-	-	-	MBFL	25	
	RMB105S	RMB11S	RMB12S	RMB14S	RMB16S	RMB18S	RMB110S	MBS	23	

General Purpose Bridge Rectifiers (SMD Type)

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
0.4	B04AF	B04BF	B04DF	B04GF	B04JF	B04KF	B04MF	MBFL	25	80
0.5	B05AF	B05BF	B05DF	B05GF	B05JF	B05KF	B05MF			
	B05S	B1S	B2S	B4S	B6S	B8S	B10S	DB-1MS	22	
0.8	AB05F	AB1F	AB2F	AB4F	AB6F	AB8F	AB10F	ABF	18	81
	AB05S	AB1S	AB2S	AB4S	AB6S	AB8S	AB10S	ABS	17	
	MB05S	MB1S	MB2S	MB4S	MB6S	MB8S	MB10S	MBS	23	
	MB05F	MB1F	MB2F	MB4F	MB6F	MB8F	MB10F	MBF	26	
1	B1AF	B1BF	B1DF	B1GF	B1JF	B1KF	B1MF	MBFL	25	81
	DB101S	DB102S	DB103S	DB104S	DB105S	DB106S	DB107S	DB-1S	20	
	TB05S	TB1S	TB2S	TB4S	TB6S	TB8S	TB10S	ABS	17	
1.5	DB151S	DB152S	DB153S	DB154S	DB155S	DB156S	DB157S	DB-1S	20	
2	DB201S	DB202S	DB203S	DB204S	DB205S	DB206S	DB207S			

General Purpose Bridge Rectifiers

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page	
0.8	MB05M	MB1M	MB2M	MB4M	MB6M	MB8M	MB10M	MBM	21	82	
1	DB101	DB102	DB103	DB104	DB105	DB106	DB107	DB-1	19		
1.5	DB151	DB152	DB153	DB154	DB155	DB156	DB157		KBP		62
	KBP005G	KBP01G	KBP02G	KBP04G	KBP06G	KBP08G	KBP10G	WOM			24
	W005G	W01G	W02G	W04G	W06G	W08G	W10G				
2	W005M	W01M	W02M	W04M	W06M	W08M	W10M			83	
	DB201	DB202	DB203	DB204	DB205	DB206	DB207	DB-1	19		
	D3KB2A	D3KB2B	D3KB2D	D3KB2G	D3KB2J	D3KB2K	D3KB2M	D3K	60		
	GBP2005	GBP201	GBP202	GBP204	GBP206	GBP208	GBP210	GBP	61		
KBP2005G	KBP201G	KBP202G	KBP204G	KBP206G	KBP208G	KBP210G	KBP	62			
3	BR305	BR31	BR32	BR34	BR36	BR38	BR310	BR-3	52	84	
	D3KB3A	D3KB3B	D3KB3D	D3KB3G	D3KB3J	D3KB3K	D3KB3M	D3K	60		
	KBPC1005	KBPC101	KBPC102	KBPC104	KBPC106	KBPC108	KBPC110	BR-3	52		
4	D3KB4A	D3KB4B	D3KB4D	D3KB4G	D3KB4J	D3KB4K	D3KB4M	D3K	60		85
	GBJ4A	GBJ4B	GBJ4D	GBJ4G	GBJ4J	GBJ4K	GBJ4M	GBJ4-10	68		
	GBL005	GBL01	GBL02	GBL04	GBL06	GBL08	GBL10	GBJ2	67		
	GBL4A	GBL4B	GBL4D	GBL4G	GBL4J	GBL4K	GBL4M				
	GBU4A	GBU4B	GBU4D	GBU4G	GBU4J	GBU4K	GBU4M	GBU	65		
	KBL005	KBL01	KBL02	KBL04	KBL06	KBL08	KBL10	KBL	64		
	KBU4A	KBU4B	KBU4D	KBU4G	KBU4J	KBU4K	KBU4M	KBU	66		
	RS401	RS402	RS403	RS404	RS405	RS406	RS407	KBL	64		
6	D3KB6A	D3KB6B	D3KB6D	D3KB6G	D3KB6J	D3KB6K	D3KB6M	D3K	60	86	
	GBJ6A	GBJ6B	GBJ6D	GBJ6G	GBJ6J	GBJ6K	GBJ6M	GBJ4-10	68		
	GBK6A	GBK6B	GBK6D	GBK6G	GBK6J	GBK6K	GBK6M	GBK	63		
	GBPC6005	GBPC601	GBPC602	GBPC604	GBPC606	GBPC608	GBPC610	BR-6	52		
	GBU6A	GBU6B	GBU6D	GBU6G	GBU6J	GBU6K	GBU6M	GBU	65		
	KBPC6005	KBPC601	KBPC602	KBPC604	KBPC606	KBPC608	KBPC610	BR-6	52		
	KBU6A	KBU6B	KBU6D	KBU6G	KBU6J	KBU6K	KBU6M	KBU	66		
	MP6005	MP601	MP602	MP604	MP606	MP608	MP610	MP-6	58		
	RS601	RS602	RS603	RS604	RS605	RS606	RS607	KBU	66		
8	GBJ8A	GBJ8B	GBJ8D	GBJ8G	GBJ8J	GBJ8K	GBJ8M	GBJ4-10	68	87	
	GBK8A	GBK8B	GBK8D	GBK8G	GBK8J	GBK8K	GBK8M	GBK	63		
	GBPC8005	GBPC801	GBPC802	GBPC804	GBPC806	GBPC808	GBPC810	KBPC-8/10	57		
	GBU8A	GBU8B	GBU8D	GBU8G	GBU8J	GBU8K	GBU8M	GBU	65		
	KBPC8005	KBPC801	KBPC802	KBPC804	KBPC806	KBPC808	KBPC810	KBPC-8/10	57		
	KBU8A	KBU8B	KBU8D	KBU8G	KBU8J	KBU8K	KBU8M	KBU	66		
	MP8005	MP801	MP802	MP804	MP806	MP808	MP810	MP-8	58		
	RS801	RS802	RS803	RS804	RS805	RS806	RS807	KBU	66		
10	GBJ10A	GBJ10B	GBJ10D	GBJ10G	GBJ10J	GBJ10K	GBJ10M	GBJ4-10	68	88	
	GBK10A	GBK10B	GBK10D	GBK10G	GBK10J	GBK10K	GBK10M	GBK	63		
	GBPC10005	GBPC1001	GBPC1002	GBPC1004	GBPC1006	GBPC1008	GBPC1010	KBPC-8/10	57		
	GBU10A	GBU10B	GBU10D	GBU10G	GBU10J	GBU10K	GBU10M	GBU	65		
	KBPC10005	KBPC1001	KBPC1002	KBPC1004	KBPC1006	KBPC1008	KBPC1010	KBPC-8/10	57		
	KBU10A	KBU10B	KBU10D	KBU10G	KBU10J	KBU10K	KBU10M	KBU	66		
	MP10005	MP1001	MP1002	MP1004	MP1006	MP1008	MP1010	MP-8	58		

General Purpose Bridge Rectifiers

PRV(V) Type No. Io(A)	50	100	200	400	600	800	1000	Package	FIG. No.	Page
15	BR1505	BR151	BR152	BR154	BR156	BR158	BR1510	BR-25(W)*	53 / 54	88
	BR1505L	BR151L	BR152L	BR154L	BR156L	BR158L	BR1510L	BR-25L	51	
	GBK15A	GBK15B	GBK15D	GBK15G	GBK15J	GBK15K	GBK15M	GBK	63	
	GBPC15005	GBPC1501	GBPC1502	GBPC1504	GBPC1506	GBPC1508	GBPC1510	MBR-25(W)*	53 / 54	89
	GBU15A	GBU15B	GBU15D	GBU15G	GBU15J	GBU15K	GBU15M	GBU	65	
	KBPC15005	KBPC1501	KBPC1502	KBPC1504	KBPC1506	KBPC1508	KBPC1510	MB-25(W)*	55 / 56	
	MB1505	MB151	MB152	MB154	MB156	MB158	MB1510	MBR-25(W)*	53 / 54	
	MMB1505	MMB151	MMB152	MMB154	MMB156	MMB158	MMB1510	MMB-25(W)*	55 / 56	
20	GBK20A	GBK20B	GBK20D	GBK20G	GBK20J	GBK20K	GBK20M	GBK	63	
25	BR2505	BR251	BR252	BR254	BR256	BR258	BR2510	BR-25(W)*	53 / 54	90
	BR2505L	BR251L	BR252L	BR254L	BR256L	BR258L	BR2510L	BR-25L	51	
	GBK25A	GBK25B	GBK25D	GBK25G	GBK25J	GBK25K	GBK25M	GBK	63	
	GBPC25005	GBPC2501	GBPC2502	GBPC2504	GBPC2506	GBPC2508	GBPC2510	MBR-25(W)*	53 / 54	91
	GBU25A	GBU25B	GBU25D	GBU25G	GBU25J	GBU25K	GBU25M	GBU	65	
	KBPC25005	KBPC2501	KBPC2502	KBPC2504	KBPC2506	KBPC2508	KBPC2510	MB-25(W)*	55 / 56	
	MB2505	MB251	MB252	MB254	MB256	MB258	MB2510	MBR-25(W)*	53 / 54	
	MMB2505	MMB251	MMB252	MMB254	MMB256	MMB258	MMB2510	MMB-25(W)*	55 / 56	
35	BR3505	BR351	BR352	BR354	BR356	BR358	BR3510	BR-25(W)*	53 / 54	92
	BR3505L	BR351L	BR352L	BR354L	BR356L	BR358L	BR3510L	BR-25L	51	
	GBPC35005	GBPC3501	GBPC3502	GBPC3504	GBPC3506	GBPC3508	GBPC3510	MBR-25(W)*	53 / 54	
	KBPC35005	KBPC3501	KBPC3502	KBPC3504	KBPC3506	KBPC3508	KBPC3510	MB-25(W)*	55 / 56	93
	MB3505	MB351	MB352	MB354	MB356	MB358	MB3510	MBR-25(W)*	53 / 54	
	MMB3505	MMB351	MMB352	MMB354	MMB356	MMB358	MMB3510	MMB-25(W)*	55 / 56	
50	BR5005	BR501	BR502	BR504	BR506	BR508	BR5010	BR-25(W)*	53 / 54	92
	GBPC50005	GBPC5001	GBPC5002	GBPC5004	GBPC5006	GBPC5008	GBPC5010	MBR-25(W)*	53 / 54	
	KBPC50005	KBPC5001	KBPC5002	KBPC5004	KBPC5006	KBPC5008	KBPC5010	MB-25(W)*	55 / 56	
	MB5005	MB501	MB502	MB504	MB506	MB508	MB5010	MBR-25(W)*	53 / 54	

NOTE: *Suffix "W" for wire lead type.(e.g.: BR1510W, GBPC1510W, MB1510W, MBR1510W,...etc.)

General Purpose Bridge Rectifiers (Three Phases)

PRV(V) Type No. Io(A)	50	100	200	400	600	Package	FIG. No.	Page
15	TBR1500	TBR1501	TBR1502	TBR1504	TBR1506	TBR	59	93
25	TBR2500	TBR2501	TBR2502	TBR2504	TBR2506			
35	TBR3500	TBR3501	TBR3502	TBR3504	TBR3506			

General Purpose Bridge Rectifiers (Three Phases)

PRV(V) Type No. Io(A)	800	1000	1200	1400	1600	Package	FIG. No.	Page
15	TBR1508	TBR1510	TBR1512	TBR1514	TBR1516	TBR	59	93
25	TBR2508	TBR2510	TBR2512	TBR2514	TBR2516			
35	TBR3508	TBR3510	TBR3512	TBR3514	TBR3516			

Diode & Bridge Rectifiers	
C_J	Junction Capacitance
I_F	DC Forward Current
$I_{(AV)}$	Average Forward Rectifier Current
I_D	Stand-by Reverse Leakage Current
I_{FSM}	Peak Forward Surge Current
I_O	Mean Forward Current
I_R	Reverse Leakage Current
I_{RR}	Reverse Recovery Current
I_{PP}	Maximum Peak Impulse Current
$I_{RM(REC)}$	Maximum Peak Recovery Current
I_{RSM}	Maximum Non-Repetitive Reverse Peak Current
I_T	On-State Test Current
I^2t	Rating for Fusing
I_{ZT}	DC Test Current
I_{ZK}	DC Test Current & Knee
I_{ZM}	Avg. Max. DC Current
I_r	Surge Current
$P_{M(AV)}$	Steady State Power Dissipation
T_A	Ambient Temperature
T_C	Case Temperature
T_J	Junction Temperature
T_L	Lead Temperature
T_{rr}	Reverse Recovery Time
T_{STG}	Storage Temperature
$V_{(BR)}$	Reverse Breakdown Voltage
V_{FM}	Instantaneous Forward Voltage
V_{FR}	Forward Recovery Voltage
V_R	DC Reverse Voltage
V_{RM}	Maximum Recurrent Peak Reverse Voltage
V_C	Clamping Voltage
V_{WM}	Working Stand-off Voltage
V_Z	Zener Voltage
Z_{ZK}	Dynamic Impedance & Knee
Z_{ZT}	Dynamic Impedance
ΔV_Z	Maximum Regulation Factor

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	A	A	μA _{dc}	V	A		

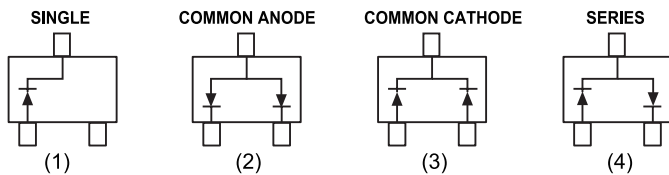
0.05 Ampere

DL60P	40	0.05	0.4	10	0.5	0.001	Mini Melf (DL-35) (No.: 38)	
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0.2 Ampere

LL42 LL43	30	0.2	4	0.5	1.0	0.2	Mini Melf (DL-35) (No.: 38)	
BAS85				2.0	0.8	0.1		
BAT42W BAT43W	30	0.2	4	0.5	1.0	0.2	SOD-123 (No.: 13)	
BAT42WS BAT43WS	30	0.2	4	0.5	1.0	0.2	SOD-323 (No.: 14)	
BAT54WS			0.6	2.0	1.0	0.1		
BAT54(W)* BAT54A(W)* BAT54C(W)* BAT54S(W)*	30	0.2	0.6	2.0	1.0	0.1	SOT-23 (No.: 10) / SOT-323* (No.: 11)	(1) (2) (3) (4) 
BAS40(W)* BAS40-04(W)* BAS40-05(W)* BAS40-06(W)*	40	0.2	0.6	1.0	1.0	0.04		(1) (4) (3) (2) 
BAS70(W)* BAS70-04(W)* BAS70-05(W)* BAS70-06(W)*	70	0.2	0.6	0.1	1.0	0.15		(1) (4) (3) (2) 

NOTE: *Suffix "W" indicates "SOT-323" package.(e.g.: BAT54W, BAS40W-06)



SOT-23/SOT-323 Pin Configuration (Top View)

0.35 Ampere

DLM103A DLM103B DLM103C	40 30 20	0.35	15	5.0	0.6	0.2	Micro Melf (No.: 36)	
DLQ103A DLQ103B DLQ103C	40 30 20							
LL103A LL103B LL103C	40 30 20	0.35	15	5.0	0.6	0.2	Mini Melf (DL-35) (No.: 38)	
SD103AW(S)* SD103BW(S)* SD103CW(S)*	40 30 20	0.35	2	5.0	0.7	0.2	SOD-123 (No.: 13) / SOD-323* (No.: 14)	

NOTE: *Suffix "S" indicates "SOD-323" package.(e.g.: SD103AWS, SD103AWS)

SCHOTTKY BARRIER RECTIFIERS (SMD Type)



SCHOTTKY

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

0.5 Ampere

SM120M	20	0.5	25	1.0	0.45	0.5	SM-2 (DO-213AA) (No.: 41)	
SM130M	30				0.55			
SM140M	40				0.60			
SM150M	50				0.75			
SM160M	60				0.85			
SM180M	80	0.5	6	0.25 0.13 0.02	0.385	0.5	SOD-123 (No.: 13)	
SM1100M	100				0.430			
SS0520	20				0.620			
SS0530	30							
SS0540	40							

1.0 Ampere

1N5817FL	20	1.0	30	1.0	0.45	1.0	SOD-123FL (No.: 16)	
1N5818FL	30				0.55			
1N5819FL	40				0.60			
1N5817W(S)*	20	1.0	30	1.0	0.45	1.0	SOD-123 (No.: 13) / SOD-323* (No.: 14)	
1N5818W(S)*	30				0.55			
1N5819W(S)*	40				0.60			
SK12	20	1.0	30	1.0	0.55	1.0	SMB (DO-214AA) (No.: 29)	
SK13	30				0.70			
SK14	40				0.85			
SK15	50				0.95			
SK16	60							
SK18	80							
SK110	100							
SK115	150							
SK120	200							
SK12FL	20	1.0	30	1.0	0.55	1.0	SOD-123FL (No.: 16)	
SK13FL	30				0.70			
SK14FL	40				0.85			
SK15FL	50				0.95			
SK16FL	60							
SK18FL	80							
SK110FL	100							
SK115FL	150							
SK120FL	200							
SM5817(S)**	20	1.0	30 (25)**	1.0	0.45	1.0	SM-1 (DO-213AB) (No.: 40) / SM-2** (DO-213AA) (No.: 41)	
SM5818(S)**	30				0.55			
SM5819(S)**	40				0.60			
SM150(S)**	50				0.70			
SM160(S)**	60				0.85			
SM180(S)**	80							
SM1100(S)**	100							
SS12	20	1.0	30	1.0	0.55	1.0	SMA (DO-214AC) (No.: 28)	
SS13	30				0.70			
SS14	40				0.85			
SS15	50				0.95			
SS16	60							
SS18	80							
SS110	100							
SS115	150							
SS120	200							

NOTE: (1) * Suffix "S" indicates "SOD-323" package.(e.g.: 1N5817W**S**)

(2) ** Suffix "S" indicates "SM-2" package.(e.g.: SM5817**S**), I_{FSM} only 25A reachable.

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		[Package Outline Drawing No. Please refer to Page: 131~139]
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}	
	V	A	A	mAdc	V	A	

1.0 Ampere

SS12F	20	1.0	30	1.0	0.55	1.0	SMAFL (No.: 32)	
SS14F	40							
SS16F	60				0.70			
SS18F	80				0.85			
SS110F	100							
SS112F	120				0.95			
SS115F	150							
SS120F	200							

2.0 Amperes

SK22	20	2.0	50	2.0	0.55	2.0	SMB (DO-214AA) (No.: 29)	
SK23	30				0.70			
SK24	40							
SK25	50				0.85			
SK26	60							
SK28	80				0.95			
SK210	100							
SK215	150							
SK220	200							
SK22FL	20	2.0	40	2.0	0.55	2.0	SOD-123FL (No.: 16)	
SK23FL	30				0.75			
SK24FL	40							
SK25FL	50				0.85			
SK26FL	60							
SK28FL	80				0.95			
SK210FL	100							
SK215FL	150							
SK220FL	200							
SM220	20	2.0	40	2.0	0.45	2.0	SM-1 (DO-213AB) (No.: 40)	
SM230	30				0.55			
SM240	40							
SM250	50				0.75			
SM260	60							
SM280	80							
SM2100	100				0.85			
SS22	20	2.0	40	2.0	0.55	2.0	SMA (DO-214AC) (No.: 28)	
SS23	30				0.70			
SS24	40							
SS25	50				0.85			
SS26	60							
SS28	80				0.95			
SS210	100							
SS215	150							
SS220	200							
SS22F	20	2.0	40	2.0	0.55	2.0	SMAFL (No.: 32)	
SS24F	40				0.70			
SS26F	60							
SS28F	80				0.85			
SS210F	100							
SS212F	120				0.95			
SS215F	150							
SS220F	200							

SCHOTTKY BARRIER RECTIFIERS (SMD Type)



SCHOTTKY

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

2.0 Amperes

SS22BF	20	2.0	50	2.0	0.55	2.0	SMBFL (No.: 33)	
SS24BF	40							
SS26BF	60				0.70			
SS28BF	80				0.85			
SS210BF	100				0.95			
SS212BF	120							
SS215BF	150							
SS220BF	200							

3.0 Amperes

SK32	20	3.0	100	2.0	0.55	3.0	SMC (DO-214AB) (No.: 30)		
SK33	30				0.70				
SK34	40								
SK35	50								
SK36	60								
SK38	80	0.85							
SK310	100								
SK315	150								
SK320	200								
SK32B	20	3.0	80	2.0	0.55	3.0	SMB (DO-214AA) (No.: 29)		
SK33B	30				0.70				
SK34B	40								
SK35B	50								
SK36B	60								
SK38B	80	0.85							
SK310B	100								
SK315B	150								
SK320B	200								
SK32FL	20	3.0	70	2.0	0.55	3.0	SOD-123FL (No.: 16)		
SK33FL	30				0.70				
SK34FL	40								
SK35FL	50								
SK36FL	60								
SK38FL	80	0.85							
SK310FL	100								
SK312FL	120								
SK315FL	150								
SK320FL	200	0.95							
SM320	20		3.0	50	2.0	0.45	3.0	SM-1 (DO-213AB) (No.: 40)	
SM330	30					0.55			
SM340	40								
SM350	50								
SM360	60								
SM380	80	0.70							
SM3100	100								
SS32	20		3.0	70	2.0	0.55	3.0	SMA (DO-214AC) (No.: 28)	
SS33	30					0.70			
SS34	40								
SS35	50								
SS36	60								
SS38	80	0.85							
SS310	100								
SS315	150								
SS320	200		0.95						

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

3.0 Amperes

SS32F	20	3.0	70	2.0	0.55	3.0	SMAFL (No.: 32)		
SS34F	40				0.70				
SS36F	60								
SS38F	80								
SS310F	100								
SS312F	120				0.85				
SS315F	150	0.95							
SS320F	200								
SS32BF	20		3.0	80		2.0	0.55	3.0	SMBFL (No.: 33)
SS34BF	40								
SS36BF	60	0.70							
SS38BF	80								
SS310BF	100								
SS312BF	120				0.85				
SS315BF	150	0.95							
SS320BF	200								

5.0 Amperes

SD520S	20	5.0	100	2.0	0.55	5.0	TO-252 (DPAK) (No.: 43)	
SD530S	30				0.75			
SD540S	40				0.85			
SD550S	50				0.55			
SD560S	60				0.75			
SD580S	80	5.0	100	2.0	0.85	5.0	SMC (DO-214AB) (No.: 30)	
SD5100S	100				0.55			
SK52	20				0.75			
SK53	30				0.85			
SK54	40				0.95			
SK55	50	5.0	100	2.0	0.55	5.0	SMAFL (No.: 32)	
SK56	60				0.75			
SK58	80				0.85			
SK510	100				0.95			
SK515	150				0.55			
SK520	200	5.0	100	2.0	0.75	5.0	SMBFL (No.: 33)	
SS52F	20				0.85			
SS54F	40				0.95			
SS56F	60				0.55			
SS58F	80				0.75			
SS510F	100	5.0	100	2.0	0.85	5.0	SMAFL (No.: 32)	
SS512F	120				0.95			
SS515F	150				0.55			
SS520F	200				0.75			
SS52BF	20				0.85			
SS54BF	40	5.0	100	2.0	0.95	5.0	SMBFL (No.: 33)	
SS56BF	60				0.55			
SS58BF	80				0.75			
SS510BF	100				0.85			
SS512BF	120				0.95			
SS515BF	150	5.0	100	2.0	0.55	5.0	SMBFL (No.: 33)	
SS520BF	200				0.75			

SCHOTTKY BARRIER RECTIFIERS (SMD Type)



SCHOTTKY

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

8.0 Amperes

SD820D	20	8.0	150	2.0	0.65	8.0	TO-263 (D ² PAK) Single Dice (No.: 44)	
SD830D	30							
SD840D	40							
SD850D	50				0.75			
SD860D	60							
SD880D	80							
SD8100D	100				0.85			
SD820S	20	8.0	150	2.0	0.65	8.0 (*4.0)	TO-252 (DPAK) (No.: 43)	
SD830S	30							
SD840S	40							
SD850S	50				0.75			
SD860S	60							
SD880S	80							
SD8100S	100				0.85			

10 Amperes

SD1020D	20	10	150	2.0	0.65	5.0	TO-263 (D ² PAK) Dual Dice (No.: 44)	
SD1030D	30							
SD1040D	40							
SD1050D	50							
SD1060D	60				0.75			
SD1080D	80				0.85			
SD10100D	100							
SD1020S	20	10	150	2.0	0.65	10 (*5.0)	TO-252 (DPAK) (No.: 43)	
SD1030S	30							
SD1040S	40							
SD1050S	50							
SD1060S	60				0.75			
SD1080S	80				0.85			
SD10100S	100							
S10P45	45	10	180	1.0	0.42	5.0	TO-277A (No.: 34)	

NOTE: *Applied for Suffix. "C".

**SD8xxS,SD10xxS series is also available in different circuit figure(Suffix "Y" & "C"). (e.g.: SD820SY,SD8100SC,SD1040SY,SD1080SC)

no suffix	"Y" suffixed	"C" suffixed

15 Amperes

S15P45	45	15	210	2.0	0.45	7.5	TO-277A (No.: 34)	
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16 Amperes

SD1620D	20	16	150	2.0	0.65	8.0	TO-263 (D ² PAK) Dual Dice (No.: 44)	
SD1630D	30							
SD1640D	40							
SD1650D	50							
SD1660D	60				0.75			
SD1680D	80				0.85			
SD16100D	100							

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	A	A	mAdc	V	A		

0.05 Ampere

1N60P	40	0.05	0.4	10	0.5	0.001	DO-35 (No.: 8)	
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0.2 Ampere

BAT42	30	0.2	4	0.5	1.0	0.2	DO-35 (No.: 8)	
BAT43				2.0	0.8	0.1		
BAT85								

0.35 Ampere

SD103A	40	0.35	15	5.0	0.6	0.2	DO-35 (No.: 8)	
SD103B	30							
SD103C	20							

1.0 Ampere

1S2	20	1.0	25	1.0	0.55	1.0	R-1 (No.: 1)	
1S3	30							
1S4	40							
1S5	50				0.70			
1S6	60							
1S8	80				0.85			
1S10	100							
1N5817	20	1.0	30	1.0	0.45	1.0	DO-41 (No.: 3)	
1N5818	30				0.55			
1N5819	40				0.60			
SR150	50							
SR160	60				0.70			
SR180	80							
SR1100	100				0.85			
SR1150	150							
SR1200	200				0.95			

2.0 Amperes

SR220	20	2.0	50	2.0	0.55	2.0	DO-15 (No.: 4)				
SR230	30				0.70						
SR240	40										
SR250	50				0.85						
SR260	60										
SR280	80				0.95						
SR2100	100										
SR2150	150				0.95						
SR2200	200										

3.0 Amperes

1N5820	20	3.0	80	2.0	0.48	3.0	DO-27 (No.: 5)	
1N5821	30				0.50			
1N5822	40				0.53			
SR350	50				0.75			
SR360	60							
SR380	80				0.85			
SR3100	100							
SR3150	150				0.95			
SR3200	200							

SCHOTTKY BARRIER RECTIFIERS

(Axial Lead Type & Power Pack Type)



SCHOTTKY

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

5.0 Amperes

SR520	20	5.0	150	2.0	0.55	5.0	DO-27 (No.: 5)	
SR530	30							
SR540	40							
SR550	50				0.70			
SR560	60				0.85			
SR580	80							
SR5100	100							
SR5150	150				0.95			
SR5200	200							
SD520	20	5.0	100	2.0	0.55	5.0	TO-251 (No.: 42)	
SD530	30							
SD540	40							
SD550	50				0.70			
SD560	60				0.85			
SD580	80							
SD5100	100							
SD5150	150				0.95			
SD5200	200							

8.0 Amperes

SR820	20	8.0	150	2.0	0.65	8.0	TO-220A (No.: 47)	
SR830	30				0.75			
SR840	40				0.85			
SR850	50				0.95			
SR860	60							
SR880	80							
SR8100	100							
SR8150	150	8.0	150	2.0		8.0 (*4.0)	TO-251 (No.: 42)	
SR8200	200				0.65			
SD820	20				0.75			
SD830	30				0.85			
SD840	40				0.95			
SD850	50							
SD860	60							
SD880	80							
SD8100	100							
SD8150	150							
SD8200	200							

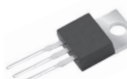
NOTE: *Applied for Suffix. "C".

**SD8xx series is also available in different circuit figure(Suffix "Y" & "C"). (e.g.: SD820Y,SD8100C)

no suffix	"Y" suffixed	"C" suffixed

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		[Package Outline Drawing No. Please refer to Page: 131~139]
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

10 Amperes

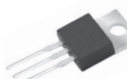
SD1020	20	10	150	2.0	0.70	10 (*5.0)	TO-251 (No.: 42)	
SD1030	30							
SD1040	40							
SD1050	50				0.80			
SD1060	60				0.85			
SD1080	80							
SD10100	100				0.95			
SD10150	150							
SD10200	200							
SR1020	20	10	150	2.0	0.70	5.0	TO-220 (No.: 45)	
SR1030	30							
SR1040	40							
SR1050	50				0.80			
SR1060	60				0.85			
SR1080	80							
SR10100	100				0.95			
SR10150	150							
SR10200	200							

NOTE: *Applied for Suffix. "C".

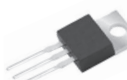
**SD10xx series is also available in different circuit figure(Suffix "Y" & "C"). (e.g.: SD1020Y,SD10100C)

no suffix	"Y" suffixed	"C" suffixed
		

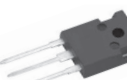
16 Amperes

SR1620	20	16	150	2.0	0.65	8.0	TO-220 (No.: 45)	
SR1630	30							
SR1640	40							
SR1650	50				0.75			
SR1660	60				0.85			
SR1680	80				0.95			
SR16100	100							
SR16150	150							
SR16200	200							

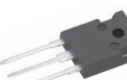
20 Amperes

SR2020	20	20	200	2.0	0.70	10	TO-220 (No.: 45)	
SR2030	30							
SR2040	40							
SR2050	50				0.80			
SR2060	60				0.85			
SR2080	80				0.95			
SR20100	100							
SR20150	150							
SR20200	200							

30 Amperes

SR3020	20	30	250	2.0	0.65	15	TO-3P (No.: 50)	
SR3030	30							
SR3040	40							
SR3050	50				0.75			
SR3060	60							

50 Amperes

SR5020	20	50	300	3.0	0.65	25	TO-3P (No.: 50)	
SR5030	30							
SR5040	40							
SR5050	50				0.75			
SR5060	60							

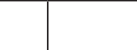
SCHOTTKY BARRIER RECTIFIERS (Photovoltaic Solar Cell Protection)



SCHOTTKY

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

10 Amperes

10SQ030	30	10	275	0.5	0.55	10	R-6 (No.: 9)	
10SQ040	40							
10SQ050	50				0.70			
10SQ060	60				0.80			
10SQ080	80							
10SQ100	100							
SQ1030	30	10	275	0.5	0.55	10	DO-27 (No.: 5)	
SQ1040	40							
SQ1050	50				0.70			
SQ1060	60				0.80			
SQ1080	80							
SQ10100	100							

12 Amperes

12SQ030	30	12	300	0.5	0.55	12	R-6 (No.: 9)	
12SQ040	40							
12SQ050	50				0.70			
12SQ060	60							
12SQ080	80				0.80			
12SQ100	100							
SQ1230	30	12	300	0.5	0.55	12	DO-27 (No.: 5)	
SQ1240	40							
SQ1250	50				0.70			
SQ1260	60							
SQ1280	80				0.80			
SQ12100	100							

15 Amperes

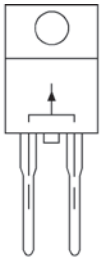
15SQ030	30	15	320	0.5	0.55	15	R-6 (No.: 9)	
15SQ040	40							
15SQ050	50				0.70			
15SQ060	60							
15SQ080	80				0.80			
15SQ100	100							
SQ1530	30	15	320	0.5	0.55	15	DO-27 (No.: 5)	
SQ1540	40							
SQ1550	50				0.70			
SQ1560	60							
SQ1580	80				0.80			
SQ15100	100							

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}	
	V	A	A	mAdc	V	A	

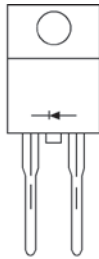
20 Amperes

SD2040* SD2045*	40 45	20	400	0.5	0.60	20	TO-220A (No.: 47)	
SD2040A** SD2045A**	40 45	20	400	0.5	0.60	20		
SDA2040 SDA2045	40 45	20	300	0.5	0.62	20		
SDC2040C SDC2045C	40 45	20	150	0.5	0.55	10		
SP2040 SP2045	40 45	20	400	0.5	0.60	20	TO-263 (D ² PAK) (No.: 44)	
SPA2040 SPA2045	40 45	20	300	0.5	0.62	20		
SPB2045 SPB2050	45 50	20	275	0.5	0.55	20		
SPC2040C SPC2045C	40 45	20	150	0.5	0.55	10		

NOTE: SD204x & SD204xA are in different circuit figure.



SD2040~45A



SD2040~45

SUPER FAST RECTIFIERS (SMD Type)



SUPER FAST

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

0.3 Ampere

SF03AFL	50	35	0.3	10	5.0	0.95	0.3	SOD-123FL (No.: 16)	
SF03BFL	100								
SF03CFL	150								
SF03DFL	200								
SF03EFL	300					1.25			
SF03GFL	400								
SF03JFL	600					1.70			

0.5 Ampere

SF05AFL	50	35	0.5	15	5.0	0.95	0.5	SOD-123FL (No.: 16)	
SF05BFL	100								
SF05CFL	150								
SF05DFL	200								
SF05EFL	300					1.25			
SF05GFL	400								
SF05JFL	600					1.70			

1.0 Ampere

ER1A	50	35	1.0	30	5.0	0.95	1.0	SMB (DO-214AA) (No.: 29)	
ER1B	100								
ER1C	150								
ER1D	200								
ER1E	300					1.25			
ER1G	400								
ER1J	600					1.70			
ES1A	50	35	1.0	30	5.0	0.95	1.0	SMA (DO-214AC) (No.: 28)	
ES1B	100								
ES1C	150								
ES1D	200								
ES1E	300					1.25			
ES1G	400								
ES1J	600					1.70			
ES1AF	50	35	1.0	30	5.0	0.95	1.0	SMAFL (No.: 32)	
ES1BF	100								
ES1CF	150								
ES1DF	200								
ES1EF	300					1.25			
ES1GF	400								
ES1JF	600					1.70			
ES1ABF	50	35	1.0	30	5.0	0.95	1.0	SMBFL (No.: 33)	
ES1BBF	100								
ES1CBF	150								
ES1DBF	200								
ES1EBF	300					1.25			
ES1GBF	400								
ES1JBF	600					1.70			

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

ESM101	50	35	1.0	30	5.0	0.95	1.0	SM-1 (DO-213AB) (No.: 40)	
ESM102	100					1.25			
ESM103	150								
ESM104	200								
ESM105	300	35	1.0	25	5.0	1.25	1.0	SOD-123FL (No.: 16)	
ESM106	400					1.70			
ESM108	600								
SF1AFL	50								
SF1BFL	100	35	1.0	25	5.0	0.95	1.0	SOD-123FL (No.: 16)	
SF1CFL	150					1.25			
SF1DFL	200								
SF1EFL	300								
SF1GFL	400	35	1.0	25	5.0	1.25	1.0	SOD-123FL (No.: 16)	
SF1JFL	600					1.70			

2.0 Amperes

ER2A	50	35	2.0	50	5.0	0.95	2.0	SMB (DO-214AA) (No.: 29)	
ER2B	100					1.25			
ER2C	150								
ER2D	200								
ER2E	300	35	2.0	50	5.0	1.25	2.0	SMAFL (No.: 32)	
ER2G	400					1.70			
ER2J	600								
ES2AF	50								
ES2BF	100	35	2.0	50	5.0	0.95	2.0	SMAFL (No.: 32)	
ES2CF	150					1.25			
ES2DF	200								
ES2EF	300								
ES2GF	400	35	2.0	50	5.0	1.25	2.0	SMBFL (No.: 33)	
ES2JF	600					1.70			
ES2ABF	50								
ES2BBF	100								
ES2CBF	150	35	2.0	50	5.0	0.95	2.0	SMBFL (No.: 33)	
ES2DBF	200					1.25			
ES2EBF	300								
ES2GBF	400								
ES2JBF	600	35	2.0	50	5.0	1.25	2.0	SOD-123FL (No.: 16)	
SF2AFL	50					1.70			
SF2BFL	100								
SF2CFL	150								
SF2DFL	200	35	2.0	50	5.0	0.95	2.0	SOD-123FL (No.: 16)	
SF2EFL	300					1.25			
SF2GFL	400								
SF2JFL	600								

SUPER FAST RECTIFIERS (SMD Type)



SUPER FAST

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

3.0 Amperes

ER3A	50	35	3.0	100	5.0	0.95	3.0	SMC (DO-214AB) (No.: 30)	
ER3B	100					1.25			
ER3C	150								
ER3D	200								
ER3E	300	35	3.0	80	5.0	0.95	3.0	SMAFL (No.: 32)	
ER3G	400					1.25			
ER3J	600								
ES3AF	50					35			
ES3BF	100	1.25							
ES3CF	150								
ES3DF	200								
ES3EF	300	35	3.0	80	5.0	1.25	3.0	SMAFL (No.: 32)	
ES3GF	400					1.70			
ES3JF	600								
ES3ABF	50					35			
ES3BBF	100	1.25							
ES3CBF	150								
ES3DBF	200								
ES3EBF	300	35	3.0	80	5.0	1.25	3.0	SMBFL (No.: 33)	
ES3GBF	400					1.70			
ES3JBF	600								

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	nS	A	A	μA _{dc}	V	A		

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

SF11	50	35	1.0	30	5.0	0.95	1.0	DO-41 (No.: 3)	
SF12	100								
SF13	150								
SF14	200								
SF15	300					1.40			
SF16	400								
SF18	600					1.85			

2.0 Amperes

SF21	50	35	2.0	50	5.0	0.95	2.0	DO-15 (No.: 4)	
SF22	100								
SF23	150								
SF24	200								
SF25	300					1.40			
SF26	400								
SF28	600					1.85			

3.0 Amperes

SF31	50	35	3.0	80	5.0	0.95	3.0	DO-27 (No.: 5)	
SF32	100								
SF33	150								
SF34	200								
SF35	300					1.40			
SF36	400								
SF38	600					1.85			

5.0 Amperes

SF51	50	35	5.0	150	5.0	0.95	5.0	DO-27 (No.: 5)	
SF52	100								
SF53	150								
SF54	200								
SF55	300					1.40			
SF56	400								
SF58	600					1.85			

SUPER FAST RECTIFIERS (Power Pack Type)



SUPER FAST

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

8.0 Amperes

SF81	50	35	8.0	125	10	0.975	8.0	TO-220A (No.: 47)	
SF82	100								
SF83	150								
SF84	200								
SF85	300	50			1.35				
SF86	400								
SF88	600				1.70				

16 Amperes

SF161	50	35	16	125	10	0.975	8.0	TO-220 (No.: 45)	
SF162	100								
SF163	150								
SF164	200								
SF165	300	50				1.35			
SF166	400					1.70			
SF168	600								

30 Amperes

SF301	50	35	30	250	10	0.975	15	TO-3P (No.: 50)	
SF302	100								
SF303	150								
SF304	200								
SF305	300	50				1.35			
SF306	400					1.70			
SF308	600								

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

0.3 Ampere

UF03AFL	50	50	0.3	10	5.0	1.0	0.3	SOD-123FL (No.: 16)	
UF03BFL	100								
UF03CFL	200								
UF03DFL	400	1.3							
UF03EFL	600	75				1.7			
UF03GFL	800								
UF03JFL	1000								

0.5 Ampere

UF05AFL	50	50	0.5	15	5.0	1.0	0.5	SOD-123FL (No.: 16)	
UF05BFL	100								
UF05CFL	200								
UF05DFL	400	1.3							
UF05EFL	600	75				1.7			
UF05GFL	800								
UF05JFL	1000								

1.0 Ampere

UF1A	50	50	1.0	30	5.0	1.0	1.0	SMB (DO-214AA) (No.: 29)				
UF1B	100					1.3						
UF1D	200					1.7						
UF1G	400	100				1.7						
UF1J	600					1.7						
UF1K	800					1.7						
UF1M	1000											
UF1AFL	50	50	1.0	25	5.0	1.0	1.0	SOD-123FL (No.: 16)				
UF1BFL	100					1.3						
UF1DFL	200					1.7						
UF1GFL	400	75				1.7						
UF1JFL	600					1.7						
UF1KFL	800					1.7						
UF1MFL	1000											
US1A	50	50	1.0	30	5.0	1.0	1.0	SMA (DO-214AC) (No.: 28)				
US1B	100					1.3						
US1D	200					1.7						
US1G	400	100				1.7						
US1J	600					1.7						
US1K	800					1.7						
US1M	1000											
US1AF	50	50	1.0	30	5.0	1.0	1.0	SMAFL (No.: 32)				
US1BF	100					1.3						
US1DF	200					1.7						
US1GF	400	75				1.7						
US1JF	600					1.7						
US1KF	800					1.7						
US1MF	1000											
US1ABF	50	50	1.0	30	5.0	1.0	1.0	SMBFL (No.: 33)				
US1BBF	100					1.3						
US1DBF	200					1.7						
US1GBF	400	75				1.7						
US1JBF	600					1.7						
US1KBF	800					1.7						
US1MBF	1000											

ULTRA FAST RECTIFIERS (SMD Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

2.0 Amperes

UF2A	50	50	2.0	50	5.0	1.0	2.0	SMB (DO-214AA) (No.: 29)	
UF2B	100								
UF2D	200								
UF2G	400	100				1.3			
UF2J	600					1.7			
UF2K	800								
UF2M	1000								
US2AF	50	50	2.0	50	5.0	1.0	2.0	SMAFL (No.: 32)	
US2BF	100								
US2DF	200								
US2GF	400	75				1.3			
US2JF	600					1.7			
US2KF	800								
US2MF	1000								
US2ABF	50	50	2.0	50	5.0	1.0	2.0	SMBFL (No.: 33)	
US2BBF	100								
US2DBF	200								
US2GBF	400	75				1.3			
US2JBF	600					1.7			
US2KBF	800								
US2MBF	1000								
UF2AFL	50	50	2.0	30	5.0	1.0	2.0	SOD-123FL (No.: 16)	
UF2BFL	100								
UF2DFL	200								
UF2GFL	400	75				1.3			
UF2JFL	600					1.7			
UF2KFL	800								
UF2MFL	1000								

3.0 Amperes

UF3A	50	50	3.0	100	5.0	1.0	3.0	SMC (DO-214AB) (No.: 30)	
UF3B	100					1.3			
UF3D	200								
UF3G	400	100				1.7			
UF3J	600								
UF3K	800								
UF3M	1000								
US3AF	50	50	3.0	100	5.0	1.0	3.0	SMAFL (No.: 32)	
US3BF	100					1.3			
US3DF	200								
US3GF	400	100				1.7			
US3JF	600								
US3KF	800								
US3MF	1000								
US3ABF	50	50	3.0	100	5.0	1.0	3.0	SMBFL (No.: 33)	
US3BBF	100					1.3			
US3DBF	200								
US3GBF	400	100				1.7			
US3JBF	600								
US3KBF	800								
US3MBF	1000								

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

UF4001	50	50	1.0	30	5.0	1.0	1.0	DO-41 (No.: 3)				
UF4002	100					1.7						
UF4003	200											
UF4004	400											
UF4005	600	75	1.0	30	5.0	1.7	1.0	DO-41 (No.: 3)				
UF4006	800											
UF4007	1000											

3.0 Amperes

UF5400	50	50	3.0	150	10	1.0	3.0	DO-27 (No.: 5)				
UF5401	100					1.7						
UF5402	200											
UF5404	400											
UF5406	600	100	3.0	150	10	1.7	3.0	DO-27 (No.: 5)				
UF5407	800											
UF5408	1000											

HIGH EFFICIENCY RECTIFIERS (SMD Type & Axial Lead Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

HSM101	50	50	1.0	30	5.0	1.0	1.0	SM-1 (DO-213AB) (No.: 40)											
HSM102	100					1.3													
HSM103	200																		
HSM104	300	75																	
HSM105	400																		
HSM106	600	100				1.7													
HSM107	800																		
HSM108	1000																		

1.0 Ampere

1H1	50	50	1.0	25	5.0	1.0	1.0	R-1 (No.: 1)	
1H2	100					1.3			
1H3	200								
1H4	300								
1H5	400								
1H6	600	100				1.7			
1H7	800								
1H8	1000								
HER101	50	50	1.0	30	5.0	1.0	1.0	DO-41 (No.: 3)	
HER102	100					1.3			
HER103	200								
HER104	300								
HER105	400								
HER106	600	100				1.7			
HER107	800								
HER108	1000								

1.5 Amperes

HER151	50	50	1.5	50	5.0	1.0	1.5	DO-15 (No.: 4)											
HER152	100					1.3													
HER153	200																		
HER154	300	75																	
HER155	400																		
HER156	600	100				1.7													
HER157	800																		
HER158	1000																		

2.0 Amperes

HER201	50	50	2.0	60	5.0	1.0	2.0	DO-15 (No.: 4)											
HER202	100					1.3													
HER203	200																		
HER204	300	75																	
HER205	400																		
HER206	600	100				1.7													
HER207	800																		
HER208	1000																		

HIGH EFFICIENCY

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

3.0 Amperes

HER301	50	50	3.0	150	10	1.0	3.0	DO-27 (No.: 5)	
HER302	100								
HER303	200								
HER304	300	75				1.3			
HER305	400								
HER306	600	100				1.7			
HER307	800								
HER308	1000								

5.0 Amperes

HER501	50	50	5.0	150	10	1.0	5.0	DO-27 (No.: 5)	
HER502	100								
HER503	200								
HER504	300	75				1.3			
HER505	400								
HER506	600	100				1.7			
HER507	800								
HER508	1000								

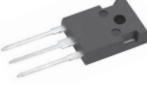
8.0 Amperes

HER801	50	50	8.0	150	10	1.0	8.0	TO-220A (No.: 47)												
HER802	100			125		1.3														
HER803	200																			
HER804	300	75																		
HER805	400																			
HER806	600	100				1.7														

16 Amperes

HER1601	50	50	16	150	10	1.0	8.0	TO-220 (No.: 45)												
HER1602	100			125		1.3														
HER1603	200																			
HER1604	300	75																		
HER1605	400																			
HER1606	600	100				1.7														

30 Amperes

HER3001	50	50	30	250	10	1.0	15	TO-3P (No.: 50)												
HER3002	100			200		1.3														
HER3003	200																			
HER3004	300	75																		
HER3005	400																			
HER3006	600	100				1.7														

FAST RECOVERY RECTIFIERS (SMD Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

0.3 Ampere

FR03AFL	50	150	0.3	10	5.0	1.3	0.3	SOD-123FL (No.: 16)	
FR03BFL	100								
FR03DFL	200								
FR03GFL	400								
FR03JFL	600	250							
FR03KFL	800	500							
FR03MFL	1000								

0.5 Ampere

FR05AFL	50	150	0.5	15	5.0	1.3	0.5	SOD-123FL (No.: 16)	
FR05BFL	100								
FR05DFL	200								
FR05GFL	400								
FR05JFL	600	250							
FR05KFL	800	500							
FR05MFL	1000								
RGL34A	50	150	0.5	25	5.0	1.3	0.5	SM-2 (DO-213AA) (No.: 41)	
RGL34B	100								
RGL34D	200								
RGL34G	400								
RGL34J	600	250							
RGL34K	800	500							
RGL34M	1000								

0.7 Ampere

FR07AFL	50	150	0.7	25	5.0	1.3	0.7	SOD-123FL (No.: 16)	
FR07BFL	100								
FR07DFL	200								
FR07GFL	400								
FR07JFL	600	250							
FR07KFL	800	500							
FR07MFL	1000								

1.0 Ampere

FR1A	50	150	1.0	30	5.0	1.3	1.0	SMB (DO-214AA) (No.: 29)	
FR1B	100								
FR1D	200								
FR1G	400								
FR1J	600	250							
FR1K	800	500							
FR1M	1000								
FR1AFL	50	150	1.0	25	5.0	1.3	1.0	SOD-123FL (No.: 16)	
FR1BFL	100								
FR1DFL	200								
FR1GFL	400								
FR1JFL	600	250							
FR1KFL	800	500							
FR1MFL	1000								

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

FSM101	50	150	1.0	30	5.0	1.3	1.0	SM-1 (DO-213AB) (No.: 40)	
FSM102	100								
FSM103	200								
FSM104	400								
FSM105	600	250	1.0	30	5.0	1.3	1.0	SMA (DO-214AC) (No.: 28)	
FSM106	800	500							
FSM107	1000								
RS1A	50	150	1.0	30	5.0	1.3	1.0	SMAFL (No.: 32)	
RS1B	100								
RS1D	200								
RS1G	400								
RS1J	600	250	1.0	30	5.0	1.3	1.0	SMBFL (No.: 33)	
RS1K	800	500							
RS1M	1000								
RS1AF	50	150	1.0	30	5.0	1.3	1.0	SM-1 (DO-213AB) (No.: 40)	
RS1BF	100								
RS1DF	200								
RS1GF	400								
RS1JF	600	250	1.0	30	5.0	1.3	1.0	SM-1 (DO-213AB) (No.: 40)	
RS1KF	800	500							
RS1MF	1000								
RS1ABF	50	150	1.0	30	5.0	1.3	1.0	SM-1 (DO-213AB) (No.: 40)	
RS1BBF	100								
RS1DBF	200								
RS1GBF	400								
RS1JBF	600	250	1.0	30	5.0	1.3	1.0	SM-1 (DO-213AB) (No.: 40)	
RS1KBF	800	500							
RS1MBF	1000								
SM4933	50	200	1.0	30	5.0	1.3	1.0	SM-1 (DO-213AB) (No.: 40)	
SM4934	100								
SM4935	200								
SM4936	400								
SM4937	600								

2.0 Amperes

FR2A	50	150	2.0	50	5.0	1.3	2.0	SMB (DO-214AA) (No.: 29)	
FR2B	100								
FR2D	200								
FR2G	400								
FR2J	600	250	2.0	50	5.0	1.3	2.0	SOD-123FL (No.: 16)	
FR2K	800	500							
FR2M	1000								
FR2AFL	50	150	2.0	50	5.0	1.3	2.0	SOD-123FL (No.: 16)	
FR2BFL	100								
FR2DFL	200								
FR2GFL	400								
FR2JFL	600	250	2.0	50	5.0	1.3	2.0	SOD-123FL (No.: 16)	
FR2KFL	800	500							
FR2MFL	1000								

FAST RECOVERY RECTIFIERS (SMD Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

2.0 Amperes

RS2AF RS2BF RS2DF RS2GF	50 100 200 400	150	2.0	50	5.0	1.3	2.0	SMAFL (No.: 32)	
RS2JF	600	250							
RS2KF RS2MF	800 1000	500							
RS2ABF RS2BBF RS2DBF RS2GBF	50 100 200 400	150	2.0	50	5.0	1.3	2.0	SMBFL (No.: 33)	
RS2JBF	600	250							
RS2KBF RS2MBF	800 1000	500							

3.0 Amperes

FR3A FR3B FR3D FR3G	50 100 200 400	150	3.0	100	5.0	1.3	3.0	SMC (DO-214AB) (No.: 30)	
FR3J	600	250							
FR3K FR3M	800 1000	500							
RS3AF RS3BF RS3DF RS3GF	50 100 200 400	150	3.0	100	5.0	1.3	3.0	SMAFL (No.: 32)	
RS3JF	600	250							
RS3KF RS3MF	800 1000	500							
RS3ABF RS3BBF RS3DBF RS3GBF	50 100 200 400	150	3.0	100	5.0	1.3	3.0	SMBFL (No.: 33)	
RS3JBF	600	250							
RS3KBF RS3MBF	800 1000	500							

FAST RECOVERY

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

1F1	50	150	1.0	25	5.0	1.3	1.0	R-1 (No.: 1)								
1F2	100															
1F3	200															
1F4	400															
1F5	600	250														
1F6	800	500														
1F7	1000															
1N4933(G)*	50	150	1.0	30	5.0	1.3	1.0	DO-41 (No.: 3)								
1N4934(G)*	100															
1N4935(G)*	200															
1N4936(G)*	400															
1N4937(G)*	600	250														
BA157(G)*	400	150														
BA158(G)*	600	250														
BA159(G)*	1000	500														
FR101(G)*	50	150														
FR102(G)*	100															
FR103(G)*	200															
FR104(G)*	400															
FR105(G)*	600	250														
FR106(G)*	800	500														
FR107(G)*	1000															
RL101F(G)*	50	150	1.0	30	5.0	1.3	1.0	A-405 (No.: 2)								
RL102F(G)*	100															
RL103F(G)*	200															
RL104F(G)*	400															
RL105F(G)*	600	250														
RL106F(G)*	800	500														
RL107F(G)*	1000															

1.5 Amperes

FR151(G)*	50	150	1.5	50	5.0	1.3	1.5	DO-15 (No.: 4)	
FR152(G)*	100								
FR153(G)*	200								
FR154(G)*	400								
FR155(G)*	600	250							
FR156(G)*	800	500							
FR157(G)*	1000								

NOTE: * Suffix "G" stands for "Glass Passivated Junction".

FAST RECOVERY RECTIFIERS (Axial Lead Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		[Package Outline Drawing No. Please refer to Page: 131~139]
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

2.0 Amperes

BY296	100	150	2.0	70	5.0	1.3	2.0	DO-15 (No.: 4)	
BY297	200								
BY298	400								
BY299	800								
FR201(G)*	50	150							
FR202(G)*	100								
FR203(G)*	200								
FR204(G)*	400								
FR205(G)*	600	250							
FR206(G)*	800	500							
FR207(G)*	1000								

3.0 Amperes

BY396	100	150	3.0	100	10	1.3	3.0	DO-27 (No.: 5)	
BY397	200								
BY398	400								
BY399	800								
FR301(G)*	50	150							
FR302(G)*	100								
FR303(G)*	200								
FR304(G)*	400								
FR305(G)*	600	250							
FR306(G)*	800	500							
FR307(G)*	1000								

5.0 Amperes

FR501(G)*	50	150	5.0	200	10	1.3	5.0	DO-27 (No.: 5)	
FR502(G)*	100								
FR503(G)*	200								
FR504(G)*	400								
FR505(G)*	600	250							
FR506(G)*	800	500							
FR507(G)*	1000								

6.0 Amperes

FR601(G)*	50	150	6.0	300	10	1.3	6.0	R-6 (No.: 9)	
FR602(G)*	100								
FR603(G)*	200								
FR604(G)*	400								
FR605(G)*	600	250							
FR606(G)*	800	500							
FR607(G)*	1000								

NOTE: * Suffix "G" stands for "Glass Passivated Junction".

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	A	A	μA _{dc}	V	A		

0.3 Ampere

S03AFL	50	0.3	10	5.0	1.1	0.3	SOD-123FL (No.: 16)	
S03BFL	100							
S03DFL	200							
S03GFL	400							
S03JFL	600							
S03KFL	800							
S03MFL	1000							

0.5 Ampere

GL34A	50	0.5	30	5.0	1.3	0.5	SM-2 (DO-213AA) (No.: 41)	
GL34B	100							
GL34D	200							
GL34G	400							
GL34J	600							
GL34K	800							
GL34M	1000							
S05AFL	50	0.5	15	5.0	1.1	0.5	SOD-123FL (No.: 16)	
S05BFL	100							
S05DFL	200							
S05GFL	400							
S05JFL	600							
S05KFL	800							
S05MFL	1000							

0.7 Ampere

S07AFL	50	0.7	25	5.0	1.1	0.7	SOD-123FL (No.: 16)	
S07BFL	100							
S07DFL	200							
S07GFL	400							
S07JFL	600							
S07KFL	800							
S07MFL	1000							

1.0 Ampere

GS1A	50	1.0	30	5.0	1.1	1.0	SMA (DO-214AC) (No.: 28)	
GS1B	100							
GS1D	200							
GS1G	400							
GS1J	600							
GS1K	800							
GS1M	1000							
M1	50	1.0	30	5.0	1.1	1.0	SMA-L (No.: 31)	
M2	100							
M3	200							
M4	400							
M5	600							
M6	800							
M7	1000							
S1A	50	1.0	30	5.0	1.1	1.0	SMB (DO-214AA) (No.: 29)	
S1B	100							
S1D	200							
S1G	400							
S1J	600							
S1K	800							
S1M	1000							

GENERAL PURPOSE RECTIFIERS (SMD Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

1.0 Ampere

S1AF S1BF S1DF S1GF S1JF S1KF S1MF	50 100 200 400 600 800 1000	1.0	30	5.0	1.1	1.0	SMAFL (No.: 32)	
S1ABF S1BBF S1DBF S1GBF S1JBF S1KBF S1MBF	50 100 200 400 600 800 1000	1.0	30	5.0	1.1	1.0	SMBFL (No.: 33)	
S1AFL S1BFL S1DFL S1GFL S1JFL S1KFL S1MFL	50 100 200 400 600 800 1000	1.0	30	5.0	1.1	1.0	SOD-123FL (No.: 16)	
SM4001(S)* SM4002(S)* SM4003(S)* SM4004(S)* SM4005(S)* SM4006(S)* SM4007(S)*	50 100 200 400 600 800 1000	1.0	30	5.0	1.1	1.0	SM-1 (DO-213AB) (No.: 40)	

NOTE: * Suffix "S" Stands for "SM-2 (DO-213AA) Package"

1.5 Amperes

SM5391 SM5392 SM5393 SM5395 SM5397 SM5398 SM5399	50 100 200 400 600 800 1000	1.5	30	5.0	1.1	1.5	SM-1 (DO-213AB) (No.: 40)	
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2.0 Amperes

S2A S2B S2D S2G S2J S2K S2M	50 100 200 400 600 800 1000	2.0	60	5.0	1.1	2.0	SMB (DO-214AA) (No.: 29)	
S2AF S2BF S2DF S2GF S2JF S2KF S2MF	50 100 200 400 600 800 1000	2.0	60	5.0	1.1	2.0	SMAFL (No.: 32)	

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

2.0 Amperes

S2ABF S2BBF S2DBF S2GBF S2JBF S2KBF S2MBF	50 100 200 400 600 800 1000	2.0	60	5.0	1.1	2.0	SMBFL (No.: 33)	
S2AFL S2BFL S2DFL S2GFL S2JFL S2KFL S2MFL	50 100 200 400 600 800 1000	2.0	50	5.0	1.1	2.0	SOD-123FL (No.: 16)	

3.0 Amperes

S3A S3B S3D S3G S3J S3K S3M	50 100 200 400 600 800 1000	3.0	100	5.0	1.1	3.0	SMC (DO-214AB) (No.: 30)	
S3AF S3BF S3DF S3GF S3JF S3KF S3MF	50 100 200 400 600 800 1000	3.0	100	5.0	1.1	3.0	SMAFL (No.: 32)	
S3ABF S3BBF S3DBF S3GBF S3JBF S3KBF S3MBF	50 100 200 400 600 800 1000	3.0	100	5.0	1.1	3.0	SMBFL (No.: 33)	
SM5400 SM5401 SM5402 SM5404 SM5406 SM5407 SM5408	50 100 200 400 600 800 1000	3.0	100	5.0	1.1	3.0	SM-1 (DO-213AB) (No.: 40)	

GENERAL PURPOSE RECTIFIERS (Axial Lead Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		[Package Outline Drawing No. Please refer to Page: 131~139]	
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	A	A	μA _{dc}	V	A		

1.0 Ampere

1A1	50							
1A2	100							
1A3	200							
1A4	400	1.0	30	5.0	1.1	1.0	R-1 (No.: 1)	
1A5	600							
1A6	800							
1A7	1000							
1N4001(G)*	50							
1N4002(G)*	100							
1N4003(G)*	200							
1N4004(G)*	400							
1N4005(G)*	600							
1N4006(G)*	800							
1N4007(G)*	1000	1.0	30	5.0	1.1	1.0	DO-41 (No.: 3)	
BY133	1300							
EM513	1600							
EM516	1800							
EM520	2000							
RL101(G)*/1N4001A(G)*	50							
RL102(G)*/1N4002A(G)*	100							
RL103(G)*/1N4003A(G)*	200							
RL104(G)*/1N4004A(G)*	400	1.0	30	5.0	1.1	1.0	A-405 (No.: 2)	
RL105(G)*/1N4005A(G)*	600							
RL106(G)*/1N4006A(G)*	800							
RL107(G)*/1N4007A(G)*	1000							

1.5 Amperes

1N5391(G)*	50							
1N5392(G)*	100							
1N5393(G)*	200							
1N5395(G)*	400	1.5	50	5.0	1.1	1.5	DO-15 (No.: 4)	
1N5397(G)*	600							
1N5398(G)*	800							
1N5399(G)*	1000							

2.0 Amperes

RL201(G)*	50							
RL202(G)*	100							
RL203(G)*	200							
RL204(G)*	400	2.0	70	5.0	1.1	2.0	DO-15 (No.: 4)	
RL205(G)*	600							
RL206(G)*	800							
RL207(G)*	1000							

NOTE: * Suffix "G" Stands for "Glass Passivated Junction"

GENERAL PURPOSE

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

2.5 Amperes

RL251(G)*	50	2.5	70	5.0	1.1	2.5	R-3 (No.: 1)	
RL252(G)*	100							
RL253(G)*	200							
RL254(G)*	400							
RL255(G)*	600							
RL256(G)*	800							
RL257(G)*	1000							

3.0 Amperes

1N5400(G)*	50	3.0	200 (150)**	5.0	1.1	3.0	DO-27 (No.: 5)	
1N5401(G)*	100							
1N5402(G)*	200							
1N5404(G)*	400							
1N5406(G)*	600							
1N5407(G)*	800							
1N5408(G)*	1000							
BY251	200							
BY252	400							
BY253	600							
BY254	800							
BY255	1300							

NOTE: ** 1N540xG series the "I_{FSM}" only 150A reachable.

6.0 Amperes

6A05M	50	6.0	300	10	1.1	6.0	R-6M (No.: 9)	
6A1M	100							
6A2M	200							
6A4M	400							
6A6M	600							
6A8M	800							
6A10M	1000							
6A05(G)*	50	6.0	300 (250)**	10	1.1	6.0	R-6 (No.: 9)	
6A1(G)*	100							
6A2(G)*	200							
6A4(G)*	400							
6A6(G)*	600							
6A8(G)*	800							
6A10(G)*	1000							
P600A	50							
P600B	100							
P600D	200							
P600G	400							
P600J	600							
P600K	800							
P600M	1000							

NOTE: * Suffix "G" Stands for "Glass Passivated Junction"
 ** 6AxG series the "I_{FSM}" only 250A reachable.

GENERAL PURPOSE RECTIFIERS (Axial Lead Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}		
	V	A	A	μA_{dc}	V	A		

8.0 Amperes

8A05	50	8	400	10	1.1	8.0	R-6 (No.: 9)	
8A1	100							
8A2	200							
8A4	400							
8A6	600							
8A8	800							
8A10	1000							

10 Amperes

10A05	50	10	400	10	1.1	10	R-6 (No.: 9)	
10A1	100							
10A2	200							
10A4	400							
10A6	600							
10A8	800							
10A10	1000							

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

0.2 ~ 0.5 Ampere (General Purpose)

R1200	1200	-	0.5	30	5.0	2.0	0.5	DO-41 (No.: 3)	
R1500	1500		0.2			3.0	0.2		
R1800	1800					4.0			
R2000	2000								
R2500	2500		-			0.2	30		
R3000	3000								
R4000	4000	-	0.2	30	5.0	5.0	0.2	DO-15 (No.: 4)	
R5000	5000								

0.2 ~ 0.5 Ampere (Fast Recovery)

R1200F	1200	500	0.5	30	5.0	2.5	0.5	DO-41 (No.: 3)	
R1500F	1500		0.2			4.0	0.2		
R1800F	1800					5.0			
R2000F	2000								
R2500F	2500	500	0.2	30	5.0	6.5	0.2	DO-15 (No.: 4)	
R3000F	3000								
R4000F	4000	500	0.2	30	5.0	6.5	0.2	DO-15 (No.: 4)	
R5000F	5000								

DIACS (Trigger)

TYPE No.	Breakover Voltage (V _{BO})			Max. Breakover Voltage Symmetry (+V _{BO} - -V _{BO})	Max. Breakover Current @V _{BO}	Min. Dynamic Breakback Voltage	Max. Leakage Current	[Package Outline Drawings No. Please refer to Page: 131~139]	
	Volts			V _{BO}	I _{BO}	±ΔV	I _R		
	Min.	Nom.	Max.	Volts	μA	Volts	μA		
DB3	28	32	36	±3	100	5	10	DO-35 (No.: 8) / A-405* (No.: 2)	
DC34	30	34	38						
DB4	35	40	45						
DB6	56	60	70	±4	100	10	10	Mini Melf (DL-35) (No.: 38)	
DLDB3	28	32	36						
DLDC34	30	34	38						
DLDB4	35	40	45						
DLDB6	56	60	70	±4		10			

NOTE: * Also available in A-405 (plastic) package.

HIGH SPEED SWITCHING DIODES (SMD Type)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Power Dissipation	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		[Package Outline Drawing No. Please refer to Page: 131~139]	
	PRV	*Trr	P _{tot}	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	nS	mW	A	μA _{dc}	V	mA		

NOTE: * Trr Test Conditions: I_F = -I_R = 10mA to I_{RR} = -1mA, V_R = 6V, R_L = 100Ω

200 mWatts

1N914WS 1N4148WS 1N4448WS	100	4	200	2.0 2.0 4.0	5.0 2.5 2.5	1.0	10 50 100	SOD-323 (No.: 14)	
BAV16WS	100	6		2.0	1.0	0.855	10		
BAV19WS BAV20WS BAV21WS	120 200 250	50		2.5	1.0	1.0	100		
BAS16W	100	6		2.0	1.0	0.855	10		
BAS19W BAS20W BAS21W	120 200 250	50	200	2.5	0.1	1.0	100	SOT-323 (No.: 11)	(1)
BAS19W	120	50		2.5	0.1	1.0	100		(1)
BAS20W	200	50		2.5	0.1	1.0	100		(1)
BAS21W	250	50		2.5	0.1	1.0	100		(1)
BAL99W BAV70W BAV99W BAW56W	100	4		2.0	2.5	1.0	50		(5) (3) (4) (2)
MMBD4148W	100	4		2.0	2.5	1.0	50		(1)
MMBD4448W	100	4		4.0	2.5	0.72	5.0		(1)

250 mWatts

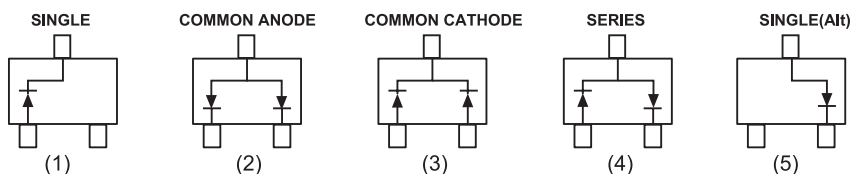
BAS16	100	6	250	2.0	1.0	0.855	10	SOT-23 (No.: 10)	(1)	
BAS19	120	50		2.5	0.1	1.0	100		(1)	
BAS20	200	50		2.5	0.1	1.0	100		(1)	
BAS21	250	50		2.5	0.1	1.0	100		(1)	
BAL99 BAV70 BAV99 BAW56	100	4	225	2.0	2.5	1.0	50	SOT-23 (No.: 10)	(5) (3) (4) (2)	
BAL99	100	4		2.0	2.5	1.0	50		(5)	
BAV70	100	4		2.0	2.5	1.0	50		(3)	
BAV99	100	4		2.0	2.5	1.0	50		(4)	
BAW56	100	4		2.0	2.5	1.0	50		(2)	
MMBD914	100	4	250	2.0	5.0	1.0	10	SOT-23 (No.: 10)	(1)	
MMBD4148	100	4	250	4.0	2.5	1.0	50		(1)	
MMBD4448	100	4	250	4.0	2.5	0.72	5.0		(1)	

350 mWatts

BAV16W	100	6	350	2.0	1.0	0.855	10	SOD-123 (No.: 13)	
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410 mWatts

1N4148W 1N4150W	100 50	4	410	2.0 0.5	2.5 0.1	1.0	50 200	SOD-123 (No.: 13)	
1N4151W 1N4448W	75 100	2 4	500	0.5 4.0	0.05 2.5	1.0	10 100		
BAV19W BAV20W BAV21W	120 200 250	50	410	2.5	0.1	1.0	100		



SOT-23/SOT-323 Pin Configuration (Top View)

SWITCHING DIODES

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Power Dissipation	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	P _{tot}	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	mW	A	μAdc	V	mA	

NOTE: * Trr Test Conditions: I_F = -I_R = 10mA to I_{RR} = -1mA, V_R = 6V, R_L = 100Ω

400 mWatts

BAV19	120								
BAV20	200	50	400	1.0	0.1	1.0	100	DO-35 (No.: 8)	
BAV21	250								

500 mWatts

1N914B(M)*	100				5.0		10		
1N4148(M)*	100	4			5.0		10		
1N4150(M)*	50		500	0.5	0.1	1.0	200	DO-35 (No.: 8) / DO-34* (No.: 7)	
1N4151(M)*	75	2			0.05		50		
1N4448(M)*	100	4			5.0		100		
CD4148W	100							1206C(No.:35) 0805C(No.:35) 0603C(No.:35)	
CD4148WS	100	4		0.5	5.0	1.0	10		
CD4148WT	100								
DL914B	100				5.0		10		
DL4148	100	4			5.0		10	Mini Melf (DL-35) (No.: 38)	
DL4150	50		500	0.5	0.1	1.0	200		
DL4151	75	2			0.05		50		
DL4448	100	4			5.0		100		
DLM4148	100						10	Micro Melf (No.: 36)	
DLM4448	100	4		0.5	5.0	1.0	100		
DLQ4148	100						10	Quadro Melf (No.: 37)	
DLQ4448	100	4		0.5	5.0	1.0	100		

NOTE: * Suffix "M" stands for "DO-34" package.(e.g.: 1N4148M)

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

200 mWatts

BZX584C2V4	2.2	2.6	5	100	600	1	50	1.0	SOD-523 (No.: 15)	
BZX584C2V7	2.5	2.9	5	100	600	1	20	1.0		
BZX584C3V0	2.8	3.2	5	95	600	1	10	1.0		
BZX584C3V3	3.1	3.5	5	95	600	1	5	1.0		
BZX584C3V6	3.4	3.8	5	90	600	1	5	1.0		
BZX584C3V9	3.7	4.1	5	90	600	1	3	1.0		
BZX584C4V3	4.0	4.6	5	90	600	1	3	1.0		
BZX584C4V7	4.4	5.0	5	80	500	1	3	2.0		
BZX584C5V1	4.8	5.4	5	60	480	1	2	2.0		
BZX584C5V6	5.2	6.0	5	40	400	1	1	2.0		
BZX584C6V2	5.8	6.6	5	10	150	1	3	4.0		
BZX584C6V8	6.4	7.2	5	15	80	1	2	4.0		
BZX584C7V5	7.0	7.9	5	15	80	1	1	5.0		
BZX584C8V2	7.7	8.7	5	15	80	1	0.7	5.0		
BZX584C9V1	8.5	9.6	5	15	100	1	0.5	6.0		
BZX584C10	9.4	10.6	5	20	150	1	0.2	7.0		
BZX584C11	10.4	11.6	5	20	150	1	0.1	8.0		
BZX584C12	11.4	12.7	5	25	150	1	0.1	8.0		
BZX584C13	12.4	14.1	5	30	170	1	0.1	8.0		
BZX584C15	13.6	15.6	5	30	200	1	0.1	10.5		
BZX584C16	15.3	17.1	5	40	200	1	0.1	11.2		
BZX584C18	16.8	19.1	5	45	225	1	0.1	12.6		
BZX584C20	18.8	21.2	5	55	225	1	0.1	14.0		
BZX584C22	20.8	23.3	5	55	250	1	0.1	15.4		
BZX584C24	22.8	25.6	5	70	250	1	0.1	16.8		
BZX584C27	25.1	28.9	2	80	300	0.5	0.1	18.9		
BZX584C30	28.0	32.0	2	80	300	0.5	0.1	21.0		
BZX584C33	31.0	35.0	2	80	325	0.5	0.1	23.1		
BZX584C36	34.0	38.0	2	90	350	0.5	0.1	25.2		
BZX584C39	37.0	41.0	2	130	350	0.5	0.1	27.3		
BZX584C43	40.0	46.0	2	150	375	0.5	0.1	30.1		
BZX584C47	44.0	50.0	2	170	375	0.5	0.1	32.9		
BZX584C51	48.0	54.0	2	180	400	0.5	0.1	38.0		

NOTE: Normal Tolerance $\pm 5\%$

TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

350 mWatts (SOT-23) / 200 mWatts (SOT-323)

BZX84C2V4	2.2	2.6	5	100	600	1	50	1.0	SOT-23 (No.: 10) / (SOT-323)* (No.: 11)	 
BZX84C2V7	2.5	2.9	5	100	600	1	20	1.0		
BZX84C3V0	2.8	3.2	5	95	600	1	10	1.0		
BZX84C3V3	3.1	3.5	5	95	600	1	5.0	1.0		
BZX84C3V6	3.4	3.8	5	90	600	1	5.0	1.0		
BZX84C3V9	3.7	4.1	5	90	600	1	3.0	1.0		
BZX84C4V3	4.0	4.6	5	90	600	1	3.0	1.0		
BZX84C4V7	4.4	5.0	5	80	500	1	3.0	2.0		
BZX84C5V1	4.8	5.4	5	60	480	1	2.0	2.0		
BZX84C5V6	5.2	6.0	5	40	400	1	1.0	2.0		
BZX84C6V2	5.8	6.6	5	10	150	1	3.0	4.0		
BZX84C6V8	6.4	7.2	5	15	80	1	2.0	4.0		
BZX84C7V5	7.0	7.9	5	15	80	1	1.0	5.0		
BZX84C8V2	7.7	8.7	5	15	80	1	0.7	5.0		
BZX84C9V1	8.5	9.6	5	15	100	1	0.5	6.0		
BZX84C10	9.4	10.6	5	20	150	1	0.2	7.0		
BZX84C11	10.4	11.6	5	20	150	1	0.1	8.0		
BZX84C12	11.4	12.7	5	25	150	1	0.1	8.0		
BZX84C13	12.4	14.1	5	30	170	1	0.1	8.0		
BZX84C15	13.8	15.6	5	30	200	1	0.1	10.5		
BZX84C16	15.3	17.1	5	40	200	1	0.1	11.2		
BZX84C18	16.8	19.1	5	45	225	1	0.1	12.6		
BZX84C20	18.8	21.2	5	55	225	1	0.1	14.0		
BZX84C22	20.8	23.3	5	55	250	1	0.1	15.4		
BZX84C24	22.8	25.6	5	70	250	1	0.1	16.8		
BZX84C27	25.1	28.9	5	80	300	0.5	0.1	18.9		
BZX84C30	28.0	32.0	5	80	300	0.5	0.1	21.0		
BZX84C33	31.0	35.0	5	80	325	0.5	0.1	23.1		
BZX84C36	34.0	38.0	5	90	350	0.5	0.1	25.2		
BZX84C39	37.0	41.0	5	130	350	0.5	0.1	27.3		
BZX84C43	40.0	46.0	5	150	375	0.5	0.1	30.1		
BZX84C47	44.0	50.0	5	170	375	0.5	0.1	32.9		
BZX84C51	48.0	54.0	5	180	400	0.5	0.1	35.7		

NOTE: 1.*Suffix "W" indicates "SOT-323" package.(e.g.: BZX84C2V4W, BZX84C51W)

2.Normal Tolerance $\pm 5\%$.

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

350 mWatts (SOT-23) / 200 mWatts (SOT-323)

MMBZ5221B	2.28	2.52	20	30	1200	0.25	100	1.0	SOT-23 (No.: 10) / (SOT-323)* (No.: 11)	 
MMBZ5222B	2.38	2.63	20	30	1250	0.25	100	1.0		
MMBZ5223B	2.57	2.84	20	30	1300	0.25	75	1.0		
MMBZ5225B	2.85	3.15	20	30	1600	0.25	50	1.0		
MMBZ5226B	3.14	3.47	20	28	1600	0.25	25	1.0		
MMBZ5227B	3.42	3.78	20	24	1700	0.25	15	1.0		
MMBZ5228B	3.71	4.10	20	23	1900	0.25	10	1.0		
MMBZ5229B	4.09	4.52	20	22	2000	0.25	5	1.0		
MMBZ5230B	4.47	4.94	20	19	1900	0.25	5	2.0		
MMBZ5231B	4.85	5.36	20	17	1600	0.25	5	2.0		
MMBZ5232B	5.32	5.88	20	11	1600	0.25	5	3.0		
MMBZ5233B	5.70	6.30	20	7	1600	0.25	5	3.5		
MMBZ5234B	5.89	6.51	20	7	1000	0.25	5	4.0		
MMBZ5235B	6.46	7.14	20	5	750	0.25	3	5.0		
MMBZ5236B	7.13	7.88	20	6	500	0.25	3	6.0		
MMBZ5237B	7.79	8.61	20	8	500	0.25	3	6.0		
MMBZ5238B	8.27	9.14	20	8	600	0.25	3	6.5		
MMBZ5239B	8.65	9.56	20	10	600	0.25	3	6.5		
MMBZ5240B	9.50	10.50	20	17	600	0.25	3	8.0		
MMBZ5241B	10.45	11.55	20	22	600	0.25	3	8.4		
MMBZ5242B	11.40	12.60	20	30	600	0.25	2	9.1		
MMBZ5243B	12.35	13.65	9.5	13	600	0.25	1	9.9		
MMBZ5245B	14.25	15.75	8.5	16	600	0.25	0.1	11		
MMBZ5246B	15.20	16.80	7.8	17	600	0.25	0.1	12		
MMBZ5248B	17.10	18.90	7.0	21	600	0.25	0.1	14		
MMBZ5250B	19.00	21.00	6.2	25	600	0.25	0.1	15		
MMBZ5251B	20.90	23.10	5.6	29	600	0.25	0.1	17		
MMBZ5252B	22.80	25.20	5.2	33	600	0.25	0.1	18		
MMBZ5254B	25.65	28.35	5.0	41	600	0.25	0.1	21		
MMBZ5255B	26.60	29.40	4.5	44	600	0.25	0.1	21		
MMBZ5256B	28.50	31.50	4.2	49	600	0.25	0.1	23		
MMBZ5257B	31.35	34.65	3.8	58	700	0.25	0.1	25		
MMBZ5258B	34.20	37.80	3.4	70	700	0.25	0.1	27		
MMBZ5259B	37.05	40.95	3.2	80	800	0.25	0.1	30		

NOTE: 1.*Suffix "W" indicates "SOT-323" package.(e.g.: MMBZ5221BW, MMBZ5259BW)

2.Normal Tolerance $\pm 5\%$.

TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

500 mWatts (SOD-123) / 200 mWatts (SOD-323)

BZT52C2V4	2.2	2.6	5	100	600	1	50	1.0	SOD-123 (No.: 13) / (SOD-323)* (No.: 14)	
BZT52C2V7	2.5	2.9	5	100	600	1	20	1.0		
BZT52C3V0	2.8	3.2	5	100	600	1	10	1.0		
BZT52C3V3	3.1	3.5	5	95	600	1	5	1.0		
BZT52C3V6	3.4	3.8	5	90	600	1	5	1.0		
BZT52C3V9	3.7	4.1	5	90	600	1	3	1.0		
BZT52C4V3	4.0	4.6	5	90	600	1	3	1.0		
BZT52C4V7	4.4	5.0	5	80	500	1	3	2.0		
BZT52C5V1	4.8	5.4	5	60	480	1	2	2.0		
BZT52C5V6	5.2	6.0	5	40	400	1	1	2.0		
BZT52C6V2	5.8	6.6	5	10	150	1	3	4.0		
BZT52C6V8	6.4	7.2	5	15	80	1	2	4.0		
BZT52C7V5	7.0	7.9	5	15	80	1	1	5.0		
BZT52C8V2	7.7	8.7	5	15	80	1	0.7	5.0		
BZT52C9V1	8.5	9.6	5	15	100	1	0.5	6.0		
BZT52C10	9.4	10.6	5	20	150	1	0.2	7.0		
BZT52C11	10.4	11.6	5	20	150	1	0.1	8.0		
BZT52C12	11.4	12.7	5	25	150	1	0.1	8.0		
BZT52C13	12.4	14.1	5	30	170	1	0.1	8.0		
BZT52C15	13.8	15.6	5	30	200	1	0.1	10.5		
BZT52C16	15.3	17.1	5	40	200	1	0.1	11.2		
BZT52C18	16.8	19.1	5	45	225	1	0.1	12.6		
BZT52C20	18.8	21.2	5	55	225	1	0.1	14.0		
BZT52C22	20.8	23.3	5	55	250	1	0.1	15.4		
BZT52C24	22.8	25.6	5	70	250	1	0.1	16.8		
BZT52C27	25.1	28.9	2	80	300	1	0.1	18.9		
BZT52C30	28.0	32.0	2	80	300	1	0.1	21.0		
BZT52C33	31.0	35.0	2	80	325	1	0.1	23.1		
BZT52C36	34.0	38.0	2	90	350	1	0.1	25.2		
BZT52C39	37.0	41.0	2	130	350	1	0.1	27.3		
BZT52C43	40.0	46.0	2	150	700	1	0.1	32.0		
BZT52C47	44.0	50.0	2	170	750	1	0.1	35.0		
BZT52C51	48.0	54.0	2	180	750	1	0.1	38.0		

NOTE: 1.*Suffix "S" indicates "SOD-323" package.(e.g.: BZT52C2V4S, BZT52C51S)

2.Normal Tolerance $\pm 5\%$.

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}		Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}		I _R @ V _R		
	V	mA	Ohms	Ohms	mA	μA	V	

500 mWatts (SOD-123) / 200 mWatts (SOD-323)

MMSZ5221B	2.4	20	30	1200	0.25	100	1.0	SOD-123 (No.: 13) / (SOD-323)* (No.: 14)  	
MMSZ5223B	2.7	20	30	1300	0.25	75	1.0		
MMSZ5225B	3.0	20	30	1600	0.25	50	1.0		
MMSZ5226B	3.3	20	28	1600	0.25	25	1.0		
MMSZ5227B	3.6	20	24	1700	0.25	15	1.0		
MMSZ5228B	3.9	20	23	1900	0.25	10	1.0		
MMSZ5229B	4.3	20	22	2000	0.25	5	1.0		
MMSZ5230B	4.7	20	19	1900	0.25	5	2.0		
MMSZ5231B	5.1	20	17	1600	0.25	5	2.0		
MMSZ5232B	5.6	20	11	1600	0.25	5	3.0		
MMSZ5233B	6.0	20	7	1600	0.25	5	3.5		
MMSZ5234B	6.2	20	7	1000	0.25	5	4.0		
MMSZ5235B	6.8	20	5	750	0.25	3	5.0		
MMSZ5236B	7.5	20	6	500	0.25	3	6.0		
MMSZ5237B	8.2	20	8	500	0.25	3	6.5		
MMSZ5238B	8.7	20	8	600	0.25	3	6.5		
MMSZ5239B	9.1	20	10	600	0.25	3	7.0		
MMSZ5240B	10.0	20	17	600	0.25	3	8.0		
MMSZ5241B	11.0	20	22	600	0.25	2	8.4		
MMSZ5242B	12.0	20	30	600	0.25	1	9.1		
MMSZ5243B	13.0	9.5	13	600	0.25	0.5	9.9		
MMSZ5245B	15.0	8.5	16	600	0.25	0.1	11		
MMSZ5246B	16.0	7.8	17	600	0.25	0.1	12		
MMSZ5248B	18.0	7.0	21	600	0.25	0.1	14		
MMSZ5250B	20.0	6.2	25	600	0.25	0.1	15		
MMSZ5251B	22.0	5.6	29	600	0.25	0.1	17		
MMSZ5252B	24.0	5.2	33	600	0.25	0.1	18		
MMSZ5254B	27.0	5.0	41	600	0.25	0.1	21		
MMSZ5255B	28.0	4.5	44	600	0.25	0.1	21		
MMSZ5256B	30.0	4.2	49	600	0.25	0.1	23		
MMSZ5257B	33.0	3.8	58	700	0.25	0.1	25		
MMSZ5258B	36.0	3.4	70	700	0.25	0.1	27		
MMSZ5259B	39.0	3.2	80	800	0.25	0.1	30		
MMSZ5260B	43.0	3.0	93	900	0.25	0.1	33		

NOTE: 1.*Suffix "S" indicates "SOD-323" package.(e.g.: MMSZ5221BS, MMSZ5260BS)

2.Normal Tolerance $\pm 5\%$.

TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

500 mWatts (DO-35 / DO-34)

BZX55C2V4	2.3	2.6	5	85	600	1	50	1.0	DO-35 (No.: 8) / (DO-34)* (No.: 7)	
BZX55C2V7	2.5	2.9	5	85	600	1	10	1.0		
BZX55C3V0	2.8	3.2	5	85	600	1	4	1.0		
BZX55C3V3	3.1	3.5	5	85	600	1	2	1.0		
BZX55C3V6	3.4	3.8	5	85	600	1	2	1.0		
BZX55C3V9	3.7	4.1	5	85	600	1	2	1.0		
BZX55C4V3	4.0	4.6	5	75	600	1	1	1.0		
BZX55C4V7	4.4	5.0	5	60	600	1	0.5	1.0		
BZX55C5V1	4.8	5.4	5	35	550	1	0.1	1.0		
BZX55C5V6	5.2	6.0	5	25	450	1	0.1	1.0		
BZX55C6V2	5.8	6.6	5	10	200	1	0.1	2.0		
BZX55C6V8	6.4	7.2	5	8	150	1	0.1	3.0		
BZX55C7V5	7.0	7.9	5	7	50	1	0.1	5.0		
BZX55C8V2	7.7	8.7	5	7	50	1	0.1	6.0		
BZX55C9V1	8.5	9.6	5	10	50	1	0.1	7.0		
BZX55C10	9.4	10.6	5	15	70	1	0.1	7.5		
BZX55C11	10.0	11.6	5	20	70	1	0.1	8.5		
BZX55C12	11.0	12.7	5	20	90	1	0.1	9.0		
BZX55C13	12.0	14.1	5	26	110	1	0.1	10		
BZX55C15	14.0	15.6	5	30	110	1	0.1	11		
BZX55C16	15.0	17.1	5	40	170	1	0.1	12		
BZX55C18	17.0	19.1	5	50	170	1	0.1	14		
BZX55C20	19.0	21.2	5	55	220	1	0.1	15		
BZX55C22	21.0	23.3	5	55	220	1	0.1	17		
BZX55C24	23.0	25.6	5	80	220	1	0.1	18		
BZX55C27	25.0	28.9	5	80	250	1	0.1	20		
BZX55C30	28.0	32.0	5	80	220	1	0.1	22		
BZX55C33	31.0	35.0	5	80	220	1	0.1	24		
BZX55C36	34.0	38.0	5	80	220	1	0.1	27		
BZX55C39	37.0	41.0	2.5	90	500	1	0.1	30		
BZX55C43	40.0	46.0	2.5	90	600	1	0.1	33		
BZX55C47	44.0	50.0	2.5	110	700	1	0.1	36		

NOTE: 1.*Suffix "M" stands for "DO-34" package. (e.g.: BZX55C2V4M,BZX55C47M)
 2.Normal Tolerance $\pm 5\%$.

ZENER DIODES

(SMD & Axial Lead Type)



TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}		Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}		I _R @ V _R		
	V	mA	Ohms	Ohms	mA	μA	V	

500 mWatts (DO-35 / DL-35 Mini Melf)

DL/1N5221B	2.4	20	30	1200	0.25	100	1.0	DO-35 (No.: 8) / Mini Melf (DL-35)* (No.: 38)	
DL/1N5222B	2.5	20	30	1250	0.25	100	1.0		
DL/1N5223B	2.7	20	30	1300	0.25	75	1.0		
DL/1N5224B	2.8	20	30	1400	0.25	75	1.0		
DL/1N5225B	3.0	20	30	1600	0.25	50	1.0		
DL/1N5226B	3.3	20	28	1600	0.25	25	1.0		
DL/1N5227B	3.6	20	24	1700	0.25	15	1.0		
DL/1N5228B	3.9	20	23	1900	0.25	10	1.0		
DL/1N5229B	4.3	20	22	2000	0.25	5.0	1.0		
DL/1N5230B	4.7	20	19	1900	0.25	5.0	2.0		
DL/1N5231B	5.1	20	17	1600	0.25	5.0	2.0		
DL/1N5232B	5.6	20	11	1600	0.25	5.0	3.0		
DL/1N5233B	6.0	20	7	1600	0.25	5.0	3.5		
DL/1N5234B	6.2	20	7	1000	0.25	5.0	4.0		
DL/1N5235B	6.8	20	5	750	0.25	3.0	5.0		
DL/1N5236B	7.5	20	6	500	0.25	3.0	6.0		
DL/1N5237B	8.2	20	8	500	0.25	3.0	6.5		
DL/1N5238B	8.7	20	8	600	0.25	3.0	6.5		
DL/1N5239B	9.1	20	10	600	0.25	3.0	7.0		
DL/1N5240B	10.0	20	17	600	0.25	3.0	8.0		
DL/1N5241B	11.0	20	22	600	0.25	2.0	8.4		
DL/1N5242B	12.0	20	30	600	0.25	1.0	9.1		
DL/1N5243B	13.0	9.5	13	600	0.25	0.5	9.9		
DL/1N5244B	14.0	9.0	15	600	0.25	0.1	10.5		
DL/1N5245B	15.0	8.5	16	600	0.25	0.1	11		
DL/1N5246B	16.0	7.8	17	600	0.25	0.1	12		
DL/1N5247B	17.0	7.5	19	600	0.25	0.1	13		
DL/1N5248B	18.0	7.0	21	600	0.25	0.1	14		
DL/1N5249B	19.0	6.6	23	600	0.25	0.1	14		
DL/1N5250B	20.0	6.2	25	600	0.25	0.1	15		
DL/1N5251B	22.0	5.6	29	600	0.25	0.1	17		
DL/1N5252B	24.0	5.2	33	600	0.25	0.1	18		
DL/1N5253B	25.0	5.0	35	600	0.25	0.1	19		
DL/1N5254B	27.0	5.0	41	600	0.25	0.1	21		
DL/1N5255B	28.0	4.5	44	600	0.25	0.1	21		
DL/1N5256B	30.0	4.2	49	600	0.25	0.1	23		
DL/1N5257B	33.0	3.8	58	700	0.25	0.1	25		
DL/1N5258B	36.0	3.4	70	700	0.25	0.1	27		
DL/1N5259B	39.0	3.2	80	800	0.25	0.1	30		
DL/1N5260B	43.0	3.0	93	900	0.25	0.1	33		
DL/1N5261B	47.0	2.7	105	1000	0.25	0.1	36		

NOTE: 1. Suffix "B" indicates $\pm 5\%$ Tolerance.

2. *Prefix "DL" stands for "Mini Melf (DL-35) package. (e.g.: DL5221B, DL5261B,...etc.)

TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

500 mWatts

BZV55C2V4	2.28	2.56	5	85	600	1	50	1.0	Mini Melf (DL-35) (No.: 38) 	
BZV55C2V7	2.5	2.9	5	85	600	1	10	1.0		
BZV55C3V0	2.8	3.2	5	85	600	1	4	1.0		
BZV55C3V3	3.1	3.5	5	85	600	1	2	1.0		
BZV55C3V6	3.4	3.8	5	85	600	1	2	1.0		
BZV55C3V9	3.7	4.1	5	85	600	1	2	1.0		
BZV55C4V3	4.0	4.6	5	75	600	1	1	1.0		
BZV55C4V7	4.4	5.0	5	60	600	1	0.5	1.0		
BZV55C5V1	4.8	5.4	5	35	550	1	0.1	1.0		
BZV55C5V6	5.2	6.0	5	25	450	1	0.1	1.0		
BZV55C6V2	5.8	6.6	5	10	200	1	0.1	2.0		
BZV55C6V8	6.4	7.2	5	8	150	1	0.1	3.0		
BZV55C7V5	7.0	7.9	5	7	50	1	0.1	5.0		
BZV55C8V2	7.7	8.7	5	7	50	1	0.1	6.0		
BZV55C9V1	8.5	9.6	5	10	50	1	0.1	7.0		
BZV55C10	9.4	10.6	5	15	70	1	0.1	7.5		
BZV55C11	10.4	11.6	5	20	70	1	0.1	8.5		
BZV55C12	11.4	12.7	5	20	90	1	0.1	9.0		
BZV55C13	12.4	14.1	5	26	110	1	0.1	10		
BZV55C15	13.8	15.6	5	30	110	1	0.1	11		
BZV55C16	15.3	17.1	5	40	170	1	0.1	12		
BZV55C18	16.8	19.1	5	50	170	1	0.1	14		
BZV55C20	18.8	21.2	5	55	220	1	0.1	15		
BZV55C22	20.8	23.3	5	55	220	1	0.1	17		
BZV55C24	22.8	25.6	5	80	220	1	0.1	18		
BZV55C27	25.1	28.9	5	80	250	1	0.1	20		
BZV55C30	28.0	32.0	5	80	220	1	0.1	22		
BZV55C33	31.0	35.0	5	80	220	1	0.1	24		
BZV55C36	34.0	38.0	5	80	220	1	0.1	27		
BZV55C39	37.0	41.0	3	90	500	1	0.1	30		
BZV55C43	40.0	46.0	3	90	600	1	0.1	33		
BZV55C47	44.0	50.0	2.5	110	700	1	0.1	36		

NOTE: Normal Tolerance $\pm 5\%$.

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

500 mWatts (Micro Melf / Quadro Melf)

BZM/BZQ55C2V4	2.28	2.56	5	85	600	1	50	1.0	Micro Melf (No.: 36) / Quadro Melf* (No.: 37)	 
BZM/BZQ55C2V7	2.5	2.9	5	85	600	1	10	1.0		
BZM/BZQ55C3V0	2.8	3.2	5	85	600	1	4	1.0		
BZM/BZQ55C3V3	3.1	3.5	5	85	600	1	2	1.0		
BZM/BZQ55C3V6	3.4	3.8	5	85	600	1	2	1.0		
BZM/BZQ55C3V9	3.7	4.1	5	85	600	1	2	1.0		
BZM/BZQ55C4V3	4.0	4.6	5	75	600	1	1	1.0		
BZM/BZQ55C4V7	4.4	5.0	5	60	600	1	0.5	1.0		
BZM/BZQ55C5V1	4.8	5.4	5	35	550	1	0.1	1.0		
BZM/BZQ55C5V6	5.2	6.0	5	25	450	1	0.1	1.0		
BZM/BZQ55C6V2	5.8	6.6	5	10	200	1	0.1	2.0		
BZM/BZQ55C6V8	6.4	7.2	5	8	150	1	0.1	3.0		
BZM/BZQ55C7V5	7.0	7.9	5	7	50	1	0.1	5.0		
BZM/BZQ55C8V2	7.7	8.7	5	7	50	1	0.1	6.0		
BZM/BZQ55C9V1	8.5	9.6	5	10	50	1	0.1	7.0		
BZM/BZQ55C10	9.4	10.6	5	15	70	1	0.1	7.5		
BZM/BZQ55C11	10.4	11.6	5	20	70	1	0.1	8.5		
BZM/BZQ55C12	11.4	12.7	5	20	90	1	0.1	9.0		
BZM/BZQ55C13	12.4	14.1	5	26	110	1	0.1	10		
BZM/BZQ55C15	13.8	15.6	5	30	110	1	0.1	11		
BZM/BZQ55C16	15.3	17.1	5	40	170	1	0.1	12		
BZM/BZQ55C18	16.8	19.1	5	50	170	1	0.1	14		
BZM/BZQ55C20	18.8	21.2	5	55	220	1	0.1	15		
BZM/BZQ55C22	20.8	23.3	5	55	220	1	0.1	17		
BZM/BZQ55C24	22.8	25.6	5	80	220	1	0.1	18		
BZM/BZQ55C27	25.1	28.9	5	80	220	1	0.1	20		
BZM/BZQ55C30	28.0	32.0	5	80	220	1	0.1	22		
BZM/BZQ55C33	31.0	35.0	5	80	220	1	0.1	24		
BZM/BZQ55C36	34.0	38.0	5	80	220	1	0.1	27		
BZM/BZQ55C39	37.0	41.0	2.5	90	500	1	0.1	30		
BZM/BZQ55C43	40.0	46.0	2.5	90	600	1	0.1	33		
BZM/BZQ55C47	44.0	50.0	2.5	110	700	1	0.1	36		

NOTE: 1.*Prefix "BZM" indicates "Micro Melf", and "BZQ" indicates "Quadro Melf" package.
2.Normal Tolerance $\pm 5\%$.

TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}		Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}		I _R @ V _R		
	V	mA	Ohms	Ohms	mA	μA	V	

500 mWatts (Micro Melf / Quadro Melf)

DLM/DLQ5221B	2.4	20	30	1200	0.25	100	1.0	Micro Melf (No.: 36) / Quadro Melf* (No.: 37)	 
DLM/DLQ5222B	2.5	20	30	1250	0.25	100	1.0		
DLM/DLQ5223B	2.7	20	30	1300	0.25	75	1.0		
DLM/DLQ5224B	2.8	20	30	1400	0.25	75	1.0		
DLM/DLQ5225B	3.0	20	29	1600	0.25	50	1.0		
DLM/DLQ5226B	3.3	20	28	1600	0.25	25	1.0		
DLM/DLQ5227B	3.6	20	24	1700	0.25	15	1.0		
DLM/DLQ5228B	3.9	20	23	1900	0.25	10	1.0		
DLM/DLQ5229B	4.3	20	22	2000	0.25	5	1.0		
DLM/DLQ5230B	4.7	20	19	1900	0.25	5	2.0		
DLM/DLQ5231B	5.1	20	17	1600	0.25	5	2.0		
DLM/DLQ5232B	5.6	20	11	1600	0.25	5	3.0		
DLM/DLQ5233B	6.0	20	7	1600	0.25	5	3.5		
DLM/DLQ5234B	6.2	20	7	1000	0.25	5	4.0		
DLM/DLQ5235B	6.8	20	5	750	0.25	3	5.0		
DLM/DLQ5236B	7.5	20	6	500	0.25	3	6.0		
DLM/DLQ5237B	8.2	20	8	500	0.25	3	6.5		
DLM/DLQ5238B	8.7	20	8	600	0.25	3	6.5		
DLM/DLQ5239B	9.1	20	10	600	0.25	3	7.0		
DLM/DLQ5240B	10	20	17	600	0.25	3	8.0		
DLM/DLQ5241B	11	20	22	600	0.25	2	8.4		
DLM/DLQ5242B	12	20	30	600	0.25	1	9.1		
DLM/DLQ5243B	13	9.5	13	600	0.25	0.5	9.9		
DLM/DLQ5244B	14	9.5	15	600	0.25	0.1	10		
DLM/DLQ5245B	15	8.5	16	600	0.25	0.1	11		
DLM/DLQ5246B	16	7.8	17	600	0.25	0.1	12		
DLM/DLQ5247B	17	7.4	19	600	0.25	0.1	13		
DLM/DLQ5248B	18	7.0	21	600	0.25	0.1	14		
DLM/DLQ5249B	19	6.6	23	600	0.25	0.1	14		
DLM/DLQ5250B	20	6.2	25	600	0.25	0.1	15		
DLM/DLQ5251B	22	5.6	29	600	0.25	0.1	17		
DLM/DLQ5252B	24	5.2	33	600	0.25	0.1	18		
DLM/DLQ5253B	25	5.0	35	600	0.25	0.1	19		
DLM/DLQ5254B	27	4.6	41	600	0.25	0.1	21		
DLM/DLQ5255B	28	4.5	44	600	0.25	0.1	21		
DLM/DLQ5256B	30	4.2	49	600	0.25	0.1	23		
DLM/DLQ5257B	33	3.8	58	700	0.25	0.1	25		
DLM/DLQ5258B	36	3.4	70	700	0.25	0.1	27		
DLM/DLQ5259B	39	3.2	80	800	0.25	0.1	30		
DLM/DLQ5260B	43	3.0	93	900	0.25	0.1	33		
DLM/DLQ5261B	47	2.7	150	1000	0.25	0.1	36		

NOTE: 1.*Prefix "DLM" indicates "Micro Melf", and "DLQ" indicates "Quadro Melf" package.
2.Normal Tolerance $\pm 5\%$.

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Test Current	Max. Zener Impedance			Max. Reverse Leakage Current		[Package Outline Drawing No. Please refer to Page: 131~139]
	V _Z @ I _{ZT}			I _{ZT}	Z _{ZT} @ I _{ZT}	Z _{ZK} @ I _{ZK}	I _{ZK}	I _R @ V _R	
	Min.	Max.		mA	Ohms	Ohms	mA	μA	

200 mWatts (0603C) / 500 mWatts (0805C/1206C)

CDZ55C2V0	1.90	2.10	5	85	600	1	100	1.0	0603C* (No.: 35) / 0805C* (No.: 35) / 1206C (No.: 35) 	
CDZ55C2V2	2.09	2.31	5	85	600	1	75	1.0		
CDZ55C2V4	2.28	2.52	5	85	600	1	50	1.0		
CDZ55C2V7	2.57	2.84	5	85	600	1	10	1.0		
CDZ55C3V0	2.85	3.15	5	85	600	1	4	1.0		
CDZ55C3V3	3.14	3.47	5	85	600	1	2	1.0		
CDZ55C3V6	3.42	3.78	5	85	600	1	2	1.0		
CDZ55C3V9	3.71	4.10	5	85	600	1	2	1.0		
CDZ55C4V3	4.09	4.52	5	80	600	1	1	1.0		
CDZ55C4V7	4.47	4.94	5	70	600	1	0.5	1.0		
CDZ55C5V1	4.85	5.36	5	50	550	1	0.1	1.0		
CDZ55C5V6	5.32	5.88	5	30	450	1	0.1	1.0		
CDZ55C6V2	5.89	6.51	5	10	200	1	0.1	2.0		
CDZ55C6V8	6.46	7.14	5	8	150	1	0.1	3.0		
CDZ55C7V5	7.13	7.88	5	7	50	1	0.1	5.0		
CDZ55C8V2	7.79	8.61	5	7	50	1	0.1	6.2		
CDZ55C9V1	8.65	9.56	5	10	50	1	0.1	6.8		
CDZ55C10	9.50	10.50	5	15	70	1	0.1	7.5		
CDZ55C11	10.45	11.55	5	20	70	1	0.1	8.2		
CDZ55C12	11.40	12.60	5	20	90	1	0.1	9.1		
CDZ55C13	12.35	13.65	5	26	110	1	0.1	10.0		
CDZ55C15	14.25	15.75	5	30	110	1	0.1	11.0		
CDZ55C16	15.20	16.80	5	40	170	1	0.1	12.0		
CDZ55C18	17.10	18.90	5	50	170	1	0.1	13.0		
CDZ55C20	19.00	21.00	5	55	220	1	0.1	15.0		
CDZ55C22	20.90	23.10	5	55	220	1	0.1	16.0		
CDZ55C24	22.80	25.20	5	80	220	1	0.1	18.0		
CDZ55C27	25.65	28.35	5	80	220	1	0.1	20.0		
CDZ55C30	28.50	31.50	5	80	220	1	0.1	22.0		
CDZ55C33	31.35	34.65	5	80	220	1	0.1	24.0		
CDZ55C36	34.20	37.80	5	80	220	1	0.1	27.0		
CDZ55C39	37.05	40.95	2.5	90	500	0.5	0.1	29.3		
CDZ55C43	40.85	45.15	2.5	90	600	0.5	0.1	32.3		
CDZ55C47	44.65	49.35	2.5	110	700	0.5	0.1	35.3		
CDZ55C51	48.45	53.55	2.5	125	700	0.5	0.1	38.3		
CDZ55C56	53.20	58.80	2.5	135	1000	0.5	0.1	42.0		
CDZ55C62	58.90	65.10	2.5	150	1000	0.5	0.1	46.5		
CDZ55C68	64.60	71.40	2.5	200	1000	0.5	0.1	51.0		
CDZ55C75	71.25	78.75	2.5	250	1500	0.5	0.1	56.3		

NOTE: 1. Normal Tolerance $\pm 5\%$.

2. *Suffix "S" stands for "0805C", and "T" stands for "0603C" package. (e.g.: CDZ55C2V4S, CDZ55C2V4T,...etc.)
Non-suffix stands for "1206C" package.

ZENER DIODES (Axial Lead Type)

TYPE No.	Nominal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

1N4728A	3.3	76	10	400	1	100	1	276	DO-41(G) (No.: 6) 	
1N4729A	3.6	69	10	400	1	100	1	252		
1N4730A	3.9	64	9	400	1	50	1	234		
1N4731A	4.3	58	9	400	1	10	1	217		
1N4732A	4.7	53	8	500	1	10	1	193		
1N4733A	5.1	49	7	550	1	10	1	178		
1N4734A	5.6	45	5	600	1	10	2	162		
1N4735A	6.2	41	2	700	1	10	3	146		
1N4736A	6.8	37	3.5	700	1	10	4	133		
1N4737A	7.5	34	4	700	0.5	10	5	121		
1N4738A	8.2	31	4.5	700	0.5	10	6	110		
1N4739A	9.1	28	5	700	0.5	10	7	100		
1N4740A	10	25	7	700	0.25	10	7.6	91		
1N4741A	11	23	8	700	0.25	5	8.4	83		
1N4742A	12	21	9	700	0.25	5	9.1	76		
1N4743A	13	19	10	700	0.25	5	9.9	69		
1N4744A	15	17	14	700	0.25	5	11.4	61		
1N4745A	16	15.5	16	700	0.25	5	12.2	57		
1N4746A	18	14.0	20	750	0.25	5	13.7	50		
1N4747A	20	12.5	22	750	0.25	5	15.2	45		
1N4748A	22	11.5	23	750	0.25	5	16.7	41		
1N4749A	24	10.5	25	750	0.25	5	18.2	38		
1N4750A	27	9.5	35	750	0.25	5	20.6	34		
1N4751A	30	8.5	40	1000	0.25	5	22.8	30		
1N4752A	33	7.5	45	1000	0.25	5	25.1	27		
1N4753A	36	7.0	50	1000	0.25	5	27.4	25		
1N4754A	39	6.5	60	1000	0.25	5	29.7	23		
1N4755A	43	6.0	70	1500	0.25	5	32.7	22		
1N4756A	47	5.5	80	1500	0.25	5	35.8	19		
1N4757A	51	5.0	95	1500	0.25	5	38.8	18		
1N4758A	56	4.5	110	2000	0.25	5	42.6	16		
1N4759A	62	4.0	125	2000	0.25	5	47.1	14		
1N4760A	68	3.7	150	2000	0.25	5	51.7	13		
1N4761A	75	3.3	175	2000	0.25	5	56.0	12		
1N4762A	82	3.0	200	3000	0.25	5	62.2	11		
1N4763A	91	2.8	250	3000	0.25	5	69.2	10		
1N4764A	100	2.5	350	3000	0.25	5	76.0	9		

NOTE: Suffix "A" indicates $\pm 5\%$ Tolerance.

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

DL4728A	3.3	76	10	400	1	100	1	276	Melf (DL-41) (No.: 39) 	
DL4729A	3.6	69	10	400	1	100	1	252		
DL4730A	3.9	64	9	400	1	50	1	234		
DL4731A	4.3	58	9	400	1	10	1	217		
DL4732A	4.7	53	8	500	1	10	1	193		
DL4733A	5.1	49	7	550	1	10	1	178		
DL4734A	5.6	45	5	600	1	10	2	162		
DL4735A	6.2	41	2	700	1	10	3	146		
DL4736A	6.8	37	3.5	700	1	10	4	133		
DL4737A	7.5	34	4	700	0.5	10	5	121		
DL4738A	8.2	31	4.5	700	0.5	10	6	110		
DL4739A	9.1	28	5	700	0.5	10	7	100		
DL4740A	10	25	7	700	0.25	10	7.6	91		
DL4741A	11	23	8	700	0.25	5	8.4	83		
DL4742A	12	21	9	700	0.25	5	9.1	76		
DL4743A	13	19	10	700	0.25	5	9.9	69		
DL4744A	15	17	14	700	0.25	5	11.4	61		
DL4745A	16	15.5	16	700	0.25	5	12.2	57		
DL4746A	18	14.0	20	750	0.25	5	13.7	50		
DL4747A	20	12.5	22	750	0.25	5	15.2	45		
DL4748A	22	11.5	23	750	0.25	5	16.7	41		
DL4749A	24	10.5	25	750	0.25	5	18.2	38		
DL4750A	27	9.5	35	750	0.25	5	20.6	34		
DL4751A	30	8.5	40	1000	0.25	5	22.8	30		
DL4752A	33	7.5	45	1000	0.25	5	25.1	27		
DL4753A	36	7.0	50	1000	0.25	5	27.4	25		
DL4754A	39	6.5	60	1000	0.25	5	29.7	23		
DL4755A	43	6.0	70	1500	0.25	5	32.7	22		
DL4756A	47	5.5	80	1500	0.25	5	35.8	19		
DL4757A	51	5.0	95	1500	0.25	5	38.8	18		
DL4758A	56	4.5	110	2000	0.25	5	42.6	16		
DL4759A	62	4.0	125	2000	0.25	5	47.1	14		
DL4760A	68	3.7	150	2000	0.25	5	51.7	13		
DL4761A	75	3.3	175	2000	0.25	5	56.0	12		
DL4762A	82	3.0	200	3000	0.25	5	62.2	11		
DL4763A	91	2.8	250	3000	0.25	5	69.2	10		
DL4764A	100	2.5	350	3000	0.25	5	76.0	9		

NOTE: Suffix "A" indicates ±5% Tolerance.

TYPE No.	Nominal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

SMA4728A	3.3	76	10	400	1	100	1	276	SMA (DO-214AC) (No.: 28) 	
SMA4729A	3.6	69	10	400	1	100	1	252		
SMA4730A	3.9	64	9	400	1	50	1	234		
SMA4731A	4.3	58	9	400	1	10	1	217		
SMA4732A	4.7	53	8	500	1	10	1	193		
SMA4733A	5.1	49	7	550	1	10	1	178		
SMA4734A	5.6	45	5	600	1	10	2	162		
SMA4735A	6.2	41	2	700	1	10	3	146		
SMA4736A	6.8	37	3.5	700	1	5	4	133		
SMA4737A	7.5	34	4	700	0.5	5	5	121		
SMA4738A	8.2	31	4.5	700	0.5	5	6	110		
SMA4739A	9.1	28	5	700	0.5	0.5	7	100		
SMA4740A	10	25	7	700	0.25	0.5	7.6	91		
SMA4741A	11	23	8	700	0.25	0.1	8.4	83		
SMA4742A	12	21	9	700	0.25	0.1	9.1	76		
SMA4743A	13	19	10	700	0.25	0.1	9.9	69		
SMA4744A	15	17	14	700	0.25	0.1	11.4	61		
SMA4745A	16	15.5	16	700	0.25	0.1	12.2	57		
SMA4746A	18	14.0	20	750	0.25	0.1	13.7	50		
SMA4747A	20	12.5	22	750	0.25	0.1	15.2	45		
SMA4748A	22	11.5	23	750	0.25	0.1	16.7	41		
SMA4749A	24	10.5	25	750	0.25	0.1	18.2	38		
SMA4750A	27	9.5	35	750	0.25	0.1	20.6	34		
SMA4751A	30	8.5	40	1000	0.25	0.1	22.8	30		
SMA4752A	33	7.5	45	1000	0.25	0.1	25.1	27		
SMA4753A	36	7.0	50	1000	0.25	0.1	27.4	25		
SMA4754A	39	6.5	60	1000	0.25	0.1	29.7	23		
SMA4755A	43	6.0	70	1500	0.25	0.1	32.7	22		
SMA4756A	47	5.5	80	1500	0.25	0.1	35.8	19		
SMA4757A	51	5.0	95	1500	0.25	0.1	38.8	18		
SMA4758A	56	4.5	110	2000	0.25	0.1	42.6	16		
SMA4759A	62	4.0	125	2000	0.25	0.1	47.1	14		
SMA4760A	68	3.7	150	2000	0.25	0.1	51.7	13		
SMA4761A	75	3.3	175	2000	0.25	0.1	56.0	12		
SMA4762A	82	3.0	200	3000	0.25	0.1	62.2	11		
SMA4763A	91	2.8	250	3000	0.25	0.1	69.2	10		
SMA4764A	100	2.5	350	3000	0.25	0.1	76.0	9.0		
SZ1110A	110	2.3	450	4000	0.25	0.1	83.6	8.6		
SZ1120A	120	2.0	550	4500	0.25	0.1	91.2	7.8		
SZ1130A	130	1.9	700	5000	0.25	0.1	98.8	7.0		
SZ1150A	150	1.7	1000	6000	0.25	0.1	114.0	6.4		
SZ1160A	160	1.6	1100	6500	0.25	0.1	121.6	5.8		
SZ1180A	180	1.4	1200	7000	0.25	0.1	136.8	5.2		
SZ1200A	200	1.2	1900	9990	0.25	0.1	152.0	4.7		
SZ1220A	220	1.0	1600	8000	0.25	0.1	167.2	4.0		
SZ1240A	240	0.9	1800	8500	0.25	0.1	182.4	3.8		
SZ1250A	250	0.9	2000	9000	0.25	0.1	190.0	3.6		
SZ1270A	270	0.8	2100	9000	0.25	0.1	205.0	3.3		
SZ1300A	300	0.8	2300	9500	0.25	0.1	228.0	3.0		
SZ1330A	330	0.7	2500	9500	0.25	0.1	250.2	2.7		

NOTE: Suffix "A" indicates $\pm 5\%$ Tolerance.

ZENER DIODES (SMD Type)



TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

SMAF4728A	3.3	76	10	400	1	100	1	276	SMAFL (No.: 32) 	
SMAF4729A	3.6	69	10	400	1	100	1	252		
SMAF4730A	3.9	64	9	400	1	50	1	234		
SMAF4731A	4.3	58	9	400	1	25	1	217		
SMAF4732A	4.7	53	8	500	1	10	1	193		
SMAF4733A	5.1	49	7	550	1	10	1	178		
SMAF4734A	5.6	45	5	600	1	10	2	162		
SMAF4735A	6.2	41	2	700	1	10	3	146		
SMAF4736A	6.8	37	3.5	700	1	5	4	133		
SMAF4737A	7.5	34	4	700	0.5	5	5	121		
SMAF4738A	8.2	31	4.5	700	0.5	5	6	110		
SMAF4739A	9.1	28	5	700	0.5	0.5	7	100		
SMAF4740A	10	25	7	700	0.25	0.5	7.6	91		
SMAF4741A	11	23	8	700	0.25	0.1	8.4	83		
SMAF4742A	12	21	9	700	0.25	0.1	9.1	76		
SMAF4743A	13	19	10	700	0.25	0.1	9.9	69		
SMAF4744A	15	17	14	700	0.25	0.1	11.4	61		
SMAF4745A	16	15.5	16	700	0.25	0.1	12.2	57		
SMAF4746A	18	14.0	20	700	0.25	0.1	13.7	50		
SMAF4747A	20	12.5	22	750	0.25	0.1	15.2	45		
SMAF4748A	22	11.5	23	750	0.25	0.1	16.7	41		
SMAF4749A	24	10.5	25	750	0.25	0.1	18.2	38		
SMAF4750A	27	9.5	35	750	0.25	0.1	20.6	34		
SMAF4751A	30	8.5	40	1000	0.25	0.1	22.8	30		
SMAF4752A	33	7.5	45	1000	0.25	0.1	25.1	27		
SMAF4753A	36	7.0	50	1000	0.25	0.1	27.4	25		
SMAF4754A	39	6.5	60	1000	0.25	0.1	29.7	23		
SMAF4755A	43	6.0	70	1500	0.25	0.1	32.7	22		
SMAF4756A	47	5.5	80	1500	0.25	0.1	35.8	19		
SMAF4757A	51	5.0	95	1500	0.25	0.1	38.8	18		
SMAF4758A	56	4.5	110	2000	0.25	0.1	42.6	16		
SMAF4759A	62	4.0	125	2000	0.25	0.1	47.1	14		
SMAF4760A	68	3.7	150	2000	0.25	0.1	51.7	13		
SMAF4761A	75	3.3	175	2000	0.25	0.1	56.0	12		
SMAF4762A	82	3.0	200	3000	0.25	0.1	62.2	11		
SMAF4763A	91	2.8	250	3000	0.25	0.1	69.2	10		
SMAF4764A	100	2.5	350	3000	0.25	0.1	76	9.0		
SMAF4765A	110	2.3	450	4000	0.25	0.1	84	8.6		
SMAF4766A	120	2.0	550	4500	0.25	0.1	91	7.8		
SMAF4767A	130	1.9	700	5000	0.25	0.1	100	7.0		
SMAF4768A	150	1.7	1000	6000	0.25	0.1	110	6.4		
SMAF4769A	160	1.6	1100	6500	0.25	0.1	120	5.8		
SMAF4770A	180	1.4	1200	7000	0.25	0.1	135	5.2		
SMAF4771A	200	1.2	1400	9990	0.25	0.1	150	4.7		
SMAF4772A	220	1.0	1600	8000	0.25	0.1	165	4.0		
SMAF4773A	240	0.9	1800	8500	0.25	0.1	180	3.8		
SMAF4774A	250	0.9	2000	9000	0.25	0.1	190	3.6		
SMAF4775A	270	0.8	2100	9000	0.25	0.1	205	3.3		
SMAF4776A	300	0.8	2300	9500	0.25	0.1	230	3.0		
SMAF4777A	330	0.7	2500	9500	0.25	0.1	250	2.7		

NOTE: Suffix "A" indicates ±5% Tolerance.

TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

DZL4728A	3.3	76	10	400	1	100	1	285	SOD-123FL (No.: 16)	
DZL4729A	3.6	69	10	400	1	100	1	263		
DZL4730A	3.9	64	9	400	1	50	1	243		
DZL4731A	4.3	58	9	400	1	10	1	219		
DZL4732A	4.7	53	8	500	1	10	1	203		
DZL4733A	5.1	49	7	550	1	10	1	186		
DZL4734A	5.6	45	5	600	1	10	1	170		
DZL4735A	6.2	41	2	700	1	10	3	146		
DZL4736A	6.8	37	3.5	700	1	5	4	133		
DZL4737A	7.5	34	4.0	700	0.5	5	5	121		
DZL4738A	8.2	31	4.5	700	0.5	5	6	110		
DZL4739A	9.1	28	5.0	700	0.5	0.5	7	100		
DZL4740A	10	25	7.0	700	0.25	0.5	7.6	91		
DZL4741A	11	23	8.0	700	0.25	0.1	8.4	83		
DZL4742A	12	21	9.0	700	0.25	0.1	9.1	76		
DZL4743A	13	19	10	700	0.25	0.1	9.9	69		
DZL4744A	15	17	14	700	0.25	0.1	11.4	61		
DZL4745A	16	15.5	16	700	0.25	0.1	12.2	57		
DZL4746A	18	14.0	20	700	0.25	0.1	13.7	50		
DZL4747A	20	12.5	22	750	0.25	0.1	15.2	45		
DZL4748A	22	11.5	23	750	0.25	0.1	16.7	41		
DZL4749A	24	10.5	25	750	0.25	0.1	18.2	38		
DZL4750A	27	9.5	35	750	0.25	0.1	20.6	34		
DZL4751A	30	8.5	40	1000	0.25	0.1	22.8	30		
DZL4752A	33	7.5	45	1000	0.25	0.1	25.1	27		
DZL4753A	36	7.0	50	1000	0.25	0.1	27.4	25		
DZL4754A	39	6.5	60	1000	0.25	0.1	29.7	23		
DZL4755A	43	6.0	70	1500	0.25	0.1	32.7	22		
DZL4756A	47	5.5	80	1500	0.25	0.1	35.8	19		
DZL4757A	51	5.0	95	1500	0.25	0.1	38.8	18		
DZL4758A	56	4.5	110	2000	0.25	0.1	42.6	16		
DZL4759A	62	4.0	125	2000	0.25	0.1	47.1	14		
DZL4760A	68	3.7	150	2000	0.25	0.1	51.7	13		
DZL4761A	75	3.3	175	2000	0.25	0.1	56.0	12		
DZL4762A	82	3.0	200	3000	0.25	0.1	62.2	11		
DZL4763A	91	2.8	250	3000	0.25	0.1	69.2	10		
DZL4764A	100	2.5	350	3000	0.25	0.1	76.0	9.0		
DZL1110A	110	2.3	450	4000	0.25	0.1	83.6	8.6		
DZL1120A	120	2.0	550	4500	0.25	0.1	91.2	7.8		
DZL1130A	130	1.9	700	5000	0.25	0.1	98.8	7.0		
DZL1150A	150	1.7	1000	6000	0.25	0.1	114.0	6.4		
DZL1160A	160	1.6	1100	6500	0.25	0.1	121.6	5.8		
DZL1180A	180	1.4	1200	7000	0.25	0.1	136.8	5.2		
DZL1200A	200	1.2	1900	9990	0.25	0.1	152.0	4.7		
DZL1220A	220	1.0	1600	8000	0.25	0.1	167.2	4.0		
DZL1240A	240	0.9	1800	8500	0.25	0.1	182.4	3.8		
DZL1250A	250	0.9	2000	9000	0.25	0.1	190.0	3.6		
DZL1270A	270	0.8	2100	9000	0.25	0.1	205.0	3.3		
DZL1300A	300	0.8	2300	9500	0.25	0.1	228.0	3.0		
DZL1330A	330	0.7	2500	9500	0.25	0.1	250.2	2.7		

NOTE: Suffix "A" indicates ±5% Tolerance.

ZENER DIODES (SMD Type)



TYPE No.	Nominal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

MMSZ4735A	6.2	41	2.0	700	1	10	3.0	146	SOD-123 (No.: 13) 	
MMSZ4736A	6.8	37	3.5	700	1	5	4.0	133		
MMSZ4737A	7.5	34	4.0	700	0.5	5	5.0	121		
MMSZ4738A	8.2	31	4.5	700	0.5	5	6.0	110		
MMSZ4739A	9.1	28	5.0	700	0.5	0.5	7.0	100		
MMSZ4740A	10	25	7.0	700	0.25	0.5	7.6	91		
MMSZ4741A	11	23	8.0	700	0.25	0.1	8.4	83		
MMSZ4742A	12	21	9.0	700	0.25	0.1	9.1	76		
MMSZ4743A	13	19	10	700	0.25	0.1	9.9	69		
MMSZ4744A	15	17	14	700	0.25	0.1	11.4	61		
MMSZ4745A	16	15.5	16	700	0.25	0.1	12.2	57		
MMSZ4746A	18	14.0	20	750	0.25	0.1	13.7	50		
MMSZ4747A	20	12.5	22	750	0.25	0.1	15.2	45		
MMSZ4748A	22	11.5	23	750	0.25	0.1	16.7	41		
MMSZ4749A	24	10.5	25	750	0.25	0.1	18.2	38		
MMSZ4750A	27	9.5	35	750	0.25	0.1	20.6	34		
MMSZ4751A	30	8.5	40	1000	0.25	0.1	22.8	30		
MMSZ4752A	33	7.5	45	1000	0.25	0.1	25.1	27		
MMSZ4753A	36	7.0	50	1000	0.25	0.1	27.4	25		
MMSZ4754A	39	6.5	60	1000	0.25	0.1	29.7	23		
MMSZ4755A	43	6.0	70	1500	0.25	0.1	32.7	22		
MMSZ4756A	47	5.5	80	1500	0.25	0.1	35.8	19		
MMSZ4757A	51	5.0	95	1500	0.25	0.1	38.8	18		
MMSZ4758A	56	4.5	110	2000	0.25	0.1	42.6	16		
MMSZ4759A	62	4.0	125	2000	0.25	0.1	47.1	14		
MMSZ4760A	68	3.7	150	2000	0.25	0.1	51.7	13		
MMSZ4761A	75	3.3	175	2000	0.25	0.1	56.0	12		
MMSZ4762A	82	3.0	200	3000	0.25	0.1	62.2	11		
MMSZ4763A	91	2.8	250	3000	0.25	0.1	69.2	10		
MMSZ4764A	100	2.5	350	3000	0.25	0.1	76.0	9.0		
MMSZ1110A	110	2.3	450	4000	0.25	0.1	83.6	8.6		
MMSZ1120A	120	2.0	550	4500	0.25	0.1	91.2	7.8		
MMSZ1130A	130	1.9	700	5000	0.25	0.1	98.8	7.0		
MMSZ1150A	150	1.7	1000	6000	0.25	0.1	114.0	6.4		
MMSZ1160A	160	1.6	1100	6500	0.25	0.1	121.6	5.8		
MMSZ1180A	180	1.4	1200	7000	0.25	0.1	136.8	5.2		
MMSZ1200A	200	1.2	1900	9990	0.25	0.1	152.0	4.7		

NOTE: Suffix "A" indicates ±5% Tolerance.

ZENER DIODES (Axial Lead Type)

TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1 Watt

1EZ6.2	6.2	41	2.0	700	1	10	3	146	DO-41 (No.: 3) 	
1EZ6.8	6.8	37	3.5	700	1	5	4	133		
1EZ7.5	7.5	34	4.0	700	0.5	5	5	121		
1EZ8.2	8.2	31	4.5	700	0.5	5	6	110		
1EZ9.1	9.1	28	5.0	700	0.5	0.5	7	100		
1EZ10	10	25	7.0	700	0.25	0.5	7.6	91		
1EZ11	11	23	8.0	700	0.25	0.1	8.4	83		
1EZ12	12	21	9.0	700	0.25	0.1	9.1	76		
1EZ13	13	19	10	700	0.25	0.1	9.9	69		
1EZ15	15	17	14	700	0.25	0.1	11.4	61		
1EZ16	16	15.5	16	700	0.25	0.1	12.2	57		
1EZ18	18	14.0	20	750	0.25	0.1	13.7	50		
1EZ20	20	12.5	22	750	0.25	0.1	15.2	45		
1EZ22	22	11.5	23	750	0.25	0.1	16.7	41		
1EZ24	24	10.5	25	750	0.25	0.1	18.2	38		
1EZ27	27	9.5	35	750	0.25	0.1	20.6	34		
1EZ30	30	8.5	40	1000	0.25	0.1	22.8	30		
1EZ33	33	7.5	45	1000	0.25	0.1	25.1	27		
1EZ36	36	7.0	50	1000	0.25	0.1	27.4	25		
1EZ39	39	6.5	60	1000	0.25	0.1	29.7	23		
1EZ43	43	6.0	70	1500	0.25	0.1	32.7	22		
1EZ47	47	5.5	80	1500	0.25	0.1	35.8	19		
1EZ51	51	5.0	95	1500	0.25	0.1	38.8	18		
1EZ56	56	4.5	110	2000	0.25	0.1	42.6	16		
1EZ62	62	4.0	125	2000	0.25	0.1	47.1	14		
1EZ68	68	3.7	150	2000	0.25	0.1	51.7	13		
1EZ75	75	3.3	175	2000	0.25	0.1	56.0	12		
1EZ82	82	3.0	200	3000	0.25	0.1	62.2	11		
1EZ91	91	2.8	250	3000	0.25	0.1	69.2	10		
1EZ100	100	2.5	350	3000	0.25	0.1	76.0	9.0		
1EZ110	110	2.3	450	4000	0.25	0.1	83.6	8.6		
1EZ120	120	2.0	550	4500	0.25	0.1	91.2	7.8		
1EZ130	130	1.9	700	5000	0.25	0.1	98.8	7.0		
1EZ150	150	1.7	1000	6000	0.25	0.1	114.0	6.4		
1EZ160	160	1.6	1100	6500	0.25	0.1	121.6	5.8		
1EZ180	180	1.4	1200	7000	0.25	0.1	136.8	5.2		
1EZ200	200	1.2	1900	9990	0.25	0.1	152.0	4.7		
1EZ220	220	1.0	1600	8000	0.25	0.1	167.2	4.0		
1EZ240	240	0.9	1800	8500	0.25	0.1	182.4	3.8		
1EZ250	250	0.9	2000	9000	0.25	0.1	190.0	3.6		
1EZ270	270	0.8	2100	9000	0.25	0.1	205.0	3.3		
1EZ300	300	0.8	2300	9500	0.25	0.1	228.0	3.0		
1EZ330	330	0.7	2500	9500	0.25	0.1	250.2	2.7		

NOTE: 1. Normal Tolerance $\pm 5\%$.

ZENER DIODES

(SMD Type & Axial Lead Type)



TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

1.5 Watt (DO-41 / SMA / SMB)

1N5920B	6.2	60.5	2.0	200	1	2.5	4.0	240	DO-41 (No.: 3) / SMA (DO-214AC)* (No.: 28) / SMB (DO-214AA)* (No.: 29)	  
1N5921B	6.8	55.1	2.5	200	1	2.5	5.2	220		
1N5922B	7.5	50.0	3.0	400	0.5	2.5	6.0	200		
1N5923B	8.2	45.7	3.5	400	0.5	2.5	6.5	182		
1N5924B	9.1	41.2	4.0	500	0.5	2.5	7.0	164		
1N5925B	10	37.5	4.5	500	0.25	2.5	8.0	150		
1N5926B	11	34.1	5.5	550	0.25	0.5	8.4	136		
1N5927B	12	31.2	6.5	550	0.25	0.5	9.1	125		
1N5928B	13	28.8	7.0	550	0.25	0.5	9.9	115		
1N5929B	15	25.0	9.0	600	0.25	0.5	11.4	100		
1N5930B	16	23.4	10.0	600	0.25	0.5	12.2	93		
1N5931B	18	20.8	12.0	650	0.25	0.5	13.7	83		
1N5932B	20	18.7	14.0	650	0.25	0.5	15.2	75		
1N5933B	22	17.0	17.5	650	0.25	0.5	16.7	68		
1N5934B	24	15.6	19	700	0.25	0.5	18.2	62		
1N5935B	27	13.9	23	700	0.25	0.5	20.6	55		
1N5936B	30	12.5	26	750	0.25	0.5	22.8	50		
1N5937B	33	11.4	33	800	0.25	0.5	25.1	45		
1N5938B	36	10.4	38	850	0.25	0.5	27.4	41		
1N5939B	39	9.6	45	900	0.25	0.5	29.7	38		
1N5940B	43	8.7	53	950	0.25	0.5	32.7	34		
1N5941B	47	8.0	67	1000	0.25	0.5	35.8	31		
1N5942B	51	7.3	70	1100	0.25	0.5	38.8	29		
1N5943B	56	6.7	86	1300	0.25	0.5	42.6	26		
1N5944B	62	6.0	100	1500	0.25	0.5	47.1	24		
1N5945B	68	5.5	120	1700	0.25	0.5	51.7	22		
1N5946B	75	5.0	140	2000	0.25	0.5	56.0	20		
1N5947B	82	4.6	160	2500	0.25	0.5	62.2	18		
1N5948B	91	4.1	200	3000	0.25	0.5	69.2	16		
1N5949B	100	3.7	250	3100	0.25	0.5	76.0	15		
1N5950B	110	3.4	300	4000	0.25	0.5	83.6	13		
1N5951B	120	3.1	380	4500	0.25	0.5	91.2	12		
1N5952B	130	2.9	450	5000	0.25	0.5	98.8	11		
1N5953B	150	2.5	600	6000	0.25	0.5	114.0	10		
1N5954B	160	2.3	700	6500	0.25	0.5	121.6	9		
1N5955B	180	2.1	900	7000	0.25	0.5	136.8	8		
1N5956B	200	1.9	1900	8000	0.25	0.5	152.0	7		

NOTE: 1. Suffix "B" indicates $\pm 5\%$ Tolerance.

2. * Prefix "SMA" stands for "SMA (DO-214AC)" package. (e.g.: **SMA**5920B, **SMA**5956B,...etc.)

* Prefix "SMB" stands for "SMB (DO-214AA)" package. (e.g.: **SMB**5920B, **SMB**5956B,...etc.)

ZENER DIODES

(SMD Type & Axial Lead Type)

TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

2 Watt (DO-15 / SMA / SMB)

2EZ6.2	6.2	80.5	1.5	700	1	5	3.0	292	DO-15 (No.: 4) / SMA (DO-214AC)* (No.: 28) / SMB (DO-214AA)* (No.: 29)	  
2EZ6.8	6.8	73.5	2.0	700	1	50	4.0	266		
2EZ7.5	7.5	66.5	2.0	700	0.5	50	5.0	242		
2EZ8.2	8.2	61.0	2.3	700	0.5	50	6.0	220		
2EZ9.1	9.1	55.0	2.5	700	0.5	50	7.0	200		
2EZ10	10	50.0	3.5	700	0.25	50	7.6	182		
2EZ11	11	45.5	4.0	700	0.25	50	8.4	166		
2EZ12	12	41.5	4.5	700	0.25	1	9.1	152		
2EZ13	13	38.5	5.0	700	0.25	0.5	9.9	138		
2EZ14	14	35.7	5.5	700	0.25	0.5	10.6	130		
2EZ15	15	33.4	7.0	700	0.25	0.5	11.4	122		
2EZ16	16	31.2	8.0	700	0.25	0.5	12.2	114		
2EZ17	17	29.4	9.0	750	0.25	0.5	13.0	107		
2EZ18	18	27.8	10	750	0.25	0.5	13.7	100		
2EZ19	19	26.3	11	750	0.25	0.5	14.4	95		
2EZ20	20	25.0	11	750	0.25	0.5	15.2	90		
2EZ22	22	22.8	12	750	0.25	0.5	16.7	82		
2EZ24	24	20.8	13	750	0.25	0.5	18.2	76		
2EZ27	27	18.5	18	750	0.25	0.5	20.6	68		
2EZ30	30	16.6	20	1000	0.25	0.5	22.5	60		
2EZ33	33	15.1	23	1000	0.25	0.5	25.1	55		
2EZ36	36	13.9	25	1000	0.25	0.5	27.4	50		
2EZ39	39	12.8	30	1000	0.25	0.5	29.7	47		
2EZ43	43	11.6	35	1500	0.25	0.5	32.7	43		
2EZ47	47	10.6	40	1500	0.25	0.5	35.8	39		
2EZ51	51	9.8	48	1500	0.25	0.5	38.8	36		
2EZ56	56	9.0	55	2000	0.25	0.5	42.6	32		
2EZ62	62	8.1	60	2000	0.25	0.5	47.1	29		
2EZ68	68	7.4	75	2000	0.25	0.5	51.7	27		
2EZ75	75	6.7	90	2000	0.25	0.5	56.0	24		
2EZ82	82	6.1	100	3000	0.25	0.5	62.2	22		
2EZ91	91	5.5	125	3000	0.25	0.5	69.2	20		
2EZ100	100	5.0	175	3000	0.25	0.5	76.0	18		
2EZ110	110	4.5	250	4000	0.25	0.5	83.6	17		
2EZ120	120	4.2	325	4500	0.25	0.5	91.2	15		
2EZ130	130	3.8	400	5000	0.25	0.5	98.8	14		
2EZ140	140	3.6	500	5500	0.25	0.5	106.4	13		
2EZ150	150	3.3	575	6000	0.25	0.5	114.0	12		
2EZ160	160	3.1	650	6500	0.25	0.5	121.6	11		
2EZ170	170	2.9	675	7000	0.25	0.5	130.4	11		
2EZ180	180	2.8	725	7000	0.25	0.5	136.8	10		
2EZ190	190	2.6	825	8000	0.25	0.5	144.8	10		
2EZ200	200	2.5	1900	9990	0.25	0.5	152.0	9.0		
2EZ220	220	2.0	2000	8500	0.25	0.5	167.0	8.0		
2EZ270	270	1.6	2200	8500	0.25	0.5	205.0	6.7		
2EZ300	300	1.5	2200	9000	0.25	0.5	228.0	5.9		
2EZ330	330	1.4	2300	9000	0.25	0.5	250.0	5.4		

NOTE: 1. Normal Tolerance $\pm 5\%$

2. * Prefix "SMA" stands for "SMA (DO-214AC)" package. (e.g.: **SMA**2EZ6.2, **SMA**2EZ330,...etc.)

* Prefix "SMB" stands for "SMB (DO-214AA)" package. (e.g.: **SMB**2EZ6.2, **SMB**2EZ330,...etc.)

ZENER DIODES

(SMD Type & Axial Lead Type)



TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

3 Watt (DO-15 / SMA / SMB)

3EZ6.2	6.2	121	1.5	700	1	5	3.0	435	DO-15 (No.: 4) / SMA (DO-214AC)* (No.: 28) / SMB (DO-214AA)* (No.: 29)	  
3EZ6.8	6.8	110	2.0	700	1	50	4.0	393		
3EZ7.5	7.5	100	2.0	700	0.5	50	5.0	360		
3EZ8.2	8.2	91	2.3	700	0.5	50	6.0	330		
3EZ9.1	9.1	82	2.5	700	0.5	50	7.0	297		
3EZ10	10	75	3.5	700	0.25	50	7.6	270		
3EZ11	11	68	4.0	700	0.25	50	8.4	225		
3EZ12	12	63	4.5	700	0.25	1	9.1	246		
3EZ13	13	58	4.5	700	0.25	0.5	9.9	208		
3EZ14	14	53	5.0	700	0.25	0.5	10.6	193		
3EZ15	15	50	5.5	700	0.25	0.5	11.4	180		
3EZ16	16	47	5.5	700	0.25	0.5	12.2	169		
3EZ17	17	44	6.0	750	0.25	0.5	13.0	159		
3EZ18	18	42	6.0	750	0.25	0.5	13.7	150		
3EZ19	19	40	7.0	750	0.25	0.5	14.4	142		
3EZ20	20	37	7.0	750	0.25	0.5	15.2	135		
3EZ22	22	34	8.0	750	0.25	0.5	16.7	123		
3EZ24	24	31	9.0	750	0.25	0.5	18.2	112		
3EZ27	27	28	10	750	0.25	0.5	20.6	100		
3EZ28	28	27	12	750	0.25	0.5	21.0	96		
3EZ30	30	25	16	1000	0.25	0.5	22.5	90		
3EZ33	33	23	20	1000	0.25	0.5	25.1	82		
2EZ36	36	21	22	1000	0.25	0.5	27.4	75		
3EZ39	39	19	28	1000	0.25	0.5	29.7	69		
3EZ43	43	17	33	1500	0.25	0.5	32.7	63		
3EZ47	47	16	38	1500	0.25	0.5	35.6	57		
3EZ51	51	15	45	1500	0.25	0.5	38.8	53		
3EZ56	56	13	50	2000	0.25	0.5	42.6	48		
3EZ62	62	12	55	2000	0.25	0.5	47.1	44		
3EZ68	68	11	70	2000	0.25	0.5	51.7	40		
3EZ75	75	10	85	2000	0.25	0.5	56.0	36		
3EZ82	82	9.1	95	3000	0.25	0.5	62.2	33		
3EZ91	91	8.2	115	3000	0.25	0.5	69.2	30		
3EZ100	100	7.5	160	3000	0.25	0.5	76.0	27		
3EZ110	110	6.8	225	4000	0.25	0.5	83.6	25		
3EZ120	120	6.3	300	4500	0.25	0.5	91.2	22		
3EZ130	130	5.8	375	5000	0.25	0.5	98.8	21		
3EZ140	140	5.3	475	5000	0.25	0.5	106.4	19		
3EZ150	150	5.0	550	6000	0.25	0.5	114.0	18		
3EZ160	160	4.7	625	6500	0.25	0.5	121.6	17		
3EZ170	170	4.4	650	7000	0.25	0.5	130.4	16		
3EZ180	180	4.2	700	7000	0.25	0.5	136.8	15		
3EZ190	190	4.0	800	8000	0.25	0.5	144.8	14		
3EZ200	200	3.7	875	8000	0.25	0.5	152.0	13		

NOTE: 1. Normal Tolerance $\pm 5\%$

2. * Prefix "**SMA**" stands for "SMA (DO-214AC)" package. (e.g.: **SMA**3EZ6.2, **SMA**3EZ200,...etc.)

* Prefix "**SMB**" stands for "SMB (DO-214AA)" package. (e.g.: **SMB**3EZ6.2, **SMB**3EZ200,...etc.)

ZENER DIODES

(SMD Type & Axial Lead Type)

TYPE No.	Normal Zener Voltage		Max. Zener Impedance			Max. Reverse Leakage Current		Max. DC Zener Current	Package Outline Drawing No. Please refer to Page: 131~139
	$V_Z @ I_{ZT}$		$Z_{ZT} @ I_{ZT}$	$Z_{ZK} @ I_{ZK}$		$I_R @ V_R$		I_{ZM}	
	V	mA	Ohms	Ohms	mA	μA	V	mA	

5 Watt (DO-201AE / SMB / SMC)

1N5341B	6.2	200	1.0	200	1	1	3.0	765	DO-201AE (No.: 5) / SMB (DO-214AA)* (No.: 29) / SMC (DO-214AB)* (No.: 30)	  
1N5342B	6.8	175	1.0	200	1	10	5.2	700		
1N5343B	7.5	175	1.5	200	1	10	5.7	630		
1N5344B	8.2	150	1.5	200	1	10	6.2	580		
1N5345B	8.7	150	2.0	200	1	10	6.6	545		
1N5346B	9.1	150	2.0	150	1	7.5	6.9	520		
1N5347B	10	125	2.0	125	1	5.0	7.6	475		
1N5348B	11	125	2.5	125	1	5.0	8.4	430		
1N5349B	12	100	2.5	125	1	2.0	9.1	395		
1N5350B	13	100	2.5	100	1	1.0	9.9	365		
1N5351B	14	100	2.5	75	1	1.0	10.6	340		
1N5352B	15	75	2.5	75	1	1.0	11.5	315		
1N5353B	16	75	2.5	75	1	1.0	12.2	295		
1N5354B	17	70	2.5	75	1	0.5	12.9	280		
1N5355B	18	65	2.5	75	1	0.5	13.7	265		
1N5356B	19	65	3.0	75	1	0.5	14.4	250		
1N5357B	20	65	3.0	75	1	0.5	15.2	237		
1N5358B	22	50	3.5	75	1	0.5	16.7	216		
1N5359B	24	50	3.5	100	1	0.5	18.2	198		
1N5360B	25	50	4.0	110	1	0.5	19.0	190		
1N5361B	27	50	5.0	120	1	0.5	20.6	176		
1N5362B	28	50	6.0	130	1	0.5	21.2	170		
1N5363B	30	40	8.0	140	1	0.5	22.8	158		
1N5364B	33	40	10	150	1	0.5	25.1	144		
1N5365B	36	30	11	160	1	0.5	27.4	132		
1N5366B	39	30	14	170	1	0.5	29.7	122		
1N5367B	43	30	20	190	1	0.5	32.7	110		
1N5368B	47	25	25	210	1	0.5	35.8	100		
1N5369B	51	25	27	230	1	0.5	38.8	93		
1N5370B	56	20	35	280	1	0.5	42.6	86		
1N5371B	60	20	40	350	1	0.5	42.5	79		
1N5372B	62	20	42	400	1	0.5	47.1	76		
1N5373B	68	20	44	500	1	0.5	51.7	70		
1N5374B	75	20	45	620	1	0.5	56.0	63		
1N5375B	82	15	65	720	1	0.5	62.2	58		
1N5376B	87	15	75	760	1	0.5	66.0	54.5		
1N5377B	91	15	75	760	1	0.5	69.2	52.5		
1N5378B	100	12	90	800	1	0.5	76.0	47.5		
1N5379B	110	12	125	1000	1	0.5	83.6	43.0		
1N5380B	120	10	170	1150	1	0.5	91.2	39.5		
1N5381B	130	10	190	1250	1	0.5	98.8	36.6		
1N5382B	140	8	230	1500	1	0.5	106.0	34.0		
1N5383B	150	8	330	1500	1	0.5	114.0	31.6		
1N5384B	160	8	350	1650	1	0.5	122.0	29.4		
1N5385B	170	8	380	1750	1	0.5	129.0	28.0		
1N5386B	180	5	430	1750	1	0.5	137.0	26.4		
1N5387B	190	5	450	1850	1	0.5	144.0	25.0		
1N5388B	200	5	480	1850	1	0.5	152.0	23.6		

NOTE: 1. Normal Tolerance $\pm 5\%$

2. * Prefix "SMB" stands for "SMB (DO-214AA)" package. (e.g.: **SMB**5341B, **SMB**5388B,...etc.)

* Prefix "SMC" stands for "SMC (DO-214AB)" package. (e.g.: **SMC**5341B, **SMC**5388B,...etc.)

SMD BRIDGE RECTIFIERS (Schottky Barrier)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

1.0 Ampere

ABK12F	20	1.0	40	0.3	0.55	1.0	ABF (No.: 18)	
ABK14F	40				0.70			
ABK16F	60				0.85			
ABK18F	80		30	0.2	0.85			
ABK110F	100				0.90			
ABK115F	150				0.90			
ABK120F	200				0.90			
ABK12S	20	1.0	40	0.3	0.55	1.0	ABS (No.: 17)	
ABK14S	40				0.70			
ABK16S	60				0.85			
ABK18S	80		30	0.2	0.85			
ABK110S	100				0.90			
ABK115S	150				0.90			
ABK120S	200				0.90			
BK12F	20	1.0	30	0.5	0.55	1.0	MBFL (No.: 25)	
BK14F	40				0.70			
BK16F	60				0.85			
BK18F	80				0.85			
BK110F	100				0.85			
MBK12F	20	1.0	40	0.3	0.55	1.0	MBF (No.: 26)	
MBK14F	40				0.70			
MBK16F	60				0.85			
MBK18F	80		30	0.2	0.85			
MBK110F	100				0.90			
MBK115F	150				0.90			
MBK120F	200				0.90			
MBK12S	20	1.0	40	0.3	0.55	1.0	MBS (No.: 23)	
MBK14S	40				0.70			
MBK16S	60				0.85			
MBK18S	80		30	0.2	0.85			
MBK110S	100				0.90			
MBK115S	150				0.90			
MBK120S	200				0.90			

2.0 Amperes

ABK22F	20	2.0	40	0.3	0.55	2.0	ABF (No.: 18)	
ABK24F	40				0.70			
ABK26F	60				0.85			
ABK28F	80		30	0.2	0.85			
ABK210F	100				0.90			
ABK215F	150				0.90			
ABK220F	200				0.90			
ABK22S	20	2.0	40	0.3	0.55	2.0	ABS (No.: 17)	
ABK24S	40				0.70			
ABK26S	60				0.85			
ABK28S	80		30	0.2	0.85			
ABK210S	100				0.90			
ABK215S	150				0.90			
ABK220S	200				0.90			

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	mAdc	V	A	

2.0 Amperes

BK22F	20	2.0	40	0.5	0.55	2.0	MBFL (No.: 25)	
BK24F	40				0.70			
BK26F	60				0.85			
BK28F	80							
BK210F	100							
MBK22F	20	2.0	40	0.5	0.55	2.0	MBF (No.: 26)	
MBK24F	40				0.70			
MBK26F	60							
MBK28F	80		30		0.85			
MBK210F	100							
MBK215F	150							
MBK220F	200							
MBK22S	20	2.0	40	0.3	0.55	2.0	MBS (No.: 23)	
MBK24S	40				0.70			
MBK26S	60							
MBK28S	80		30	0.2	0.85			
MBK210S	100							
MBK215S	150							
MBK220S	200		0.1	0.95				

3.0 Amperes

ABK32F	20	3.0	40	0.3	0.55	3.0	ABF (No.: 18)	
ABK34F	40				0.70			
ABK36F	60				0.85			
ABK38F	80		30	0.2	0.90			
ABK310F	100							
ABK315F	150							
ABK320F	200							
ABK32S	20	3.0	40	0.3	0.55	3.0	ABS (No.: 17)	
ABK34S	40				0.70			
ABK36S	60				0.85			
ABK38S	80		30	0.2	0.90			
ABK310S	100							
ABK315S	150							
ABK320S	200							
MBK32F	20	3.0	40	0.3	0.55	3.0	MBF (No.: 26)	
MBK34F	40				0.70			
MBK36F	60				0.85			
MBK38F	80		30	0.2	0.95			
MBK310F	100							
MBK315F	150							
MBK320F	200							
MBK32S	20	3.0	40	0.3	0.55	3.0	MBS (No.: 23)	
MBK34S	40				0.70			
MBK36S	60				0.85			
MBK38S	80		30	0.2	0.95			
MBK310S	100							
MBK315S	150							
MBK320S	200							

SMD BRIDGE RECTIFIERS (Super Fast & High Efficiency)



TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μA _{dc}	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

1.0 Ampere

AFB1AF	50	35	1.0	30	5.0	1.0	1.0	ABF (No.: 18)	
AFB1BF	100					1.3			
AFB1DF	200					1.7			
AFB1GF	400								
AFB1JF	600	35	1.0	30	5.0	1.0	1.0	ABS (No.: 17)	
AFB1AS	50					1.3			
AFB1BS	100					1.7			
AFB1DS	200								
AFB1GS	400	35	1.0	30	5.0	1.0	1.0	MBF (No.: 26)	
AFB1JS	600					1.3			
MFB1AF	50					1.7			
MFB1BF	100								
MFB1DF	200	35	1.0	30	5.0	1.0	1.0	MBS (No.: 23)	
MFB1GF	400					1.3			
MFB1JF	600					1.7			
MFB1AS	50								
MFB1BS	100	35	1.0	30	5.0	1.0	1.0	ABS (No.: 17)	
MFB1DS	200					1.3			
MFB1GS	400					1.7			
MFB1JS	600								

1.0 Ampere

UMB05F	50	50	1.0	30	5.0	1.0	1.0	MBF (No.: 26)	
UMB1F	100					1.4			
UMB2F	200					1.7			
UMB4F	400								
UMB6F	600	75	1.0	30	5.0	1.0	1.0	MBS (No.: 23)	
UMB8F	800					1.4			
UMB10F	1000					1.7			
UMB05S	50								
UMB1S	100	50	1.0	30	5.0	1.0	1.0	ABF (No.: 18)	
UMB2S	200					1.4			
UMB4S	400					1.7			
UMB6S	600								
UMB8S	800	75	1.0	30	5.0	1.0	1.0	ABS (No.: 17)	
UMB10S	1000					1.4			
UTB05F	50					1.7			
UTB1F	100								
UTB2F	200	50	1.0	30	5.0	1.0	1.0	ABF (No.: 18)	
UTB4F	400					1.4			
UTB6F	600					1.7			
UTB8F	800								
UTB10F	1000	75	1.0	30	5.0	1.0	1.0	ABS (No.: 17)	
UTB05S	50					1.4			
UTB1S	100					1.7			
UTB2S	200								
UTB4S	400	50	1.0	30	5.0	1.0	1.0	ABF (No.: 18)	
UTB6S	600					1.4			
UTB8S	800					1.7			
UTB10S	1000								

TYPE No.	Max. Peak Reverse Voltage	Max. Reverse Recovery Time	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	*Trr	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	nS	A	A	μAdc	V	A	

NOTE: * Trr Test Conditions: I_F = 0.5A, I_R = 1.0A, Recover to 0.25A.

0.5 Ampere

RMB2F	200	150	0.5	25	5.0	1.3	0.5	MBFL (No.: 25)	
RMB4F	400								
RMB6F	600	250							
RMB05S	50	150	0.5	25	5.0	1.3	0.5	MBS (No.: 23)	
RMB1S	100								
RMB2S	200								
RMB4S	400								
RMB6S	600	250							
RMB8S	800	500							
RMB10S	1000								

0.8 Ampere

FMB05F	50	150	0.8	25	5.0	1.3	0.8	MBF (No.: 26)															
FMB1F	100																						
FMB2F	200																						
FMB4F	400																						
FMB6F	600									250													
FMB8F	800	500	0.8	25	5.0	1.3	0.8	MBS (No.: 23)															
FMB10F	1000																						
FMB05S	50	150								0.8	25	5.0	1.3	0.8	MBS (No.: 23)								
FMB1S	100																						
FMB2S	200																						
FMB4S	400																						
FMB6S	600																250						
FMB8S	800	500															0.8	25	5.0	1.3	0.8	ABF (No.: 18)	
FMB10S	1000																						
FTB05F	50	150	0.8	25	5.0	1.3	0.8	ABF (No.: 18)															
FTB1F	100																						
FTB2F	200																						
FTB4F	400																						
FTB6F	600									250													
FTB8F	800	500								0.8	25	5.0	1.3	0.8	ABS (No.: 17)								
FTB10F	1000																						
FTB05S	50	150															0.8	25	5.0	1.3	0.8	ABS (No.: 17)	
FTB1S	100																						
FTB2S	200																						
FTB4S	400																						
FTB6S	600		250																				
FTB8S	800	500	0.8	25	5.0	1.3	0.8	ABS (No.: 17)															
FTB10S	1000																						

1.0 Ampere

RMB12F	200	150	1.0	30	5.0	1.3	1.0	MBFL (No.: 25)	
RMB14F	400								
RMB16F	600	250							
RMB105S	50	150	1.0	30	5.0	1.3	1.0	MBS (No.: 23)	
RMB11S	100								
RMB12S	200								
RMB14S	400								
RMB16S	600	250							
RMB18S	800	500							
RMB110S	1000								

SMD BRIDGE RECTIFIERS (General Purpose)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

0.4 Ampere

B04AF	50	0.4	15	5.0	1.1	0.4	MBFL (No.: 25)	
B04BF	100							
B04DF	200							
B04GF	400							
B04JF	600							
B04KF	800							
B04MF	1000							

0.5 Ampere

B05AF	50	0.5	25	5.0	1.1	0.5	MBFL (No.: 25)	
B05BF	100							
B05DF	200							
B05GF	400							
B05JF	600							
B05KF	800							
B05MF	1000							
B05S	50	0.5	25	5.0	1.1	0.5	DB-1MS (No.: 22)	
B1S	100							
B2S	200							
B4S	400							
B6S	600							
B8S	800							
B10S	1000							

0.8 Ampere

AB05F	50	0.8	25	5.0	1.1	0.8	ABF (No.: 18)	
AB1F	100							
AB2F	200							
AB4F	400							
AB6F	600							
AB8F	800							
AB10F	1000							
AB05S	50	0.8	25	5.0	1.1	0.8	ABS (No.: 17)	
AB1S	100							
AB2S	200							
AB4S	400							
AB6S	600							
AB8S	800							
AB10S	1000							
MB05F	50	0.8	25	5.0	1.1	0.8	MBF (No.: 26)	
MB1F	100							
MB2F	200							
MB4F	400							
MB6F	600							
MB8F	800							
MB10F	1000							

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}		
	V	A	A	μA _{dc}	V	A		

0.8 Ampere

MB05S	50	0.8	25	5.0	1.1	0.8	MBS (No.: 23)	
MB1S	100							
MB2S	200							
MB4S	400							
MB6S	600							
MB8S	800							
MB10S	1000							

1.0 Ampere

B1AF	50	1.0	30	5.0	1.1	1.0	MBFL (No.: 25)	
B1BF	100							
B1DF	200							
B1GF	400							
B1JF	600							
B1KF	800							
B1MF	1000							
DB101S	50	1.0	30	10	1.1	1.0	DB-1S (No.: 20)	
DB102S	100							
DB103S	200							
DB104S	400							
DB105S	600							
DB106S	800							
DB107S	1000							
TB05S	50	1.0	30	10	1.1	1.0	ABS (No.: 17)	
TB1S	100							
TB2S	200							
TB4S	400							
TB6S	600							
TB8S	800							
TB10S	1000							

1.5 Amperes

DB151S	50	1.5	50	10	1.1	1.5	DB-1S (No.: 20)	
DB152S	100							
DB153S	200							
DB154S	400							
DB155S	600							
DB156S	800							
DB157S	1000							

2.0 Amperes

DB201S	50	2.0	60	10	1.1	2.0	DB-1S (No.: 20)	
DB202S	100							
DB203S	200							
DB204S	400							
DB205S	600							
DB206S	800							
DB207S	1000							

BRIDGE RECTIFIERS (General Purpose)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}	
	V	A	A	μA	V	A	

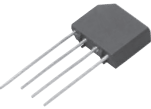
0.8 Ampere

MB05M	50	1.0	30	10	1.1	0.8	MBM (Dual-In-Line) (No.: 21)	
MB1M	100							
MB2M	200							
MB4M	400							
MB6M	600							
MB8M	800							
MB10M	1000							

1.0 Ampere

DB101	50	1.0	30	10	1.1	1.0	DB-1 (Dual-In-Line) (No.: 19)	
DB102	100							
DB103	200							
DB104	400							
DB105	600							
DB106	800							
DB107	1000							

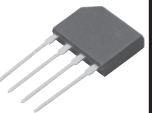
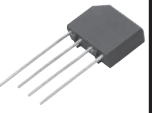
1.5 Amperes

DB151	50	1.5	50	10	1.1	1.5	DB-1 (Dual-In-Line) (No.: 19)	
DB152	100							
DB153	200							
DB154	400							
DB155	600							
DB156	800							
DB157	1000							
KBP005G	50	1.5	50	10	1.1	1.5	KBP (In-Line) (No.: 62)	
KBP01G	100							
KBP02G	200							
KBP04G	400							
KBP06G	600							
KBP08G	800							
KBP10G	1000							
W005M(G)*	50	1.5	50	10	1.1	1.5	WOM (Round) (No.: 24)	
W01M(G)*	100							
W02M(G)*	200							
W04M(G)*	400							
W06M(G)*	600							
W08M(G)*	800							
W10M(G)*	1000							

NOTE: *Suffix "G" stands for "Glass Passivated Junction".(e.g.: W005G,...W10G.)

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}	
	V	A	A	μA	V	A	

2.0 Amperes

D3KB2A	50	2.0	35	10	1.1	2.0	D3K (In-Line) (No.: 60)	
D3KB2B	100							
D3KB2D	200							
D3KB2G	400							
D3KB2J	600							
D3KB2K	800							
D3KB2M	1000							
DB201	50	2.0	60	10	1.1	2.0	DB-1 (In-Line) (No.: 19)	
DB202	100							
DB203	200							
DB204	400							
DB205	600							
DB206	800							
DB207	1000							
GBP2005	50	2.0	60	10	1.1	2.0	GBP (In-Line) (No.: 61)	
GBP201	100							
GBP202	200							
GBP204	400							
GBP206	600							
GBP208	800							
GBP210	1000							
KBP2005G	50	2.0	60	10	1.1	2.0	KBP (In-Line) (No.: 62)	
KBP201G	100							
KBP202G	200							
KBP204G	400							
KBP206G	600							
KBP208G	800							
KBP210G	1000							

3.0 Amperes

BR305	50	3.0	40	10	1.1	3.0	BR-3 (Chassis Mounted) (No.: 52)	
BR31	100							
BR32	200							
BR34	400							
BR36	600							
BR38	800							
BR310	1000							
D3KB3A	50	3.0	60	10	1.1	3.0	D3K (In-Line) (No.: 60)	
D3KB3B	100							
D3KB3D	200							
D3KB3G	400							
D3KB3J	600							
D3KB3K	800							
D3KB3M	1000							
KBPC1005	50	3.0	40	10	1.1	3.0	BR-3 (Chassis Mounted) (No.: 52)	
KBPC101	100							
KBPC102	200							
KBPC104	400							
KBPC106	600							
KBPC108	800							
KBPC110	1000							

BRIDGE RECTIFIERS (General Purpose)



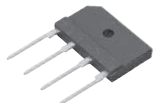
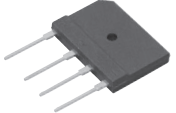
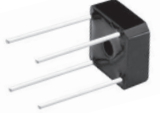
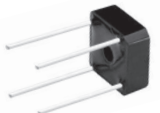
TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}		
	V	A	A	μA_{dc}	V	A		

4.0 Amperes

D3KB4A	50	4.0	120	10	1.1	4.0	D3K (In-Line) (No.: 60)	
D3KB4B	100							
D3KB4D	200							
D3KB4G	400							
D3KB4J	600							
D3KB4K	800							
D3KB4M	1000							
GBJ4A	50	4.0	140	10	1.1	4.0	GBJ4-10 (In-Line) (No.: 68)	
GBJ4B	100							
GBJ4D	200							
GBJ4G	400							
GBJ4J	600							
GBJ4K	800							
GBJ4M	1000							
GBL005	50	4.0	140	10	1.1	4.0	GBJ2 (In-Line) (No.: 67)	
GBL01	100							
GBL02	200							
GBL04	400							
GBL06	600							
GBL08	800							
GBL10	1000							
GBL4A	50	4.0	140	10	1.1	4.0	GBJ2 (In-Line) (No.: 67)	
GBL4B	100							
GBL4D	200							
GBL4G	400							
GBL4J	600							
GBL4K	800							
GBL4M	1000							
GBU4A	50	4.0	140	10	1.1	4.0	GBU (In-Line) (No.: 65)	
GBU4B	100							
GBU4D	200							
GBU4G	400							
GBU4J	600							
GBU4K	800							
GBU4M	1000							
KBL005	50	4.0	150	10	1.1	4.0	KBL (In-Line) (No.: 64)	
KBL01	100							
KBL02	200							
KBL04	400							
KBL06	600							
KBL08	800							
KBL10	1000							
KBU4A	50	4.0	150	10	1.1	4.0	KBU (In-Line) (No.: 66)	
KBU4B	100							
KBU4D	200							
KBU4G	400							
KBU4J	600							
KBU4K	800							
KBU4M	1000							
RS401	50	4.0	150	10	1.1	4.0	KBL (In-Line) (No.: 64)	
RS402	100							
RS403	200							
RS404	400							
RS405	600							
RS406	800							
RS407	1000							

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

6.0 Amperes

D3KB6A	50	6.0	135	10	1.1	3.0	D3K (In-Line) (No.: 60)	
D3KB6B	100							
D3KB6D	200							
D3KB6G	400							
D3KB6J	600							
D3KB6K	800							
D3KB6M	1000							
GBJ6A	50	6.0	150	10	1.1	3.0	GBJ4-10 (In-Line) (No.: 68)	
GBJ6B	100							
GBJ6D	200							
GBJ6G	400							
GBJ6J	600							
GBJ6K	800							
GBJ6M	1000							
GBK6A	50	6.0	150	10	1.1	3.0	GBK (In-Line) (No.: 63)	
GBK6B	100							
GBK6D	200							
GBK6G	400							
GBK6J	600							
GBK6K	800							
GBK6M	1000							
GBPC6005	50	6.0	150	10	1.1	3.0	BR-6 (Chassis Mounted) (No.: 52)	
GBPC601	100							
GBPC602	200							
GBPC604	400							
GBPC606	600							
GBPC608	800							
GBPC610	1000							
GBU6A	50	6.0	150	10	1.1	3.0	GBU (In-Line) (No.: 65)	
GBU6B	100							
GBU6D	200							
GBU6G	400							
GBU6J	600							
GBU6K	800							
GBU6M	1000							
KBPC6005	50	6.0	175	10	1.1	3.0	BR-6 (Chassis Mounted) (No.: 52)	
KBPC601	100							
KBPC602	200							
KBPC604	400							
KBPC606	600							
KBPC608	800							
KBPC610	1000							

BRIDGE RECTIFIERS (General Purpose)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139	
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}		
	V	A	A	μA	V	A		

6.0 Amperes

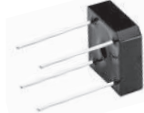
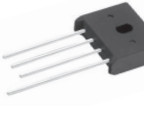
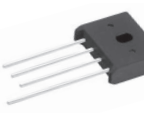
KBU6A	50	6.0	175	10	1.1	3.0	KBU (In-Line) (No.: 66)	
KBU6B	100							
KBU6D	200							
KBU6G	400							
KBU6J	600							
KBU6K	800							
KBU6M	1000							
MP6005	50	6.0	175	10	1.1	3.0	MP-6 (Chasis Mounted) (No.: 58)	
MP601	100							
MP602	200							
MP604	400							
MP606	600							
MP608	800							
MP610	1000							
RS601	50	6.0	175	10	1.1	3.0	KBU (In-Line) (No.: 66)	
RS602	100							
RS603	200							
RS604	400							
RS605	600							
RS606	800							
RS607	1000							

8.0 Amperes

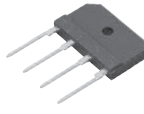
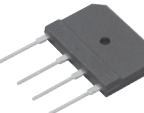
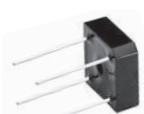
GBJ8A	50	8.0	175	10	1.1	4.0	GBJ4-10 (In-Line) (No.: 68)	
GBJ8B	100							
GBJ8D	200							
GBJ8G	400							
GBJ8J	600							
GBJ8K	800							
GBJ8M	1000							
GBK8A	50	8.0	175	10	1.1	4.0	GBK (In-Line) (No.: 63)	
GBK8B	100							
GBK8D	200							
GBK8G	400							
GBK8J	600							
GBK8K	800							
GBK8M	1000							
GBPC8005	50	8.0	175	10	1.1	4.0	KBPC-8/10 (Chasis Mounted) (No.: 57)	
GBPC801	100							
GBPC802	200							
GBPC804	400							
GBPC806	600							
GBPC808	800							
GBPC810	1000							
GBU8A	50	8.0	175	10	1.1	4.0	GBU (In-Line) (No.: 65)	
GBU8B	100							
GBU8D	200							
GBU8G	400							
GBU8J	600							
GBU8K	800							
GBU8M	1000							

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

8.0 Amperes

KBPC8005	50	8.0	200	10	1.1	4.0	KBPC-8/10 (Chassis Mounted) (No.: 57)	
KBPC801	100							
KBPC802	200							
KBPC804	400							
KBPC806	600							
KBPC808	800							
KBPC810	1000							
KBU8A	50	8.0	200	10	1.1	4.0	KBU (In-Line) (No.: 66)	
KBU8B	100							
KBU8D	200							
KBU8G	400							
KBU8J	600							
KBU8K	800							
KBU8M	1000							
MP8005	50	8.0	200	10	1.1	4.0	MP-8 (Chassis Mounted) (No.: 58)	
MP801	100							
MP802	200							
MP804	400							
MP806	600							
MP808	800							
MP810	1000							
RS801	50	8.0	200	10	1.1	4.0	KBU (In-Line) (No.: 66)	
RS802	100							
RS803	200							
RS804	400							
RS805	600							
RS806	800							
RS807	1000							

10 Amperes

GBJ10A	50	10	220	10	1.1	5.0	GBJ4-10 (In-Line) (No.: 68)	
GBJ10B	100							
GBJ10D	200							
GBJ10G	400							
GBJ10J	600							
GBJ10K	800							
GBJ10M	1000							
GBK10A	50	10	220	10	1.1	5.0	GBK (In-Line) (No.: 63)	
GBK10B	100							
GBK10D	200							
GBK10G	400							
GBK10J	600							
GBK10K	800							
GBK10M	1000							
GBPC10005	50	10	220	10	1.1	5.0	KBPC-8/10 (Chassis Mounted) (No.: 57)	
GBPC1001	100							
GBPC1002	200							
GBPC1004	400							
GBPC1006	600							
GBPC1008	800							
GBPC1010	1000							

BRIDGE RECTIFIERS (General Purpose)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

10 Amperes

GBU10A GBU10B GBU10D GBU10G GBU10J GBU10K GBU10M	50 100 200 400 600 800 1000	10	220	10	1.1	5.0	GBU (In-Line) (No.: 65)	
KBPC10005 KBPC1001 KBPC1002 KBPC1004 KBPC1006 KBPC1008 KBPC1010	50 100 200 400 600 800 1000	10	240	10	1.1	5.0	KBPC-8/10 (Chassis Mounted) (No.: 57)	
KBU10A KBU10B KBU10D KBU10G KBU10J KBU10K KBU10M	50 100 200 400 600 800 1000	10	240	10	1.1	5.0	KBU (In-Line) (No.: 66)	
MP10005 MP1001 MP1002 MP1004 MP1006 MP1008 MP1010	50 100 200 400 600 800 1000	10	240	10	1.1	5.0	MP-8 (Chassis Mounted) (No.: 58)	

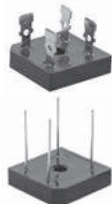
15 Amperes

BR1505 BR151 BR152 BR154 BR156 BR158 BR1510	50 100 200 400 600 800 1000	15	300	10	1.1	7.5	BR-25(W)* (Chassis Mounted) (No.:53/54)	
BR1505L BR151L BR152L BR154L BR156L BR158L BR1510L	50 100 200 400 600 800 1000	15	300	10	1.1	7.5	BR-25L (In-Line) (No.: 51)	
GBK15A GBK15B GBK15D GBK15G GBK15J GBK15K GBK15M	50 100 200 400 600 800 1000	15	240	10	1.1	7.5	GBK (In-Line) (No.: 63)	

NOTE: *Suffix "W" for wire lead type.(e.g.: BR1505W, BR1510W,...etc.)

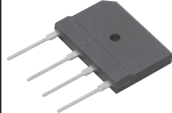
TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

15 Amperes

GBU15A GBU15B GBU15D GBU15G GBU15J GBU15K GBU15M	50 100 200 400 600 800 1000	15	240	10	1.1	7.5	GBU (In-Line) (No.: 65)	
GBPC15005 GBPC1501 GBPC1502 GBPC1504 GBPC1506 GBPC1508 GBPC1510	50 100 200 400 600 800 1000	15	240	10	1.1	7.5	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
KBPC15005 KBPC1501 KBPC1502 KBPC1504 KBPC1506 KBPC1508 KBPC1510	50 100 200 400 600 800 1000	15	300	10	1.1	7.5	MB-25(W)* (Chassis Mounted) (No.: 55/56)	
MB1505 MB151 MB152 MB154 MB156 MB158 MB1510	50 100 200 400 600 800 1000	15	300	10	1.1	7.5	MB-25(W)* (Chassis Mounted) (No.: 55/56)	
MBR1505 MBR151 MBR152 MBR154 MBR156 MBR158 MBR1510	50 100 200 400 600 800 1000	15	300	10	1.1	7.5	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
MMB1505 MMB151 MMB152 MMB154 MMB156 MMB158 MMB1510	50 100 200 400 600 800 1000	15	300	10	1.1	7.5	MMB-25(W)* (Chassis Mounted) (No.: 55/56)	

NOTE: *Suffix "W" for wire lead type.(e.g.: GBPC1502W, KBPC1504W, MB1506W, MBR158W, MMB1510W,...etc.)

20 Amperes

GBK20A GBK20B GBK20D GBK20G GBK20J GBK20K GBK20M	50 100 200 400 600 800 1000	20	250	10	1.1	10	GBK (In-Line) (No. 63)	
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BRIDGE RECTIFIERS (General Purpose)



TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

25 Amperes

BR2505 BR251 BR252 BR254 BR256 BR258 BR2510	50 100 200 400 600 800 1000	25	400	10	1.1	12.5	BR-25(W)* (Chassis Mounted) (No.: 53/54)	
BR2505L BR251L BR252L BR254L BR256L BR258L BR2510L	50 100 200 400 600 800 1000	25	400	10	1.1	12.5	BR-25L (In-Line) (No.: 51)	
GBK25A GBK25B GBK25D GBK25G GBK25J GBK25K GBK25M	50 100 200 400 600 800 1000	25	350	10	1.1	12.5	GBK (In-Line) (No.: 63)	
GBPC25005 GBPC2501 GBPC2502 GBPC2504 GBPC2506 GBPC2508 GBPC2510	50 100 200 400 600 800 1000	25	350	10	1.1	12.5	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
GBU25A GBU25B GBU25D GBU25G GBU25J GBU25K GBU25M	50 100 200 400 600 800 1000	25	350	10	1.1	12.5	GBU (In-Line) (No.: 65)	
KBPC25005 KBPC2501 KBPC2502 KBPC2504 KBPC2506 KBPC2508 KBPC2510	50 100 200 400 600 800 1000	25	400	10	1.1	12.5	MB-25(W)* (Chassis Mounted) (No.: 55/56)	

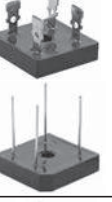
NOTE: *Suffix "W" for wire lead type.(e.g.: BR2505W, GBPC2502W, KBPC2506W,...etc.)

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μAdc	V	A	

25 Amperes

MB2505 MB251 MB252 MB254 MB256 MB258 MB2510	50 100 200 400 600 800 1000	25	400	10	1.1	12.5	MB-25(W)* (Chassis Mounted) (No.: 55/56)	
MBR2505 MBR251 MBR252 MBR254 MBR256 MBR258 MBR2510	50 100 200 400 600 800 1000	25	400	10	1.1	12.5	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
MMB2505 MMB251 MMB252 MMB254 MMB256 MMB258 MMB2510	50 100 200 400 600 800 1000	25	400	10	1.1	12.5	MMB-25(W)* (Chassis Mounted) (No.: 55/56)	

35 Amperes

BR3505 BR351 BR352 BR354 BR356 BR358 BR3510	50 100 200 400 600 800 1000	35	400	10	1.1	17.5	BR-25(W)* (Chassis Mounted) (No.: 53/54)	
BR3505L BR351L BR352L BR354L BR356L BR358L BR3510L	50 100 200 400 600 800 1000	35	400	10	1.1	17.5	BR-25L (In-Line) (No.: 51)	
GBPC35005 GBPC3501 GBPC3502 GBPC3504 GBPC3506 GBPC3508 GBPC3510	50 100 200 400 600 800 1000	35	350	10	1.1	17.5	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
KBPC35005 KBPC3501 KBPC3502 KBPC3504 KBPC3506 KBPC3508 KBPC3510	50 100 200 400 600 800 1000	35	400	10	1.1	17.5	MB-25(W)* (Chassis Mounted) (No.: 55/56)	

NOTE: *Suffix "W" for wire lead type.(e.g.: MB2505W, MBR252W, MMB2510W, BR3505W, GBPC3510W, KBPC3502W,...etc.)

BRIDGE RECTIFIERS (General Purpose)

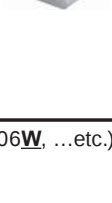


TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I _O	I _{FSM}	I _R	V _{FM}	I _{FM}	
	V	A	A	μA _{dc}	V	A	

35 Amperes

MB3505 MB351 MB352 MB354 MB356 MB358 MB3510	50 100 200 400 600 800 1000	35	400	10	1.1	17.5	MB-25(W)* (Chassis Mounted) (No.: 55/56)	
MBR3505 MBR351 MBR352 MBR354 MBR356 MBR358 MBR3510	50 100 200 400 600 800 1000	35	400	10	1.1	17.5	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
MMB3505 MMB351 MMB352 MMB354 MMB356 MMB358 MMB3510	50 100 200 400 600 800 1000	35	400	10	1.1	17.5	MMB-25(W)* (Chassis Mounted) (No.: 55/56)	

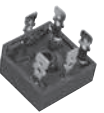
50 Amperes

BR5005 BR501 BR502 BR504 BR506 BR508 BR5010	50 100 200 400 600 800 1000	50	500	10	1.1	25.0	BR-25(W)* (Chassis Mounted) (No.: 53/54)	
GBPC50005 GBPC5001 GBPC5002 GBPC5004 GBPC5006 GBPC5008 GBPC5010	50 100 200 400 600 800 1000	50	450	10	1.1	25.0	MBR-25(W)* (Chassis Mounted) (No.: 53/54)	
KBPC50005 KBPC5001 KBPC5002 KBPC5004 KBPC5006 KBPC5008 KBPC5010	50 100 200 400 600 800 1000	50	500	10	1.1	25.0	MB-25(W)* (Chassis Mounted) (No.: 55/56)	
MB5005 MB501 MB502 MB504 MB506 MB508 MB5010	50 100 200 400 600 800 1000	50	500	10	1.1	25.0		

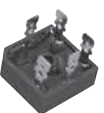
NOTE: *Suffix "W" for wire lead type.(e.g.: MB351W, MBR3510W, MMB356W, BR50005W, MB501W, KBPC50005W, GBPC5006W, ...etc.)

TYPE No.	Max. Peak Reverse Voltage	Max. Average Rectified Current	Max. Peak Forward Surge Current	Max. Reverse Leakage Current	Max. Forward Voltage		Package Outline Drawing No. Please refer to Page: 131~139
	PRV	I_O	I_{FSM}	I_R	V_{FM}	I_{FM}	
	V	A	A	μA_{dc}	V	A	

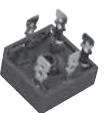
15 Amperes

TBR1500	50	15	300	10	1.1	7.5	TBR (Three Phases) (No.: 59)	
TBR1501	100							
TBR1502	200							
TBR1504	400							
TBR1506	600							
TBR1508	800							
TBR1510	1000							
TBR1512	1200							
TBR1514	1400							
TBR1516	1600							

25 Amperes

TBR2500	50	25	400	10	1.1	12.5	TBR (Three Phases) (No.: 59)	
TBR2501	100							
TBR2502	200							
TBR2504	400							
TBR2506	600							
TBR2508	800							
TBR2510	1000							
TBR2512	1200							
TBR2514	1400							
TBR2516	1600							

35 Amperes

TBR3500	50	35	400	10	1.1	17.5	TBR (Three Phases) (No.: 59)	
TBR3501	100							
TBR3502	200							
TBR3504	400							
TBR3506	600							
TBR3508	800							
TBR3510	1000							
TBR3512	1200							
TBR3514	1400							
TBR3516	1600							

NOTE: 1. Peak Reverse Current (per leg) at Rated DC Blocking Voltage.
2. Forward Voltage (Per element) @ $I_{FM}=40A_{PK}$ Per Single Junction.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

200 Watts

SMF5.0A	5.0	6.40	7.00	10	400	800	9.2	21.74	SOD-123FL (No.: 16) 	
SMF6.0A	6.0	6.67	7.37	10	400	800	10.3	19.42		
SMF6.5A	6.5	7.22	7.98	10	250	500	11.2	17.86		
SMF7.0A	7.0	7.78	8.60	10	100	200	12.0	16.67		
SMF7.5A	7.5	8.33	9.21	1	50	100	12.9	15.50		
SMF8.0A	8.0	8.89	9.83	1	25	50	13.6	14.71		
SMF8.5A	8.5	9.44	10.4	1	10	20	14.4	13.89		
SMF9.0A	9.0	10.0	11.1	1	5	10	15.4	12.99		
SMF10A	10	11.1	12.3	1	2.5		17.0	11.76		
SMF11A	11	12.2	13.5	1	2.5		18.2	10.99		
SMF12A	12	13.3	14.7	1	1		19.9	10.05		
SMF13A	13	14.4	15.9	1	1		21.5	9.30		
SMF14A	14	15.6	17.2	1	1		23.2	8.62		
SMF15A	15	16.7	18.5	1	1		24.4	8.20		
SMF16A	16	17.8	19.7	1	1		26.0	7.69		
SMF17A	17	18.9	20.9	1	1		27.6	7.25		
SMF18A	18	20.0	22.1	1	1		29.2	6.85		
SMF19A	19	21.1	23.3	1	1		30.6	6.54		
SMF20A	20	22.2	24.5	1	1		32.4	6.17		
SMF22A	22	24.4	26.9	1	1		35.5	5.63		
SMF24A	24	26.7	29.5	1	1		38.9	5.14		
SMF26A	26	28.9	31.9	1	1		42.1	4.75		
SMF28A	28	31.1	34.4	1	1		45.4	4.41		
SMF30A	30	33.3	36.8	1	1		48.4	4.13		
SMF33A	33	36.7	40.6	1	1		53.3	3.75		
SMF36A	36	40.0	44.2	1	1		58.1	3.44		
SMF40A	40	44.4	49.1	1	1		64.5	3.10		
SMF43A	43	47.8	52.8	1	1		69.4	2.88		
SMF45A	45	50.0	55.3	1	1		72.7	2.75		
SMF48A	48	53.3	58.9	1	1		77.4	2.58		
SMF51A	51	56.7	62.7	1	1		82.4	2.43		
SMF54A	54	60.0	66.3	1	1		87.1	2.30		
SMF58A	58	64.4	71.2	1	1		93.6	2.14		
SMF60A	60	66.7	73.7	1	1		96.8	2.07		
SMF64A	64	71.1	78.6	1	1		103	1.94		
SMF70A	70	77.8	86.0	1	1		113	1.77		
SMF75A	75	83.3	92.1	1	1		121	1.65		
SMF78A	78	86.7	95.8	1	1		126	1.59		
SMF80A	80	88.8	97.6	1	1		129	1.55		
SMF85A	85	94.4	104	1	1		137	1.46		
SMF90A	90	100	111	1	1		146	1.37		
SMF100A	100	111	123	1	1		162	1.23		
SMF110A	110	122	135	1	1		177	1.13		
SMF120A	120	133	147	1	1		193	1.04		
SMF130A	130	144	159	1	1		209	0.96		
SMF140A	140	155	171	1	1		224	0.89		
SMF150A	150	167	185	1	1		243	0.82		
SMF160A	160	178	197	1	1		259	0.77		
SMF170A	170	189	209	1	1		275	0.73		
SMF180A	180	200	220	1	1		292	0.68		
SMF190A	190	211	232	1	1		308	0.65		
SMF200A	200	224	247	1	1		324	0.62		
SMF220A	220	246	272	1	1		356	0.56		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" of "CA" suffix for types. (e.g.: SMF5.0C, SMF5.0CA, SMF40C, SMF40CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
		V	V		μA	μA			

400 Watts

SMAJ5.0	5.0	6.40	7.55	10	800	1600	9.6	41.6	 SMA (DO-214AC) (No.: 28)	
SMAJ5.0A	5.0	6.40	7.25	10	800	1600	9.2	43.5		
SMAJ6.0	6.0	6.67	8.45	10	800	1600	11.4	35.1		
SMAJ6.0A	6.0	6.67	7.67	10	800	1600	10.3	38.8		
SMAJ6.5	6.5	7.22	9.14	10	500	1000	12.3	32.5		
SMAJ6.5A	6.5	7.22	8.30	10	500	1000	11.2	35.7		
SMAJ7.0	7.0	7.78	9.86	10	200	400	13.3	30.1		
SMAJ7.0A	7.0	7.78	8.95	10	200	400	12.0	33.3		
SMAJ7.5	7.5	8.33	10.67	1	100	200	14.3	28.0		
SMAJ7.5A	7.5	8.33	9.58	1	100	200	12.9	31.0		
SMAJ8.0	8.0	8.89	11.30	1	50	100	15.0	26.5		
SMAJ8.0A	8.0	8.89	10.23	1	50	100	13.6	29.4		
SMAJ8.5	8.5	9.44	11.92	1	10	20	15.9	25.1		
SMAJ8.5A	8.5	9.44	10.82	1	10	20	14.4	27.7		
SMAJ9.0	9.0	10.0	12.6	1	5	10	16.9	23.6		
SMAJ9.0A	9.0	10.0	11.5	1	5	10	15.4	26.0		
SMAJ10	10	11.1	14.1	1	5		18.8	21.2		
SMAJ10A	10	11.1	12.8	1	5		17.0	23.5		
SMAJ11	11	12.2	15.4	1	5		20.1	20.0		
SMAJ11A	11	12.2	14.0	1	5		18.2	22.0		
SMAJ12	12	13.3	16.9	1	5		22.0	18.1		
SMAJ12A	12	13.3	15.3	1	5		19.9	20.1		
SMAJ13	13	14.4	18.2	1	5		23.8	16.8		
SMAJ13A	13	14.4	16.5	1	5		21.5	18.6		
SMAJ14	14	15.6	19.8	1	5		25.8	15.5		
SMAJ14A	14	15.6	17.9	1	5		23.2	17.2		
SMAJ15	15	16.7	21.1	1	5		26.9	14.8		
SMAJ15A	15	16.7	19.2	1	5		24.4	16.4		
SMAJ16	16	17.8	22.6	1	5		28.8	13.8		
SMAJ16A	16	17.8	20.5	1	5		26.0	15.3		
SMAJ17	17	18.9	23.9	1	5		30.5	13.1		
SMAJ17A	17	18.9	21.7	1	5		27.6	14.5		
SMAJ18	18	20.0	25.3	1	5		32.2	12.4		
SMAJ18A	18	20.0	23.3	1	5		29.2	13.7		
SMAJ20	20	22.2	28.1	1	5		35.8	11.1		
SMAJ20A	20	22.2	25.5	1	5		32.4	12.3		
SMAJ22	22	24.4	30.9	1	5		39.4	10.1		
SMAJ22A	22	24.4	28.0	1	5		35.5	11.2		
SMAJ24	24	26.7	33.8	1	5		43.0	9.3		
SMAJ24A	24	26.7	30.7	1	5		38.9	10.3		
SMAJ26	26	28.9	36.6	1	5		46.6	8.6		
SMAJ26A	26	28.9	33.2	1	5		42.1	9.5		
SMAJ28	28	31.1	39.4	1	5		50.0	8.0		
SMAJ28A	28	31.1	35.8	1	5		45.4	8.8		
SMAJ30	30	33.3	42.2	1	5		53.5	7.5		
SMAJ30A	30	33.3	38.3	1	5		48.4	8.3		
SMAJ33	33	36.7	46.5	1	5		59.0	6.8		
SMAJ33A	33	36.7	42.2	1	5		53.3	7.5		
SMAJ36	36	40.0	50.7	1	5		64.3	6.2		
SMAJ36A	36	40.0	46.0	1	5		58.1	6.9		
SMAJ40	40	44.4	56.3	1	5		71.4	5.6		
SMAJ40A	40	44.4	51.1	1	5		64.5	6.2		
SMAJ43	43	47.8	60.5	1	5		76.7	5.2		
SMAJ43A	43	47.8	54.9	1	5		69.4	5.7		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SMAJ5.0C, SMAJ5.0CA, SMAJ43C, SMAJ43CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

400 Watts

SMAJ45	45	50.0	63.3	1	5	80.3	5.0	SMA (DO-214AC) (No.: 28) 	
SMAJ45A	45	50.0	57.5	1	5	72.7	5.5		
SMAJ48	48	53.3	67.5	1	5	85.5	4.7		
SMAJ48A	48	53.3	61.3	1	5	77.4	5.2		
SMAJ51	51	56.7	71.8	1	5	91.1	4.4		
SMAJ51A	51	56.7	65.2	1	5	82.4	4.9		
SMAJ54	54	60.0	76.0	1	5	96.3	4.2		
SMAJ54A	54	60.0	69.0	1	5	87.1	4.6		
SMAJ58	58	64.4	81.6	1	5	103.0	3.9		
SMAJ58A	58	64.4	74.1	1	5	93.6	4.3		
SMAJ60	60	66.7	84.5	1	5	107.0	3.7		
SMAJ60A	60	66.7	76.7	1	5	96.8	4.1		
SMAJ64	64	71.1	90.1	1	5	114	3.5		
SMAJ64A	64	71.1	81.8	1	5	103	3.9		
SMAJ70	70	77.8	98.6	1	5	125	3.2		
SMAJ70A	70	77.8	89.5	1	5	113	3.5		
SMAJ75	75	83.3	105.7	1	5	134	3.0		
SMAJ75A	75	83.3	95.8	1	5	121	3.3		
SMAJ78	78	86.7	109.8	1	5	139	2.9		
SMAJ78A	78	86.7	99.7	1	5	126	2.2		
SMAJ85	85	94.4	119.2	1	5	151	2.6		
SMAJ85A	85	94.4	108.2	1	5	137	2.9		
SMAJ90	90	100	126.5	1	5	160	2.5		
SMAJ90A	90	100	115.5	1	5	146	2.7		
SMAJ100	100	111	141.0	1	5	179	2.2		
SMAJ100A	100	111	128.0	1	5	162	2.5		
SMAJ110	110	122	154.5	1	5	196	2.0		
SMAJ110A	110	122	140.5	1	5	177	2.3		
SMAJ120	120	133	169.0	1	5	214	1.9		
SMAJ120A	120	133	153.0	1	5	193	2.0		
SMAJ130	130	144	182.5	1	5	231	1.7		
SMAJ130A	130	144	165.5	1	5	209	1.9		
SMAJ150	150	167	211.5	1	5	268	1.5		
SMAJ150A	150	167	192.5	1	5	243	1.6		
SMAJ160	160	178	226.0	1	5	287	1.4		
SMAJ160A	160	178	205.0	1	5	259	1.5		
SMAJ170	170	189	239.5	1	5	304	1.3		
SMAJ170A	170	189	217.5	1	5	275	1.4		
SMAJ180	180	198	253.8	1	5	322	1.2		
SMAJ180A	180	198	230.4	1	5	292	1.3		
SMAJ190	190	209	267.9	1	5	340	1.2		
SMAJ190A	190	209	243.2	1	5	308	1.3		
SMAJ200	200	220	282.0	1	5	358	1.1		
SMAJ200A	200	220	256.0	1	5	324	1.2		
SMAJ210	210	231	296.1	1	5	376	1.1		
SMAJ210A	210	231	268.8	1	5	340	1.2		
SMAJ220	220	242	310.2	1	5	394	1.0		
SMAJ220A	220	242	281.6	1	5	356	1.1		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SMAJ45C, SMAJ45CA, SMAJ220C, SMAJ220CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current	Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}	
		Min.	Max.					
	V	V	V	mA	μA	V	A	

400 Watts

SMAFJ5.0A	5.0	6.4	7.0	10	200	9.2	21.7	SMAFL (No.: 32)	
SMAFJ6.0A	6.0	6.7	7.4	10	100	10.3	19.4		
SMAFJ6.5A	6.5	7.2	8.0	10	75	11.2	17.9		
SMAFJ7.0A	7.0	7.8	8.6	10	50	12.0	16.7		
SMAFJ7.5A	7.5	8.3	9.2	1	50	12.9	15.5		
SMAFJ8.0A	8.0	8.9	9.8	1	25	13.6	14.7		
SMAFJ8.5A	8.5	9.4	10.4	1	10	14.4	13.9		
SMAFJ9.0A	9.0	10.0	11.5	1	5	15.4	13.0		
SMAFJ10A	10	11.1	12.3	1	5	17.0	11.8		
SMAFJ11A	11	12.2	13.5	1	1	18.2	11.0		
SMAFJ12A	12	13.3	14.7	1	1	19.9	10.1		
SMAFJ13A	13	14.4	15.9	1	1	21.5	9.3		
SMAFJ14A	14	15.6	17.2	1	1	23.2	8.6		
SMAFJ15A	15	16.7	18.5	1	1	24.4	8.2		
SMAFJ16A	16	17.8	19.7	1	1	26.0	7.7		
SMAFJ17A	17	18.9	20.9	1	1	27.6	7.2		
SMAFJ18A	18	20.0	22.1	1	1	29.2	6.8		
SMAFJ20A	20	22.2	24.5	1	1	32.4	6.2		
SMAFJ22A	22	24.4	26.9	1	1	35.5	5.6		
SMAFJ24A	24	26.7	29.5	1	1	38.9	5.1		
SMAFJ26A	26	28.9	31.9	1	1	42.1	4.8		
SMAFJ28A	28	31.1	34.4	1	1	45.4	4.4		
SMAFJ30A	30	33.3	36.8	1	1	48.4	4.1		
SMAFJ33A	33	36.7	40.6	1	1	53.3	3.8		
SMAFJ36A	36	40.0	44.2	1	1	58.1	3.4		
SMAFJ40A	40	44.4	49.1	1	1	64.5	3.1		
SMAFJ43A	43	47.8	52.8	1	1	69.4	2.9		
SMAFJ45A	45	50.0	55.3	1	1	72.7	2.8		
SMAFJ48A	48	53.3	58.9	1	1	77.4	2.6		
SMAFJ51A	51	56.7	62.7	1	1	82.4	2.4		
SMAFJ54A	54	60.0	66.3	1	1	87.1	2.3		
SMAFJ58A	58	64.4	71.2	1	1	93.6	2.1		
SMAFJ60A	60	66.7	73.7	1	1	96.8	1.8		
SMAFJ64A	64	71.1	78.6	1	1	103	1.7		
SMAFJ70A	70	77.8	86.0	1	1	113	1.5		
SMAFJ75A	75	83.3	92.1	1	1	121	1.4		
SMAFJ78A	78	86.7	95.8	1	1	126	1.4		
SMAFJ85A	85	94.4	104	1	1	137	1.3		
SMAFJ90A	90	100	111	1	1	146	1.2		
SMAFJ100A	100	111	123	1	1	162	1.1		
SMAFJ110A	110	122	135	1	1	177	1.0		
SMAFJ120A	120	133	147	1	1	193	0.9		
SMAFJ130A	130	144	159	1	1	209	0.8		
SMAFJ150A	150	167	185	1	1	243	0.7		
SMAFJ160A	160	178	197	1	1	259	0.7		
SMAFJ170A	170	189	209	1	1	275	0.6		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current	Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}	
		Min.	Max.					
	V	V	V	mA	μA	V	A	

600 Watts

SMBFJ6.8A	5.8	6.45	7.14	10	1000	10.5	58.1	SMBFL (No.: 33)	
SMBFJ7.5A	6.4	7.13	7.88	10	500	11.3	54.0		
SMBFJ8.2A	7.02	7.79	8.61	10	200	12.1	50.4		
SMBFJ9.1A	7.78	8.65	9.55	1	50	13.4	45.5		
SMBFJ10A	8.55	9.5	10.5	1	10	14.5	42.1		
SMBFJ11A	9.4	10.5	11.6	1	5	15.6	39.1		
SMBFJ12A	10.2	11.4	12.6	1	5	16.7	36.5		
SMBFJ13A	11.1	12.4	13.7	1	1	18.2	33.5		
SMBFJ15A	12.8	14.3	15.8	1	1	21.2	28.8		
SMBFJ16A	13.6	15.2	16.8	1	1	22.5	27.1		
SMBFJ18A	15.3	17.1	18.9	1	1	25.2	24.2		
SMBFJ20A	17.1	19	21	1	1	27.7	22.0		
SMBFJ22A	18.8	20.9	23.1	1	1	30.6	19.9		
SMBFJ24A	20.5	22.8	25.2	1	1	33.2	18.4		
SMBFJ27A	23.1	25.7	28.4	1	1	37.5	16.3		
SMBFJ30A	25.6	28.5	31.5	1	1	41.4	14.7		
SMBFJ33A	28.2	31.4	34.7	1	1	45.7	13.3		
SMBFJ36A	30.8	34.2	37.8	1	1	49.9	12.2		
SMBFJ39A	33.3	37.1	41	1	1	53.9	11.3		
SMBFJ43A	36.8	40.9	45.2	1	1	59.3	10.3		
SMBFJ47A	40.2	44.7	49.4	1	1	64.8	9.4		
SMBFJ51A	43.6	48.5	53.6	1	1	70.1	8.7		
SMBFJ56A	47.8	53.2	58.8	1	1	77	7.9		
SMBFJ62A	53	58.9	65.1	1	1	85	7.2		
SMBFJ68A	58.1	64.6	71.4	1	1	92	6.6		
SMBFJ75A	64.1	71.3	78.8	1	1	103	5.9		
SMBFJ82A	70.1	77.9	86.1	1	1	113	5.4		
SMBFJ91A	77.8	86.5	95.5	1	1	125	4.9		
SMBFJ100A	85.5	95	105	1	1	137	4.5		
SMBFJ110A	94	105	116	1	1	152	4.0		
SMBFJ120A	102	114	126	1	1	165	3.7		
SMBFJ130A	111	124	137	1	1	179	3.4		
SMBFJ150A	128	143	158	1	1	207	2.9		
SMBFJ160A	136	152	168	1	1	219	2.8		
SMBFJ170A	145	162	179	1	1	234	2.6		
SMBFJ180A	154	171	189	1	1	246	2.5		
SMBFJ200A	171	190	210	1	1	274	2.2		
SMBFJ220A	185	209	231	1	1	328	1.9		
SMBFJ250A	214	237	263	1	1	344	1.8		
SMBFJ300A	256	285	315	1	1	414	1.5		
SMBFJ350A	300	332	368	1	1	482	1.3		
SMBFJ400A	342	380	420	1	1	548	1.1		
SMBFJ440A	376	418	462	1	1	602	1.0		
SMBFJ480A	408	456	504	1	1	658	0.9		
SMBFJ510A	434	485	535	1	1	698	0.9		
SMBFJ530A	450	503.5	556.5	1	1	725	0.8		
SMBFJ540A	459	513	567	1	1	740	0.8		
SMBFJ550A	467	522.5	577.5	1	1	760	0.8		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
		V	V		V	mA			

600 Watts

SMBJ5.0	5.0	6.40	7.55	10	800	1600	9.6	62.5	 SMB (DO-214AA) (No.: 29)	
SMBJ5.0A	5.0	6.40	7.25	10	800	1600	9.2	65.2		
SMBJ6.0	6.0	6.67	8.45	10	800	1600	11.4	52.6		
SMBJ6.0A	6.0	6.67	7.67	10	800	1600	10.3	58.3		
SMBJ6.5	6.5	7.22	9.14	10	500	1000	12.3	48.7		
SMBJ6.5A	6.5	7.22	8.30	10	500	1000	11.2	53.6		
SMBJ7.0	7.0	7.78	9.86	10	200	400	13.3	45.1		
SMBJ7.0A	7.0	7.78	8.95	10	200	400	12.0	50.0		
SMBJ7.5	7.5	8.33	10.67	1	100	200	14.3	42.0		
SMBJ7.5A	7.5	8.33	9.58	1	100	200	12.9	46.5		
SMBJ8.0	8.0	8.89	11.30	1	50	100	15.0	40.0		
SMBJ8.0A	8.0	8.89	10.23	1	50	100	13.6	44.1		
SMBJ8.5	8.5	9.44	11.92	1	10	20	15.9	37.7		
SMBJ8.5A	8.5	9.44	10.82	1	10	20	14.4	41.7		
SMBJ9.0	9.0	10.0	12.6	1	5	10	16.9	35.5		
SMBJ9.0A	9.0	10.0	11.5	1	5	10	15.4	39.0		
SMBJ10	10	11.1	14.1	1	5		18.8	31.9		
SMBJ10A	10	11.1	12.8	1	5		17.0	35.3		
SMBJ11	11	12.2	15.4	1	5		20.1	29.9		
SMBJ11A	11	12.2	14.0	1	5		18.2	33.0		
SMBJ12	12	13.3	16.9	1	5		22.0	27.3		
SMBJ12A	12	13.3	15.3	1	5		19.9	30.2		
SMBJ13	13	14.4	18.2	1	5		23.8	25.2		
SMBJ13A	13	14.4	16.5	1	5		21.5	27.9		
SMBJ14	14	15.6	19.8	1	5		25.8	23.3		
SMBJ14A	14	15.6	17.9	1	5		23.2	25.8		
SMBJ15	15	16.7	21.1	1	5		26.9	22.3		
SMBJ15A	15	16.7	19.2	1	5		24.4	24.0		
SMBJ16	16	17.8	22.6	1	5		28.8	20.8		
SMBJ16A	16	17.8	20.5	1	5		26.0	23.1		
SMBJ17	17	18.9	23.9	1	5		30.5	19.7		
SMBJ17A	17	18.9	21.7	1	5		27.6	21.7		
SMBJ18	18	20.0	25.3	1	5		32.2	18.6		
SMBJ18A	18	20.0	23.3	1	5		29.2	20.5		
SMBJ20	20	22.2	28.1	1	5		35.8	16.7		
SMBJ20A	20	22.2	25.5	1	5		32.4	18.5		
SMBJ22	22	24.4	30.9	1	5		39.4	15.2		
SMBJ22A	22	24.4	28.0	1	5		35.5	16.9		
SMBJ24	24	26.7	33.8	1	5		43.0	14.0		
SMBJ24A	24	26.7	30.7	1	5		38.9	15.4		
SMBJ26	26	28.9	36.6	1	5		46.6	12.4		
SMBJ26A	26	28.9	33.2	1	5		42.1	14.2		
SMBJ28	28	31.1	39.4	1	5		50.0	12.0		
SMBJ28A	28	31.1	35.8	1	5		45.4	13.2		
SMBJ30	30	33.3	42.2	1	5		53.5	11.2		
SMBJ30A	30	33.3	38.3	1	5		48.4	12.4		
SMBJ33	33	36.7	46.5	1	5		59.0	10.2		
SMBJ33A	33	36.7	42.2	1	5		53.3	11.3		
SMBJ36	36	40.0	50.7	1	5		64.3	9.3		
SMBJ36A	36	40.0	46.0	1	5		58.1	10.3		
SMBJ40	40	44.4	56.3	1	5		71.4	8.4		
SMBJ40A	40	44.4	51.1	1	5		64.5	9.3		
SMBJ43	43	47.8	60.5	1	5		76.7	7.8		
SMBJ43A	43	47.8	54.9	1	5		69.4	8.6		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SMBJ5.0C, SMBJ5.0CA, SMBJ43C, SMBJ43CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

600 Watts

SMBJ45	45	50.0	63.3	1	5	80.3	7.5	SMB (DO-214AA) (No.: 29) 	
SMBJ45A	45	50.0	57.5	1	5	72.7	8.3		
SMBJ48	48	53.3	67.5	1	5	85.5	7.0		
SMBJ48A	48	53.3	61.3	1	5	77.4	7.7		
SMBJ51	51	56.7	71.8	1	5	91.1	6.6		
SMBJ51A	51	56.7	65.2	1	5	82.4	7.3		
SMBJ54	54	60.0	76.0	1	5	96.3	6.2		
SMBJ54A	54	60.0	69.0	1	5	87.1	6.9		
SMBJ58	58	64.4	81.6	1	5	103.0	5.8		
SMBJ58A	58	64.4	74.1	1	5	93.6	6.4		
SMBJ60	60	66.7	84.5	1	5	107.0	5.6		
SMBJ60A	60	66.7	76.7	1	5	96.8	6.2		
SMBJ64	64	71.1	90.1	1	5	114	5.3		
SMBJ64A	64	71.1	81.8	1	5	103	5.8		
SMBJ70	70	77.8	98.6	1	5	125	4.8		
SMBJ70A	70	77.8	89.5	1	5	113	5.3		
SMBJ75	75	83.3	105.7	1	5	134	4.5		
SMBJ75A	75	83.3	95.8	1	5	121	4.9		
SMBJ78	78	86.7	109.8	1	5	139	4.3		
SMBJ78A	78	86.7	99.7	1	5	126	4.7		
SMBJ85	85	94.4	119.2	1	5	151	3.9		
SMBJ85A	85	94.4	108.2	1	5	137	4.4		
SMBJ90	90	100	126.5	1	5	160	3.8		
SMBJ90A	90	100	115.5	1	5	146	4.1		
SMBJ100	100	111	141.0	1	5	179	3.4		
SMBJ100A	100	111	128.0	1	5	162	3.7		
SMBJ110	110	122	154.5	1	5	196	3.0		
SMBJ110A	110	122	140.5	1	5	177	3.4		
SMBJ120	120	133	169.0	1	5	214	2.8		
SMBJ120A	120	133	153.0	1	5	193	3.1		
SMBJ130	130	144	182.5	1	5	231	2.6		
SMBJ130A	130	144	165.5	1	5	209	2.9		
SMBJ150	150	167	211.5	1	5	268	2.2		
SMBJ150A	150	167	192.5	1	5	243	2.5		
SMBJ160	160	178	226.0	1	5	287	2.1		
SMBJ160A	160	178	205.0	1	5	259	2.3		
SMBJ170	170	189	239.5	1	5	304	2.0		
SMBJ170A	170	189	217.5	1	5	275	2.2		
SMBJ180	180	198	253.8	1	5	322	1.9		
SMBJ180A	180	198	230.4	1	5	292	2.1		
SMBJ190	190	209	267.9	1	5	340	1.8		
SMBJ190A	190	209	243.2	1	5	308	2.0		
SMBJ200	200	220	282.0	1	5	358	1.7		
SMBJ200A	200	220	256.0	1	5	324	1.9		
SMBJ210	210	231	296.1	1	5	376	1.6		
SMBJ210A	210	231	268.8	1	5	340	1.8		
SMBJ220	220	242	310.2	1	5	394	1.5		
SMBJ220A	220	242	281.6	1	5	356	1.7		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SMBJ45C, SMBJ45CA, SMBJ220C, SMBJ220CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
		V	V		V	mA			

1500 Watts

SMCJ5.0	5.0	6.40	7.55	10	1000	2000	9.6	156.2	 SMC (DO-214AB) (No.: 30)	
SMCJ5.0A	5.0	6.40	7.25	10	1000	2000	9.2	163.0		
SMCJ6.0	6.0	6.67	8.45	10	1000	2000	11.4	131.6		
SMCJ6.0A	6.0	6.67	7.67	10	1000	2000	10.3	145.6		
SMCJ6.5	6.5	7.22	9.14	10	500	1000	12.3	122.0		
SMCJ6.5A	6.5	7.22	8.30	10	500	1000	11.2	133.9		
SMCJ7.0	7.0	7.78	9.86	10	200	400	13.3	112.8		
SMCJ7.0A	7.0	7.78	8.95	10	200	400	12.0	125.0		
SMCJ7.5	7.5	8.33	10.67	1	100	200	14.3	104.9		
SMCJ7.5A	7.5	8.33	9.58	1	100	200	12.9	116.3		
SMCJ8.0	8.0	8.89	11.30	1	50	100	15.0	100.0		
SMCJ8.0A	8.0	8.89	10.23	1	50	100	13.6	110.3		
SMCJ8.5	8.5	9.44	11.92	1	25	50	15.9	94.3		
SMCJ8.5A	8.5	9.44	10.82	1	25	50	14.4	104.2		
SMCJ9.0	9.0	10.0	12.6	1	10	20	16.9	88.7		
SMCJ9.0A	9.0	10.0	11.5	1	10	20	15.4	97.4		
SMCJ10	10	11.1	14.1	1	5		18.8	79.8		
SMCJ10A	10	11.1	12.8	1	5		17.0	88.2		
SMCJ11	11	12.2	15.4	1	5		20.1	74.6		
SMCJ11A	11	12.2	14.0	1	5		18.2	82.4		
SMCJ12	12	13.3	16.9	1	5		22.0	68.2		
SMCJ12A	12	13.3	15.3	1	5		19.9	75.3		
SMCJ13	13	14.4	18.2	1	5		23.8	63.0		
SMCJ13A	13	14.4	16.5	1	5		21.5	69.7		
SMCJ14	14	15.6	19.8	1	5		25.8	58.1		
SMCJ14A	14	15.6	17.9	1	5		23.2	64.7		
SMCJ15	15	16.7	21.1	1	5		26.9	55.8		
SMCJ15A	15	16.7	19.2	1	5		24.4	61.5		
SMCJ16	16	17.8	22.6	1	5		28.8	52.1		
SMCJ16A	16	17.8	20.5	1	5		26.0	57.7		
SMCJ17	17	18.9	23.9	1	5		30.5	49.2		
SMCJ17A	17	18.9	21.7	1	5		27.6	53.3		
SMCJ18	18	20.0	25.3	1	5		32.2	46.6		
SMCJ18A	18	20.0	23.3	1	5		29.2	51.4		
SMCJ20	20	22.2	28.1	1	5		35.8	41.9		
SMCJ20A	20	22.2	25.5	1	5		32.4	46.3		
SMCJ22	22	24.4	30.9	1	5		39.4	38.1		
SMCJ22A	22	24.4	28.0	1	5		35.5	42.2		
SMCJ24	24	26.7	33.8	1	5		43.0	34.9		
SMCJ24A	24	26.7	30.7	1	5		38.9	38.6		
SMCJ26	26	28.9	36.6	1	5		46.6	32.2		
SMCJ26A	26	28.9	33.2	1	5		42.1	35.6		
SMCJ28	28	31.1	39.4	1	5		50.0	30.0		
SMCJ28A	28	31.1	35.8	1	5		45.4	33.0		
SMCJ30	30	33.3	42.2	1	5		53.5	28.0		
SMCJ30A	30	33.3	38.3	1	5		48.4	31.0		
SMCJ33	33	36.7	46.5	1	5		59.0	25.2		
SMCJ33A	33	36.7	42.2	1	5		53.3	28.1		
SMCJ36	36	40.0	50.7	1	5		64.3	23.3		
SMCJ36A	36	40.0	46.0	1	5		58.1	25.8		
SMCJ40	40	44.4	56.3	1	5		71.4	21.0		
SMCJ40A	40	44.4	51.1	1	5		64.5	23.2		
SMCJ43	43	47.8	60.5	1	5		76.7	19.6		
SMCJ43A	43	47.8	54.9	1	5		69.4	21.6		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SMCJ5.0C, SMCJ5.0CA, SMCJ43C, SMCJ43CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V		mA	μA	μA	V	

1500 Watts

SMCJ45	45	50.0	63.3	1	5	80.3	18.7	SMC (DO-214AB) (No.: 30) 	
SMCJ45A	45	50.0	57.5	1	5	72.7	20.6		
SMCJ48	48	53.3	67.5	1	5	85.5	17.5		
SMCJ48A	48	53.3	61.3	1	5	77.4	19.4		
SMCJ51	51	56.7	71.8	1	5	91.1	18.5		
SMCJ51A	51	56.7	65.2	1	5	82.4	18.2		
SMCJ54	54	60.0	76.0	1	5	96.3	15.6		
SMCJ54A	54	60.0	69.0	1	5	87.1	17.2		
SMCJ58	58	64.4	81.6	1	5	103	14.6		
SMCJ58A	58	64.4	74.1	1	5	93.6	16.0		
SMCJ60	60	66.7	84.5	1	5	107	14.0		
SMCJ60A	60	66.7	76.7	1	5	96.8	15.5		
SMCJ64	64	71.1	90.1	1	5	114	13.2		
SMCJ64A	64	71.1	81.8	1	5	103	14.6		
SMCJ70	70	77.8	98.6	1	5	125	12.0		
SMCJ70A	70	77.8	89.5	1	5	113	13.3		
SMCJ75	75	83.3	105.7	1	5	134	11.2		
SMCJ75A	75	83.3	95.8	1	5	121	12.4		
SMCJ78	78	86.7	109.8	1	5	139	10.8		
SMCJ78A	78	86.7	99.7	1	5	126	11.4		
SMCJ85	85	94.4	119.2	1	5	151	9.9		
SMCJ85A	85	94.4	108.2	1	5	137	10.4		
SMCJ90	90	100	126.5	1	5	160	9.4		
SMCJ90A	90	100	115.5	1	5	146	10.3		
SMCJ100	100	111	141.0	1	5	179	8.4		
SMCJ100A	100	111	128.0	1	5	162	9.3		
SMCJ110	110	122	154.5	1	5	196	7.7		
SMCJ110A	110	122	140.5	1	5	177	8.4		
SMCJ120	120	133	169.0	1	5	214	7.0		
SMCJ120A	120	133	153.0	1	5	193	7.9		
SMCJ130	130	144	182.5	1	5	231	6.5		
SMCJ130A	130	144	165.5	1	5	209	7.2		
SMCJ150	150	167	211.5	1	5	268	5.6		
SMCJ150A	150	167	192.5	1	5	243	6.2		
SMCJ160	160	178	226.0	1	5	287	5.2		
SMCJ160A	160	178	205.0	1	5	259	5.8		
SMCJ170	170	189	239.5	1	5	304	4.9		
SMCJ170A	170	189	217.5	1	5	275	5.5		
SMCJ180	180	198	253.8	1	5	322	4.7		
SMCJ180A	180	198	230.4	1	5	292	5.1		
SMCJ190	190	209	267.9	1	5	340	4.4		
SMCJ190A	190	209	243.2	1	5	308	4.8		
SMCJ200	200	220	282.0	1	5	358	4.1		
SMCJ200A	200	220	256.0	1	5	324	4.6		
SMCJ210	210	231	296.1	1	5	376	4.0		
SMCJ210A	210	231	268.8	1	5	340	4.4		
SMCJ220	220	242	310.2	1	5	394	3.8		
SMCJ220A	220	242	281.6	1	5	356	4.2		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SMCJ45C, SMCJ45CA, SMCJ220C, SMCJ220CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

3000 Watts

SMDJ5.0	5.0	6.40	7.30	10	1000	2000	9.6	312.50	SMC (DO-214AB) (No.: 30) 	
SMDJ5.0A	5.0	6.40	7.00	10	1000	2000	9.2	326.09		
SMDJ6.0	6.0	6.67	8.15	10	1000	2000	11.4	263.16		
SMDJ6.0A	6.0	6.67	7.37	10	1000	2000	10.3	291.26		
SMDJ6.5	6.5	7.22	8.82	10	500	1000	12.3	243.90		
SMDJ6.5A	6.5	7.22	7.98	10	500	1000	11.2	267.86		
SMDJ7.0	7.0	7.78	9.51	10	200	400	13.3	225.56		
SMDJ7.0A	7.0	7.78	8.60	10	200	400	12.0	250.00		
SMDJ7.5	7.5	8.33	10.20	1	100	200	14.3	209.79		
SMDJ7.5A	7.5	8.33	9.21	1	100	200	12.9	232.56		
SMDJ8.0	8.0	8.89	10.90	1	50	100	15.0	200.00		
SMDJ8.0A	8.0	8.89	9.83	1	50	100	13.6	220.59		
SMDJ8.5	8.5	9.44	11.50	1	25	50	15.9	188.68		
SMDJ8.5A	8.5	9.44	10.40	1	25	50	14.4	208.33		
SMDJ9.0	9.0	10.00	12.20	1	10	20	16.9	177.51		
SMDJ9.0A	9.0	10.00	11.10	1	10	20	15.4	194.81		
SMDJ10	10	11.10	13.60	1	5		18.8	159.57		
SMDJ10A	10	11.10	12.30	1	5		17.0	176.47		
SMDJ11	11	12.20	14.90	1	5		20.1	149.25		
SMDJ11A	11	12.20	13.50	1	5		18.2	164.84		
SMDJ12	12	13.30	16.30	1	5		22.0	136.36		
SMDJ12A	12	13.30	14.70	1	5		19.9	150.75		
SMDJ13	13	14.40	17.60	1	5		23.8	126.05		
SMDJ13A	13	14.40	15.90	1	5		21.5	139.53		
SMDJ14	14	15.60	19.10	1	5		25.8	116.28		
SMDJ14A	14	15.60	17.20	1	5		23.2	129.31		
SMDJ15	15	16.70	20.40	1	5		26.9	111.52		
SMDJ15A	15	16.70	18.50	1	5		24.4	122.95		
SMDJ16	16	17.80	21.80	1	5		28.8	104.17		
SMDJ16A	16	17.80	19.70	1	5		26.0	115.38		
SMDJ17	17	18.90	23.10	1	5		30.5	98.36		
SMDJ17A	17	18.90	20.90	1	5		27.6	108.70		
SMDJ18	18	20.00	24.40	1	5		32.2	93.17		
SMDJ18A	18	20.00	22.10	1	5		29.2	102.74		
SMDJ19	19	21.13	25.76	1	5		34.0	88.21		
SMDJ19A	19	21.13	23.30	1	5		30.8	97.47		
SMDJ20	20	22.20	27.10	1	5		35.8	83.80		
SMDJ20A	20	22.20	24.50	1	5		32.4	92.59		
SMDJ22	22	24.40	29.80	1	5		39.4	76.14		
SMDJ22A	22	24.40	26.90	1	5		35.5	84.51		
SMDJ24	24	26.70	32.60	1	5		43.0	69.77		
SMDJ24A	24	26.70	29.50	1	5		38.9	77.12		
SMDJ26	26	28.90	35.30	1	5		46.6	64.38		
SMDJ26A	26	28.90	31.90	1	5		42.1	71.26		
SMDJ28	28	31.10	38.00	1	5		50.0	60.00		
SMDJ28A	28	31.10	34.40	1	5		45.4	66.08		
SMDJ30	30	33.30	40.70	1	5		53.5	56.07		
SMDJ30A	30	33.30	36.80	1	5		48.4	61.98		
SMDJ33	33	36.70	44.90	1	5		59.0	50.85		
SMDJ33A	33	36.70	40.60	1	5		53.3	56.29		
SMDJ36	36	40.00	48.90	1	5		64.3	46.66		
SMDJ36A	36	40.00	44.20	1	5		58.1	51.64		
SMDJ40	40	44.40	54.30	1	5		71.4	42.02		
SMDJ40A	40	44.40	49.10	1	5		64.5	46.51		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" of "CA" Suffix for types. (e.g.: SMDJ5.0C, SMDJ5.0CA, SMDJ40C, SMDJ40CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

3000 Watts

SMDJ43	43	47.8	58.4	1	5	76.7	39.11	SMC (DO-214AB) (No.: 30) 	
SMDJ43A	43	47.8	52.8	1	5	69.4	43.23		
SMDJ45	45	50.0	61.1	1	5	80.3	37.36		
SMDJ45A	45	50.0	55.3	1	5	72.7	41.27		
SMDJ48	48	53.3	65.1	1	5	85.5	35.09		
SMDJ48A	48	53.3	58.9	1	5	77.4	38.76		
SMDJ51	51	56.7	69.3	1	5	91.1	32.93		
SMDJ51A	51	56.7	62.7	1	5	82.4	36.41		
SMDJ54	54	60.0	73.3	1	5	96.3	31.15		
SMDJ54A	54	60.0	66.3	1	5	87.1	34.44		
SMDJ58	58	64.4	78.7	1	5	103.0	29.13		
SMDJ58A	58	64.4	71.2	1	5	93.6	32.05		
SMDJ60	60	66.7	81.5	1	5	107.0	28.04		
SMDJ60A	60	66.7	73.7	1	5	96.8	30.99		
SMDJ64	64	71.1	86.9	1	5	114.0	26.32		
SMDJ64A	64	71.1	78.6	1	5	103.0	29.13		
SMDJ70	70	77.8	95.1	1	5	125.0	24.00		
SMDJ70A	70	77.8	86.0	1	5	113.0	26.55		
SMDJ75	75	83.3	102.0	1	5	134.0	22.39		
SMDJ75A	75	83.3	92.1	1	5	121.0	24.79		
SMDJ78	78	86.7	106.0	1	5	139.0	21.58		
SMDJ78A	78	86.7	95.8	1	5	126.0	23.81		
SMDJ80	80	88.8	108.8	1	5	143.2	20.95		
SMDJ80A	80	88.8	97.6	1	5	129.6	23.15		
SMDJ85	85	94.4	115.0	1	5	151.0	19.87		
SMDJ85A	85	94.4	104.0	1	5	137.0	21.90		
SMDJ90	90	100	122.0	1	5	160.0	18.75		
SMDJ90A	90	100	111.0	1	5	146.0	20.55		
SMDJ100	100	111	136.0	1	5	179.0	16.76		
SMDJ100A	100	111	123.0	1	5	162.0	18.52		
SMDJ110	110	122	149.0	1	5	196.0	15.31		
SMDJ110A	110	122	135.0	1	5	177.0	16.95		
SMDJ120	120	133	163.0	1	5	214.0	14.02		
SMDJ120A	120	133	147.0	1	5	193.0	15.54		
SMDJ130	130	144	176.0	1	5	231.0	12.99		
SMDJ130A	130	144	159.0	1	5	209.0	14.35		
SMDJ140	140	155	190.4	1	5	250.6	11.97		
SMDJ140A	140	155	171.0	1	5	226.8	13.23		
SMDJ150	150	167	204.0	1	5	268.0	11.19		
SMDJ150A	150	167	185.0	1	5	243.0	12.35		
SMDJ160	160	178	218.0	1	5	287.0	10.45		
SMDJ160A	160	178	197.0	1	5	259.0	11.58		
SMDJ170	170	189	231.0	1	5	304.0	9.87		
SMDJ170A	170	189	209.0	1	5	275.0	10.91		
SMDJ180	180	200	244.8	1	5	322.2	9.31		
SMDJ180A	180	200	220.0	1	5	291.6	10.29		
SMDJ190	190	211	258.4	1	5	340.1	8.82		
SMDJ190A	190	211	232.0	1	5	307.8	9.75		
SMDJ200A	200	224	247.0	1	5	324.0	9.26		
SMDJ220A	220	246	272.0	1	5	356.0	8.43		
SMDJ250A	250	279	309.0	1	5	405.0	7.41		
SMDJ300A	300	335	371.0	1	5	486.0	6.17		
SMDJ350A	350	391	432.0	1	5	567.0	5.29		
SMDJ400A	400	447	494.0	1	5	648.0	4.63		
SMDJ440A	440	492	543.0	1	5	713.0	4.21		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" of "CA" Suffix for types. (e.g.: SMDJ43C, SMDJ43CA, SMDJ440C, SMDJ440CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current	Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}	
		Min.	Max.					
	V	V	V	mA	μA	V	A	

5000 Watts

5.0SMDJ11	11	12.2	14.9	1	800	20.1	251.24	SMC (DO-214AB) (No.: 30)	
5.0SMDJ11A	11	12.2	13.5	1	800	18.2	277.47		
5.0SMDJ12	12	13.3	16.3	1	800	22.0	229.55		
5.0SMDJ12A	12	13.3	14.7	1	800	19.9	253.77		
5.0SMDJ13	13	14.4	17.6	1	500	23.8	212.18		
5.0SMDJ13A	13	14.4	15.9	1	500	21.5	234.88		
5.0SMDJ14	14	15.6	19.1	1	200	25.8	195.74		
5.0SMDJ14A	14	15.6	17.2	1	200	23.2	217.67		
5.0SMDJ15	15	16.7	20.4	1	100	26.9	187.73		
5.0SMDJ15A	15	16.7	18.5	1	100	24.4	206.97		
5.0SMDJ16	16	17.8	21.8	1	50	28.8	175.35		
5.0SMDJ16A	16	17.8	19.7	1	50	26.0	194.23		
5.0SMDJ17	17	18.9	23.1	1	20	30.5	165.57		
5.0SMDJ17A	17	18.9	20.9	1	20	27.6	182.97		
5.0SMDJ18	18	20.0	24.4	1	10	32.2	156.83		
5.0SMDJ18A	18	20.0	22.1	1	10	29.2	172.95		
5.0SMDJ19	19	21.13	25.76	1	10	34.0	148.49		
5.0SMDJ19A	19	21.13	23.3	1	10	30.8	164.07		
5.0SMDJ20	20	22.2	27.1	1	5	35.8	141.06		
5.0SMDJ20A	20	22.2	24.5	1	5	32.4	155.86		
5.0SMDJ22	22	24.4	29.8	1	5	39.4	128.17		
5.0SMDJ22A	22	24.4	26.9	1	5	35.5	142.25		
5.0SMDJ24	24	26.7	32.6	1	5	43.0	117.44		
5.0SMDJ24A	24	26.7	29.5	1	5	38.9	129.82		
5.0SMDJ26	26	28.9	35.3	1	5	46.6	108.37		
5.0SMDJ26A	26	28.9	31.9	1	5	42.1	119.95		
5.0SMDJ28	28	31.1	38.0	1	5	50.0	101.00		
5.0SMDJ28A	28	31.1	34.4	1	5	45.4	111.23		
5.0SMDJ30	30	33.3	40.7	1	5	53.5	94.39		
5.0SMDJ30A	30	33.3	36.8	1	5	48.4	104.34		
5.0SMDJ33	33	36.7	44.9	1	5	59.0	85.59		
5.0SMDJ33A	33	36.7	40.6	1	5	53.3	94.75		
5.0SMDJ36	36	40.0	48.9	1	5	64.3	78.54		
5.0SMDJ36A	36	40.0	44.2	1	5	58.1	86.92		
5.0SMDJ40	40	44.4	54.3	1	5	71.4	70.73		
5.0SMDJ40A	40	44.4	49.1	1	5	64.5	78.29		
5.0SMDJ43	43	47.8	58.4	1	5	76.7	65.84		
5.0SMDJ43A	43	47.8	52.8	1	5	69.4	72.77		
5.0SMDJ45	45	50.0	61.1	1	5	80.3	62.89		
5.0SMDJ45A	45	50.0	55.3	1	5	72.7	69.46		
5.0SMDJ48	48	53.3	65.1	1	5	85.5	59.06		
5.0SMDJ48A	48	53.3	58.9	1	5	77.4	65.25		
5.0SMDJ51	51	56.7	69.3	1	5	91.1	55.43		
5.0SMDJ51A	51	56.7	62.7	1	5	82.4	61.29		
5.0SMDJ54	54	60.0	73.3	1	5	96.3	52.44		
5.0SMDJ54A	54	60.0	66.3	1	5	87.1	57.98		
5.0SMDJ58	58	64.4	78.7	1	5	103.0	49.03		
5.0SMDJ58A	58	64.4	71.2	1	5	93.6	53.95		
5.0SMDJ60	60	66.7	81.5	1	5	107.0	47.20		
5.0SMDJ60A	60	66.7	73.7	1	5	96.8	52.17		
5.0SMDJ64	64	71.1	86.9	1	5	114.0	44.30		
5.0SMDJ64A	64	71.1	78.6	1	5	103.0	49.03		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" of "CA" Suffix for types. (e.g.: 5.0SMDJ11C, 5.0SMDJ11CA, 5.0SMDJ64C, 5.0SMDJ64CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS (SMD Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current	Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}	V _C @ I _{PP}	I _{PP}	
		Min.	Max.					
	V	V	V	mA	μA	V	A	

5000 Watts

5.0SMDJ70	70	77.8	95.1	1	5	125.0	40.40	SMC (DO-214AB) (No.: 30)	
5.0SMDJ70A	70	77.8	86	1	5	113.0	44.69		
5.0SMDJ75	75	83.3	102	1	5	134.0	37.69		
5.0SMDJ75A	75	83.3	92.1	1	5	121.0	41.74		
5.0SMDJ78	78	86.7	106	1	5	139.0	36.33		
5.0SMDJ78A	78	86.7	95.8	1	5	126.0	40.08		
5.0SMDJ80	80	88.8	108.8	1	5	143.2	35.27		
5.0SMDJ80A	80	88.8	97.6	1	5	129.6	38.97		
5.0SMDJ85	85	94.4	115	1	5	151.0	33.44		
5.0SMDJ85A	85	94.4	104	1	5	137.0	36.86		
5.0SMDJ90	90	100	122	1	5	160.0	31.56		
5.0SMDJ90A	90	100	111	1	5	146.0	34.59		
5.0SMDJ100	100	111	136	1	5	179.0	28.21		
5.0SMDJ100A	100	111	123	1	5	162.0	31.17		
5.0SMDJ110	110	122	149	1	5	196.0	25.77		
5.0SMDJ110A	110	122	135	1	5	177.0	28.53		
5.0SMDJ120	120	133	163	1	5	214.0	23.60		
5.0SMDJ120A	120	133	147	1	5	193.0	26.17		
5.0SMDJ130	130	144	176	1	5	231.0	21.86		
5.0SMDJ130A	130	144	159	1	5	209.0	24.16		
5.0SMDJ140	140	155	190.4	1	5	250.6	20.15		
5.0SMDJ140A	140	155	171	1	5	226.8	22.27		
5.0SMDJ150	150	167	204	1	5	268.0	18.84		
5.0SMDJ150A	150	167	185	1	5	243.0	20.78		
5.0SMDJ160	160	178	218	1	5	287.0	17.60		
5.0SMDJ160A	160	178	197	1	5	259.0	19.50		
5.0SMDJ170	170	189	231	1	5	304.0	16.61		
5.0SMDJ170A	170	189	209	1	5	275.0	18.36		
5.0SMDJ180	180	200	244.8	1	5	322.2	15.67		
5.0SMDJ180A	180	200	220	1	5	291.6	17.32		
5.0SMDJ190	190	211	258.4	1	5	340.1	14.85		
5.0SMDJ190A	190	211	232	1	5	307.8	16.41		
5.0SMDJ200A	200	224	247	1	5	324.0	9.26		
5.0SMDJ220A	220	246	272	1	5	356.0	8.43		
5.0SMDJ250A	250	279	309	1	5	405.0	7.41		
5.0SMDJ300A	300	335	371	1	5	486.0	6.17		
5.0SMDJ350A	350	391	432	1	5	567.0	5.29		
5.0SMDJ400A	400	447	494	1	5	648.0	4.63		
5.0SMDJ440A	440	492	543	1	5	713.0	4.21		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" of "CA" Suffix for types. (e.g.: 5.0SMDJ70C, 5.0SMDJ70CA, 5.0SMDJ190C, 5.0SMDJ190CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

400 Watts

P4KE6.8	5.50	6.12	7.48	10	1000	2000	10.8	38.0	DO-41 (No.: 3) 	
P4KE6.8A	5.80	6.45	7.14	10	1000	2000	10.5	38.1		
P4KE7.5	6.05	6.75	8.25	10	500	1000	11.7	34.2		
P4KE7.5A	6.40	7.13	7.88	10	500	1000	11.3	35.4		
P4KE8.2	6.63	7.38	9.02	10	200	400	12.5	32.0		
P4KE8.2A	7.02	7.79	8.61	10	200	400	12.1	33.1		
P4KE9.1	7.37	8.19	10.0	1	50	100	13.8	29.0		
P4KE9.1A	7.78	8.65	9.50	1	50	100	13.4	29.9		
P4KE10	8.10	9.00	11.0	1	10	20	15.0	26.7		
P4KE10A	8.55	9.50	10.5	1	10	20	14.5	27.6		
P4KE11	8.92	9.90	12.1	1	5	10	16.2	24.7		
P4KE11A	9.40	10.5	11.6	1	5	10	15.6	25.6		
P4KE12	9.72	10.8	13.2	1	5		17.3	23.1		
P4KE12A	10.2	11.4	12.6	1	5		16.7	24.0		
P4KE13	10.5	11.7	14.3	1	5		19.0	21.1		
P4KE13A	11.1	12.4	13.7	1	5		18.2	22.0		
P4KE15	12.1	13.5	16.5	1	5		22.0	18.2		
P4KE15A	12.8	14.3	15.8	1	5		21.2	18.9		
P4KE16	12.9	14.4	17.6	1	5		23.5	17.0		
P4KE16A	13.6	15.2	16.8	1	5		22.5	17.8		
P4KE18	14.5	16.2	19.8	1	5		26.5	15.1		
P4KE18A	15.3	17.1	18.9	1	5		25.2	15.9		
P4KE20	16.2	18.0	22.0	1	5		29.1	13.7		
P4KE20A	17.1	19.0	21.0	1	5		27.7	14.4		
P4KE22	17.8	19.8	24.2	1	5		31.9	12.5		
P4KE22A	18.8	20.9	23.1	1	5		30.6	13.1		
P4KE24	19.4	21.6	26.4	1	5		34.7	11.5		
P4KE24A	20.5	22.8	25.2	1	5		33.2	12.0		
P4KE27	21.8	24.3	29.7	1	5		39.1	10.2		
P4KE27A	23.1	25.7	28.4	1	5		37.5	10.7		
P4KE30	24.3	27.0	33.0	1	5		43.5	9.2		
P4KE30A	25.6	28.5	31.5	1	5		41.4	9.7		
P4KE33	26.8	29.7	36.3	1	5		47.7	8.4		
P4KE33A	28.2	31.4	34.7	1	5		45.7	8.8		
P4KE36	29.1	32.4	39.6	1	5		52.0	7.7		
P4KE36A	30.8	34.2	37.8	1	5		49.9	8.0		
P4KE39	31.6	35.1	42.9	1	5		56.4	7.1		
P4KE39A	33.3	37.1	41.0	1	5		53.9	7.4		
P4KE43	34.8	38.7	47.3	1	5		61.9	6.5		
P4KE43A	36.8	40.9	45.2	1	5		59.3	6.7		
P4KE47	38.1	42.3	51.7	1	5		67.8	5.9		
P4KE47A	40.2	44.7	49.4	1	5		64.8	6.2		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: P4KE6.8C, P4KE6.8CA, P4KE47C, P4KE47CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS

(Axial Lead Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

400 Watts

P4KE51	41.3	45.9	56.1	1	5	73.5	5.4	DO-41 (No.: 3)	
P4KE51A	43.6	48.5	53.6	1	5	70.1	5.7		
P4KE56	45.6	50.4	61.6	1	5	80.5	5.0		
P4KE56A	47.8	53.2	58.8	1	5	77.0	5.2		
P4KE62	50.2	55.8	68.2	1	5	89.0	4.5		
P4KE62A	53.0	58.9	65.1	1	5	85.0	4.7		
P4KE68	55.1	61.2	74.8	1	5	98.0	4.1		
P4KE68A	58.1	64.6	71.4	1	5	92.0	4.3		
P4KE75	60.7	67.5	82.5	1	5	108	3.7		
P4KE75A	64.1	71.3	78.8	1	5	103	3.9		
P4KE82	66.4	73.8	90.2	1	5	118	3.4		
P4KE82A	70.1	77.9	86.1	1	5	113	3.5		
P4KE91	73.7	81.9	100	1	5	131	3.1		
P4KE91A	77.8	86.5	95.5	1	5	125	3.2		
P4KE100	81.0	90.0	110	1	5	144	2.8		
P4KE100A	85.5	95.0	105	1	5	137	2.9		
P4KE110	89.2	99.0	121	1	5	158	2.5		
P4KE110A	94.0	105	116	1	5	152	2.6		
P4KE120	97.2	108	132	1	5	173	2.3		
P4KE120A	102	114	126	1	5	165	2.4		
P4KE130	105	117	143	1	5	187	2.1		
P4KE130A	111	124	137	1	5	179	2.2		
P4KE150	121	135	165	1	5	215	1.9		
P4KE150A	128	143	158	1	5	207	1.9		
P4KE160	130	144	176	1	5	230	1.7		
P4KE160A	136	152	168	1	5	219	1.8		
P4KE170	138	153	187	1	5	244	1.6		
P4KE170A	145	162	179	1	5	234	1.7		
P4KE180	146	162	198	1	5	258	1.6		
P4KE180A	154	171	189	1	5	246	1.6		
P4KE200	162	180	220	1	5	287	1.4		
P4KE200A	171	190	210	1	5	274	1.5		
P4KE220	175	198	242	1	5	344	1.2		
P4KE220A	185	209	231	1	5	328	1.2		
P4KE250	202	225	275	1	5	360	1.1		
P4KE250A	214	237	263	1	5	344	1.2		
P4KE300	243	270	330	1	5	430	0.93		
P4KE300A	256	285	315	1	5	414	1.00		
P4KE350	284	315	385	1	5	504	0.79		
P4KE350A	300	332	368	1	5	482	0.83		
P4KE400	324	360	440	1	5	574	0.70		
P4KE400A	342	380	420	1	5	548	0.73		
P4KE440	356	396	484	1	5	631	0.63		
P4KE440A	376	418	462	1	5	602	0.66		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: P4KE51C, P4KE51CA, P4KE440C, P4KE440CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
		V	V		V	mA			

500 Watts

SA5.0	5.0	6.40	7.55	10	600	1200	9.6	52.3	DO-15 (No.: 4) 	
SA5.0A	5.0	6.40	7.25	10	600	1200	9.2	54.3		
SA6.0	6.0	6.67	8.45	10	600	1200	11.4	43.9		
SA6.0A	6.0	6.67	7.67	10	600	1200	10.3	48.5		
SA6.5	6.5	7.22	9.14	10	400	800	12.3	40.7		
SA6.5A	6.5	7.22	8.30	10	400	800	11.2	44.7		
SA7.0	7.0	7.78	9.86	10	150	300	13.3	37.8		
SA7.0A	7.0	7.78	8.95	10	150	300	12.0	41.7		
SA7.5	7.5	8.33	10.67	1	50	100	14.3	35.0		
SA7.5A	7.5	8.33	9.58	1	50	100	12.9	38.8		
SA8.0	8.0	8.89	11.30	1	25	50	15.0	33.3		
SA8.0A	8.0	8.89	10.23	1	25	50	13.6	36.7		
SA8.5	8.5	9.44	11.92	1	10	20	15.9	31.4		
SA8.5A	8.5	9.44	10.82	1	10	20	14.4	34.7		
SA9.0	9.0	10.0	12.6	1	5	10	16.9	29.5		
SA9.0A	9.0	10.0	11.5	1	5	10	15.4	32.5		
SA10	10	11.1	14.1	1	3		18.8	26.6		
SA10A	10	11.1	12.8	1	3		17.0	29.4		
SA11	11	12.2	15.4	1	3		20.1	24.9		
SA11A	11	12.2	14.0	1	3		18.2	27.4		
SA12	12	13.3	16.9	1	3		22.0	22.7		
SA12A	12	13.3	15.3	1	3		19.9	25.1		
SA13	13	14.4	18.2	1	3		23.8	21.0		
SA13A	13	14.4	16.5	1	3		21.5	23.2		
SA14	14	15.6	19.8	1	3		25.8	19.4		
SA14A	14	15.6	17.9	1	3		23.2	21.5		
SA15	15	16.7	21.1	1	3		26.9	18.8		
SA15A	15	16.7	19.2	1	3		24.4	20.6		
SA16	16	17.8	22.6	1	3		28.8	17.6		
SA16A	16	17.8	20.5	1	3		26.0	19.2		
SA17	17	18.9	23.9	1	3		30.5	16.4		
SA17A	17	18.9	21.7	1	3		27.6	16.1		
SA18	18	20.0	25.3	1	3		32.2	15.5		
SA18A	18	20.0	23.3	1	3		29.2	17.2		
SA20	20	22.2	28.1	1	3		35.8	13.9		
SA20A	20	22.2	25.5	1	3		32.4	15.4		
SA22	22	24.4	30.9	1	3		39.4	12.7		
SA22A	22	24.4	28.0	1	3		35.5	14.1		
SA24	24	26.7	33.8	1	3		43.0	11.6		
SA24A	24	26.7	30.7	1	3		38.9	12.8		
SA26	26	28.9	36.6	1	3		46.6	10.7		
SA26A	26	28.9	33.2	1	3		42.1	11.9		
SA28	28	31.1	39.4	1	3		50.0	9.9		
SA28A	28	31.1	35.8	1	3		45.4	11.0		
SA30	30	33.3	42.2	1	3		53.5	9.3		
SA30A	30	33.3	38.3	1	3		48.4	10.3		
SA33	33	36.7	46.5	1	3		59.0	5.8		
SA33A	33	36.7	42.2	1	3		53.3	9.4		
SA36	36	40.0	50.7	1	3		64.3	7.8		
SA36A	36	40.0	46.0	1	3		58.1	8.6		
SA40	40	44.4	56.3	1	3		71.4	7.0		
SA40A	40	44.4	51.1	1	3		64.5	7.8		
SA43	43	47.8	60.5	1	3		76.7	6.5		
SA43A	43	47.8	54.9	1	3		69.4	7.2		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SA5.0C, SA5.0CA, SA43C, SA43CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS

(Axial Lead Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

500 Watts

SA45	45	50.0	63.3	1	3	80.3	6.2	DO-15 (No.: 4) 	
SA45A	45	50.0	57.5	1	3	72.7	6.9		
SA48	48	53.3	67.5	1	3	85.5	5.8		
SA48A	48	53.3	61.3	1	3	77.4	6.5		
SA51	51	56.7	71.8	1	3	91.1	5.5		
SA51A	51	56.7	65.2	1	3	82.4	6.1		
SA54	54	60.0	76.0	1	3	96.3	5.2		
SA54A	54	60.0	69.0	1	3	87.1	5.7		
SA58	58	64.4	81.6	1	3	103.0	4.9		
SA58A	58	64.4	74.1	1	3	93.6	5.3		
SA60	60	66.7	84.5	1	3	107.0	4.7		
SA60A	60	66.7	76.7	1	3	96.8	5.2		
SA64	64	71.1	90.1	1	3	114	4.4		
SA64A	64	71.1	81.8	1	3	103	4.9		
SA70	70	77.8	98.6	1	3	125	4.0		
SA70A	70	77.8	89.5	1	3	113	4.4		
SA75	75	83.3	105.7	1	3	134	3.7		
SA75A	75	83.3	95.8	1	3	121	4.1		
SA78	78	86.7	109.8	1	3	139	3.6		
SA78A	78	86.7	99.7	1	3	126	4.0		
SA85	85	94.4	119.2	1	3	151	3.3		
SA85A	85	94.4	108.2	1	3	137	3.6		
SA90	90	100	126.5	1	3	160	3.1		
SA90A	90	100	115.5	1	3	146	3.4		
SA100	100	111	141.0	1	3	179	2.8		
SA100A	100	111	128.0	1	3	162	3.1		
SA110	110	122	154.5	1	3	196	2.6		
SA110A	110	122	140.5	1	3	177	2.8		
SA120	120	133	169.0	1	3	214	2.3		
SA120A	120	133	153.0	1	3	193	2.0		
SA130	130	144	182.5	1	3	231	2.2		
SA130A	130	144	165.5	1	3	209	2.4		
SA150	150	167	211.5	1	3	268	1.9		
SA150A	150	167	192.5	1	3	243	2.1		
SA160	160	178	226.0	1	3	287	1.7		
SA160A	160	178	205.0	1	3	259	1.9		
SA170	170	189	239.5	1	3	304	1.6		
SA170A	170	189	217.5	1	3	275	1.8		
SA180	180	198	253.8	1	3	322	1.6		
SA180A	180	198	230.4	1	3	292	1.7		
SA190	190	209	267.9	1	3	340	1.5		
SA190A	190	209	243.2	1	3	308	1.6		
SA200	200	220	282.0	1	3	358	1.4		
SA200A	200	220	256.0	1	3	324	1.5		
SA210	210	231	296.1	1	3	376	1.3		
SA210A	210	231	268.8	1	3	340	1.5		
SA220	220	242	310.2	1	3	394	1.3		
SA220A	220	242	281.6	1	3	356	1.4		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: SA45C, SA45CA, SA220C, SA220CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

600 Watts

P6KE6.8	5.50	6.12	7.48	10	1000	2000	10.8	56.0	DO-15 (No.: 4)	
P6KE6.8A	5.80	6.45	7.14	10	1000	2000	10.5	57.0		
P6KE7.5	6.05	6.75	8.25	10	500	1000	11.7	51.0		
P6KE7.5A	6.40	7.13	7.88	10	500	1000	11.3	53.0		
P6KE8.2	6.63	7.38	9.02	10	200	400	12.5	48.0		
P6KE8.2A	7.02	7.79	8.61	10	200	400	12.1	50.0		
P6KE9.1	7.37	8.19	10.0	1	50	100	13.8	44.0		
P6KE9.1A	7.78	8.65	9.5	1	50	100	13.4	45.0		
P6KE10	8.10	9.00	11.0	1	10	20	15.0	40.0		
P6KE10A	8.55	9.50	10.5	1	10	20	14.5	41.0		
P6KE11	8.92	9.90	12.1	1	5	10	16.2	37.0		
P6KE11A	9.40	10.50	11.6	1	5	10	15.6	38.0		
P6KE12	9.72	10.8	13.2	1	5		17.3	35.0		
P6KE12A	10.2	11.4	12.6	1	5		16.7	36.0		
P6KE13	10.5	11.7	14.3	1	5		19.0	32.0		
P6KE13A	11.1	12.4	13.7	1	5		18.2	33.0		
P6KE15	12.1	13.5	16.5	1	5		22.0	27.0		
P6KE15A	12.8	14.3	15.8	1	5		21.2	28.0		
P6KE16	12.9	14.4	17.6	1	5		23.5	26.0		
P6KE16A	13.6	15.2	16.8	1	5		22.5	27.0		
P6KE18	14.5	16.2	19.8	1	5		26.5	23.0		
P6KE18A	15.3	17.1	18.9	1	5		25.2	24.0		
P6KE20	16.2	18.0	22.0	1	5		29.1	21.0		
P6KE20A	17.1	19.0	21.0	1	5		27.7	22.0		
P6KE22	17.8	19.8	24.2	1	5		31.9	19.0		
P6KE22A	18.8	20.9	23.1	1	5		30.6	20.0		
P6KE24	19.4	21.6	26.4	1	5		34.7	17.0		
P6KE24A	20.5	22.8	25.2	1	5		33.2	18.0		
P6KE27	21.8	24.3	29.7	1	5		39.1	15.0		
P6KE27A	23.1	25.7	28.4	1	5		37.5	16.0		
P6KE30	24.3	27.0	33.0	1	5		43.5	14.0		
P6KE30A	25.6	28.5	31.5	1	5		41.4	14.4		
P6KE33	26.8	29.7	36.3	1	5		47.7	12.6		
P6KE33A	28.2	31.4	34.7	1	5		45.7	13.2		
P6KE36	29.1	32.4	39.6	1	5		52.0	11.6		
P6KE36A	30.8	34.2	37.8	1	5		49.9	12.0		
P6KE39	31.6	35.1	42.9	1	5		56.4	10.6		
P6KE39A	33.3	37.1	41.0	1	5		53.9	11.2		
P6KE43	34.8	38.7	47.3	1	5		61.9	9.6		
P6KE43A	36.8	40.9	45.2	1	5		59.3	10.1		
P6KE47	38.1	42.3	51.7	1	5		67.8	8.9		
P6KE47A	40.2	44.7	49.4	1	5		64.8	9.3		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: P6KE6.8C, P6KE6.8CA, P6KE47C, P6KE47CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS

(Axial Lead Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

600 Watts

P6KE51	41.3	45.9	56.1	1	5	73.5	8.2	DO-15 (No.: 4)	
P6KE51A	43.6	48.5	53.6	1	5	70.1	8.6		
P6KE56	45.6	50.4	61.6	1	5	80.5	7.4		
P6KE56A	47.8	53.2	58.8	1	5	77.0	7.8		
P6KE62	50.2	55.8	68.2	1	5	89.0	6.8		
P6KE62A	53.0	58.9	65.1	1	5	85.0	7.1		
P6KE68	55.1	61.2	74.8	1	5	98.0	6.1		
P6KE68A	58.1	64.6	71.4	1	5	92.0	6.5		
P6KE75	60.7	67.5	82.5	1	5	108	5.5		
P6KE75A	64.1	71.3	78.8	1	5	103	5.8		
P6KE82	66.4	73.8	90.2	1	5	118	5.1		
P6KE82A	70.1	77.9	86.1	1	5	113	5.3		
P6KE91	73.7	81.9	100	1	5	131	4.5		
P6KE91A	77.8	86.5	95.5	1	5	125	4.8		
P6KE100	81.0	90.0	110	1	5	144	4.2		
P6KE100A	85.5	95.0	105	1	5	137	4.4		
P6KE110	89.2	99.0	121	1	5	158	3.8		
P6KE110A	94.0	105	116	1	5	152	4.0		
P6KE120	97.2	108	132	1	5	173	3.5		
P6KE120A	102	114	126	1	5	165	3.6		
P6KE130	105	117	143	1	5	187	3.2		
P6KE130A	111	124	137	1	5	179	3.3		
P6KE150	121	135	165	1	5	215	2.8		
P6KE150A	128	143	158	1	5	207	2.9		
P6KE160	130	144	176	1	5	230	2.6		
P6KE160A	136	152	168	1	5	219	2.7		
P6KE170	138	153	187	1	5	244	2.5		
P6KE170A	145	162	179	1	5	234	2.6		
P6KE180	146	162	198	1	5	258	2.3		
P6KE180A	154	171	189	1	5	246	2.4		
P6KE200	162	180	220	1	5	287	2.1		
P6KE200A	171	190	210	1	5	274	2.2		
P6KE220	175	198	242	1	5	344	1.8		
P6KE220A	185	209	231	1	5	328	1.9		
P6KE250	202	225	275	1	5	360	1.7		
P6KE250A	214	237	263	1	5	344	1.8		
P6KE300	243	270	330	1	5	430	1.40		
P6KE300A	256	285	315	1	5	414	1.50		
P6KE350	284	315	385	1	5	504	1.20		
P6KE350A	300	332	368	1	5	482	1.30		
P6KE400	324	360	440	1	5	574	1.05		
P6KE400A	342	380	420	1	5	548	1.10		
P6KE440	356	396	484	1	5	631	0.99		
P6KE440A	376	418	462	1	5	600	1.04		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: P6KE51C, P6KE51CA, P6KE440C, P6KE440CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

1500 Watts

1.5KE6.8	5.50	6.12	7.48	10	1000	2000	10.8	139	DO-201AE (No.: 5)	
1.5KE6.8A	5.80	6.45	7.14	10	1000	2000	10.5	143		
1.5KE7.5	6.05	6.75	8.25	10	500	1000	11.7	128		
1.5KE7.5A	6.40	7.13	7.88	10	500	1000	11.3	132		
1.5KE8.2	6.63	7.38	9.02	10	200	400	12.5	120		
1.5KE8.2A	7.02	7.79	8.61	10	200	400	12.1	124		
1.5KE9.1	7.37	8.19	10.0	1	50	100	13.8	109		
1.5KE9.1A	7.78	8.65	9.50	1	50	100	13.4	112		
1.5KE10	8.10	9.00	11.0	1	10	20	15.0	100		
1.5KE10A	8.55	9.50	10.5	1	10	20	14.5	103		
1.5KE11	8.92	9.90	12.1	1	5	10	16.2	93.0		
1.5KE11A	9.40	10.5	11.6	1	5	10	15.6	96.0		
1.5KE12	9.72	10.8	13.2	1	5		17.3	87.0		
1.5KE12A	10.2	11.4	12.6	1	5		16.7	90.0		
1.5KE13	10.5	11.7	14.3	1	5		19.0	79.0		
1.5KE13A	11.1	12.4	13.7	1	5		18.2	82.0		
1.5KE15	12.1	13.5	16.5	1	5		22.0	68.0		
1.5KE15A	12.8	14.3	15.8	1	5		21.2	71.0		
1.5KE16	12.9	14.4	17.6	1	5		23.5	64.0		
1.5KE16A	13.6	15.2	16.8	1	5		22.5	67.0		
1.5KE18	14.5	16.2	19.8	1	5		26.5	56.5		
1.5KE18A	15.3	17.1	18.9	1	5		25.2	59.5		
1.5KE20	16.2	18.0	22.0	1	5		29.1	51.5		
1.5KE20A	17.1	19.0	21.0	1	5		27.7	54.0		
1.5KE22	17.8	19.8	24.2	1	5		31.9	47.0		
1.5KE22A	18.8	20.9	23.1	1	5		30.6	49.0		
1.5KE24	19.4	21.6	26.4	1	5		34.7	43.0		
1.5KE24A	20.5	22.8	25.2	1	5		33.2	45.0		
1.5KE27	21.8	24.3	29.7	1	5		39.1	38.5		
1.5KE27A	23.1	25.7	28.4	1	5		37.5	40.0		
1.5KE30	24.3	27.0	33.0	1	5		43.5	34.5		
1.5KE30A	25.6	28.5	31.5	1	5		41.4	36.0		
1.5KE33	26.8	29.7	36.3	1	5		47.7	31.5		
1.5KE33A	28.2	31.4	34.7	1	5		45.7	33.0		
1.5KE36	29.1	32.4	39.6	1	5		52.0	29.0		
1.5KE36A	30.8	34.2	37.8	1	5		49.9	30.0		
1.5KE39	31.6	35.1	42.9	1	5		56.4	26.5		
1.5KE39A	33.3	37.1	41.0	1	5		53.9	28.0		
1.5KE43	34.8	38.7	47.3	1	5		61.9	24.0		
1.5KE43A	36.8	40.9	45.2	1	5		59.3	25.3		
1.5KE47	38.1	42.3	51.7	1	5		67.8	22.2		
1.5KE47A	40.2	44.7	49.4	1	5		64.8	23.2		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: 1.5KE6.8C, 1.5KE6.8CA, 1.5KE47C, 1.5KE47CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS

(Axial Lead Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

1500 Watts

1.5KE51	41.3	45.9	56.1	1	5	73.5	20.4	DO-201AE (No.: 5)	
1.5KE51A	43.6	48.5	53.6	1	5	70.1	21.4		
1.5KE56	45.6	50.4	61.6	1	5	80.5	18.6		
1.5KE56A	47.8	53.2	58.8	1	5	77.0	19.5		
1.5KE62	50.2	55.8	68.2	1	5	89.0	16.9		
1.5KE62A	53.0	58.9	65.1	1	5	85.0	17.7		
1.5KE68	55.1	61.2	74.8	1	5	98.0	15.3		
1.5KE68A	58.1	64.6	71.4	1	5	92.0	16.3		
1.5KE75	60.7	67.5	82.5	1	5	108	13.9		
1.5KE75A	64.1	71.3	78.8	1	5	103	14.6		
1.5KE82	66.4	73.8	90.2	1	5	118	12.7		
1.5KE82A	70.1	77.9	86.1	1	5	113	13.3		
1.5KE91	73.7	81.9	100	1	5	131	11.4		
1.5KE91A	77.8	86.5	95.5	1	5	125	12.0		
1.5KE100	81.0	90.0	110	1	5	144	10.4		
1.5KE100A	85.5	95.0	105	1	5	137	11.0		
1.5KE110	89.2	99.0	121	1	5	158	9.5		
1.5KE110A	94.0	105	116	1	5	152	9.9		
1.5KE120	97.2	108	132	1	5	173	8.7		
1.5KE120A	102	114	126	1	5	165	9.1		
1.5KE130	105	117	143	1	5	187	8.0		
1.5KE130A	111	124	137	1	5	179	8.4		
1.5KE150	121	135	165	1	5	215	7.0		
1.5KE150A	128	143	158	1	5	207	7.2		
1.5KE160	130	144	176	1	5	230	6.5		
1.5KE160A	136	152	168	1	5	219	6.8		
1.5KE170	138	153	187	1	5	244	6.2		
1.5KE170A	145	162	179	1	5	234	6.4		
1.5KE180	146	162	198	1	5	258	5.8		
1.5KE180A	154	171	189	1	5	246	6.1		
1.5KE200	162	180	220	1	5	287	5.2		
1.5KE200A	171	190	210	1	5	274	5.5		
1.5KE220	175	198	242	1	5	344	4.3		
1.5KE220A	185	209	231	1	5	328	4.6		
1.5KE250	202	225	275	1	5	360	4.3		
1.5KE250A	214	237	263	1	5	344	4.5		
1.5KE300	243	270	330	1	5	430	3.6		
1.5KE300A	256	285	315	1	5	414	3.8		
1.5KE350	284	315	385	1	5	504	3.1		
1.5KE350A	300	332	368	1	5	482	3.2		
1.5KE400	324	360	440	1	5	574	2.7		
1.5KE400A	342	380	420	1	5	548	2.8		
1.5KE440	356	396	484	1	5	631	2.4		
1.5KE440A	376	418	462	1	5	600	2.6		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: 1.5KE51C, 1.5KE51CA, 1.5KE440C, 1.5KE440CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

3000 Watts

3KP5.0	5.0	6.40	7.55	10	1000	2000	9.6	312.5	R-6 (No.: 9) 	
3KP5.0A	5.0	6.40	7.25	10	1000	2000	9.2	326.0		
3KP6.0	6.0	6.67	8.45	10	1000	2000	11.4	263.2		
3KP6.0A	6.0	6.67	7.67	10	1000	2000	10.3	291.3		
3KP6.5	6.5	7.22	9.14	10	500	1000	12.3	243.9		
3KP6.5A	6.5	7.22	8.30	10	500	1000	11.2	267.9		
3KP7.0	7.0	7.78	9.86	10	200	400	13.3	225.6		
3KP7.0A	7.0	7.78	8.95	10	200	400	12.0	250.0		
3KP7.5	7.5	8.33	10.67	1	100	200	14.3	209.8		
3KP7.5A	7.5	8.33	9.58	1	100	200	12.9	232.6		
3KP8.0	8.0	8.89	11.30	1	50	100	15.0	220.0		
3KP8.0A	8.0	8.89	10.23	1	50	100	13.6	220.6		
3KP8.5	8.5	9.44	11.92	1	25	50	15.9	188.8		
3KP8.5A	8.5	9.44	10.82	1	25	50	14.4	208.4		
3KP9.0	9.0	10.0	12.6	1	10	20	16.9	177.4		
3KP9.0A	9.0	10.0	11.5	1	10	20	15.4	194.8		
3KP10	10	11.1	14.1	1	5		18.8	159.6		
3KP10A	10	11.1	12.8	1	5		17.0	176.4		
3KP11	11	12.2	15.4	1	5		20.1	149.2		
3KP11A	11	12.2	14.0	1	5		18.2	184.8		
3KP12	12	13.3	16.9	1	5		22.0	136.4		
3KP12A	12	13.3	15.3	1	5		19.9	150.6		
3KP13	13	14.4	18.2	1	5		23.8	126.0		
3KP13A	13	14.4	16.5	1	5		21.5	139.4		
3KP14	14	15.6	19.8	1	5		25.8	116.2		
3KP14A	14	15.6	17.9	1	5		23.2	129.4		
3KP15	15	16.7	21.1	1	5		26.9	111.6		
3KP15A	15	16.7	19.2	1	5		24.4	123.0		
3KP16	16	17.8	22.6	1	5		28.8	104.2		
3KP16A	16	17.8	20.5	1	5		26.0	115.4		
3KP17	17	18.9	23.9	1	5		30.5	98.4		
3KP17A	17	18.9	21.7	1	5		27.6	106.6		
3KP18	18	20.0	25.3	1	5		32.2	93.2		
3KP18A	18	20.0	23.3	1	5		29.2	102.8		
3KP20	20	22.2	28.1	1	5		35.8	83.8		
3KP20A	20	22.2	25.5	1	5		32.4	92.6		
3KP22	22	24.4	30.9	1	5		39.4	76.2		
3KP22A	22	24.4	28.0	1	5		35.5	84.4		
3KP24	24	26.7	33.8	1	5		43.0	69.8		
3KP24A	24	26.7	30.7	1	5		38.9	77.2		
3KP26	26	28.9	36.6	1	5		46.6	64.4		
3KP26A	26	28.9	33.2	1	5		42.1	71.2		
3KP28	28	31.1	39.4	1	5		50.0	60.0		
3KP28A	28	31.1	35.8	1	5		45.4	66.0		
3KP30	30	33.3	42.2	1	5		53.5	56.0		
3KP30A	30	33.3	38.3	1	5		48.4	62.0		
3KP33	33	36.7	46.5	1	5		59.0	50.4		
3KP33A	33	36.7	42.2	1	5		53.3	56.2		
3KP36	36	40.0	50.7	1	5		64.3	46.6		
3KP36A	36	40.0	46.0	1	5		58.1	51.6		
3KP40	40	44.4	56.3	1	5		71.4	42.0		
3KP40A	40	44.4	51.1	1	5		64.5	46.4		
3KP43	43	47.8	60.5	1	5		76.7	39.2		
3KP43A	43	47.8	54.9	1	5		69.4	43.2		

NOTE: 1. Suffix "A" indicates $\pm 5\%$ Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: 3KP5.0C, 3KP5.0CA, 3KP43C, 3KP43CA....etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS

(Axial Lead Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V		mA	μA	μA	V	

3000 Watts

3KP45	45	50.0	63.3	1	5	80.3	37.4	R-6 (No.: 9) 	
3KP45A	45	50.0	57.5	1	5	72.7	41.2		
3KP48	48	53.3	67.5	1	5	85.5	35.0		
3KP48A	48	53.3	61.3	1	5	77.4	38.8		
3KP51	51	56.7	71.8	1	5	91.1	37.0		
3KP51A	51	56.7	65.2	1	5	82.4	36.4		
3KP54	54	60.0	76.0	1	5	96.3	31.2		
3KP54A	54	60.0	69.0	1	5	87.1	34.4		
3KP58	58	64.4	81.6	1	5	103	39.2		
3KP58A	58	64.4	74.1	1	5	93.6	32.0		
3KP60	60	66.7	84.5	1	5	107	28.0		
3KP60A	60	66.7	76.7	1	5	96.8	31.0		
3KP64	64	71.1	90.1	1	5	114	26.4		
3KP64A	64	71.1	81.8	1	5	103	29.2		
3KP70	70	77.8	98.6	1	5	125	24.0		
3KP70A	70	77.8	89.5	1	5	113	26.6		
3KP75	75	83.3	105.7	1	5	134	22.4		
3KP75A	75	83.3	95.8	1	5	121	24.8		
3KP78	78	86.7	109.8	1	5	139	21.6		
3KP78A	78	86.7	99.7	1	5	126	22.8		
3KP85	85	94.4	119.2	1	5	151	19.8		
3KP85A	85	94.4	108.2	1	5	137	20.8		
3KP90	90	100	126.5	1	5	160	18.8		
3KP90A	90	100	115.5	1	5	146	20.6		
3KP100	100	111	141.0	1	5	179	16.6		
3KP100A	100	111	128.0	1	5	162	18.6		
3KP110	110	122	154.5	1	5	196	15.4		
3KP110A	110	122	140.5	1	5	177	16.8		
3KP120	120	133	169.0	1	5	214	14.0		
3KP120A	120	133	153.0	1	5	193	15.6		
3KP130	130	144	182.5	1	5	231	13.0		
3KP130A	130	144	165.5	1	5	209	14.4		
3KP150	150	167	211.5	1	5	268	11.2		
3KP150A	150	167	192.5	1	5	243	12.4		
3KP160	160	178	226.0	1	5	287	10.4		
3KP160A	160	178	205.0	1	5	259	11.6		
3KP170	170	189	239.5	1	5	304	9.8		
3KP170A	170	189	217.5	1	5	275	11.0		
3KP180	180	198	253.8	1	5	322	9.3		
3KP180A	180	198	230.4	1	5	292	10.3		
3KP190	190	209	267.9	1	5	340	8.8		
3KP190A	190	209	243.2	1	5	308	9.7		
3KP200	200	220	282.0	1	5	358	8.4		
3KP200A	200	220	256.0	1	5	324	9.3		
3KP210	210	231	296.1	1	5	376	7.8		
3KP210A	210	231	268.8	1	5	340	8.8		
3KP220	220	242	310.2	1	5	394	7.6		
3KP220A	220	242	281.6	1	5	356	8.4		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: 3KP45C, 3KP45CA, 3KP220C, 3KP220CA,...etc.), electrical characteristics apply in both directions.

TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V		mA	μA	μA	V	

5000 Watts

5KP5.0	5.0	6.40	7.55	50	5000	10000	9.6	520	R-6 (No.: 9) 	
5KP5.0A	5.0	6.40	7.25	50	5000	10000	9.2	543		
5KP6.0	6.0	6.67	8.45	50	5000	10000	11.4	439		
5KP6.0A	6.0	6.67	7.67	50	5000	10000	10.3	485		
5KP6.5	6.5	7.22	9.14	50	2000	4000	12.3	407		
5KP6.5A	6.5	7.22	8.30	50	2000	4000	11.2	447		
5KP7.0	7.0	7.78	9.86	50	1000	2000	13.3	378		
5KP7.0A	7.0	7.78	8.95	50	1000	2000	12.0	417		
5KP7.5	7.5	8.33	10.67	5	250	500	14.3	350		
5KP7.5A	7.5	8.33	9.58	5	250	500	12.9	388		
5KP8.0	8.0	8.89	11.30	5	150	300	15.0	333		
5KP8.0A	8.0	8.89	10.23	5	150	300	13.6	367		
5KP8.5	8.5	9.44	11.92	5	50	100	15.9	314		
5KP8.5A	8.5	9.44	10.82	5	50	100	14.4	347		
5KP9.0	9.0	10.0	12.6	5	20	40	16.9	295		
5KP9.0A	9.0	10.0	11.5	5	20	40	15.4	325		
5KP10	10	11.1	14.1	5	10		18.8	266		
5KP10A	10	11.1	12.8	5	10		17.0	294		
5KP11	11	12.2	15.4	5	10		20.1	249		
5KP11A	11	12.2	14.0	5	10		18.2	274		
5KP12	12	13.3	16.9	5	10		22.0	227		
5KP12A	12	13.3	15.3	5	10		19.9	251		
5KP13	13	14.4	18.2	5	10		23.8	210		
5KP13A	13	14.4	16.5	5	10		21.5	232		
5KP14	14	15.6	19.8	5	10		25.8	194		
5KP14A	14	15.6	17.9	5	10		23.2	215		
5KP15	15	16.7	21.1	5	10		26.9	188		
5KP15A	15	16.7	19.2	5	10		24.4	206		
5KP16	16	17.8	22.6	5	10		28.8	176		
5KP16A	16	17.8	20.5	5	10		26.0	192		
5KP17	17	18.9	23.9	5	10		30.5	164		
5KP17A	17	18.9	21.7	5	10		27.6	181		
5KP18	18	20.0	25.3	5	10		32.2	155		
5KP18A	18	20.0	23.3	5	10		29.2	172		
5KP20	20	22.2	28.1	5	10		35.8	139		
5KP20A	20	22.2	25.5	5	10		32.4	154		
5KP22	22	24.4	30.9	5	10		39.4	127		
5KP22A	22	24.4	28.0	5	10		35.5	141		
5KP24	24	26.7	33.8	5	10		43.0	116		
5KP24A	24	26.7	30.7	5	10		38.9	128		
5KP26	26	28.9	36.6	5	10		46.6	107		
5KP26A	26	28.9	33.2	5	10		42.1	119		
5KP28	28	31.1	39.4	5	10		50.0	99		
5KP28A	28	31.1	35.8	5	10		45.4	110		
5KP30	30	33.3	42.2	5	10		53.5	93		
5KP30A	30	33.3	38.3	5	10		48.4	103		
5KP33	33	36.7	46.5	5	10		59.0	85		
5KP33A	33	36.7	42.2	5	10		53.3	94		
5KP36	36	40.0	50.7	5	10		64.3	78		
5KP36A	36	40.0	46.0	5	10		58.1	85		
5KP40	40	44.4	56.3	5	10		71.4	70		
5KP40A	40	44.4	51.1	5	10		64.5	78		
5KP43	43	47.8	60.5	5	10		76.7	65		
5KP43A	43	47.8	54.9	5	10		69.4	72		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: 5KP5.0C, 5KP5.0CA, 5KP43C, 5KP43CA,...etc.), electrical characteristics apply in both directions.

TRANSIENT VOLTAGE SUPPRESSORS

(Axial Lead Type)



TYPE No.	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Max. Reverse Leakage Current		Max. Clamping Voltage	Max. Peak Pulse Current	[Package Outline Drawing No. Please refer to Page: 131~139]
	V _{RWM}	V _{BR} @ I _T		I _T	I _R @ V _{RWM}		V _C @ I _{PP}	I _{PP}	
		Min.	Max.		UNI-	BI-			
	V	V	V	mA	μA	μA	V	A	

5000 Watts

5KP45	45	50.0	63.3	5	10	80.3	62	R-6 (No.: 9) 	
5KP45A	45	50.0	57.5	5	10	72.7	69		
5KP48	48	53.3	67.5	5	10	85.5	58		
5KP48A	48	53.3	61.3	5	10	77.4	65		
5KP51	51	56.7	71.8	5	10	91.1	55		
5KP51A	51	56.7	65.2	5	10	82.4	61		
5KP54	54	60.0	76.0	5	10	96.3	52		
5KP54A	54	60.0	69.0	5	10	87.1	57		
5KP58	58	64.4	81.6	5	10	103	49		
5KP58A	58	64.4	74.1	5	10	93.6	53		
5KP60	60	66.7	84.5	5	10	107	47		
5KP60A	60	66.7	76.7	5	10	96.8	52		
5KP64	64	71.1	90.1	5	10	114	44		
5KP64A	64	71.1	81.8	5	10	103	49		
5KP70	70	77.8	98.6	5	10	125	40		
5KP70A	70	77.8	89.5	5	10	113	44		
5KP75	75	83.3	105.7	5	10	134	37		
5KP75A	75	83.3	95.8	5	10	121	41		
5KP78	78	86.7	109.8	5	10	139	36		
5KP78A	78	86.7	99.7	5	10	126	40		
5KP85	85	94.4	119.2	5	10	151	33		
5KP85A	85	94.4	108.2	5	10	137	36		
5KP90	90	100	126.5	5	10	160	31		
5KP90A	90	100	115.5	5	10	146	34		
5KP100	100	111	141.0	5	10	179	28		
5KP100A	100	111	128.0	5	10	162	31		
5KP110	110	122	154.5	5	10	196	26		
5KP110A	110	122	140.5	5	10	177	28		
5KP120	120	133	169.0	5	10	214	23		
5KP120A	120	133	153.0	5	10	193	20		
5KP130	130	144	182.5	5	10	231	22		
5KP130A	130	144	165.5	5	10	209	24		
5KP150	150	167	211.5	5	10	268	19		
5KP150A	150	167	192.5	5	10	243	21		
5KP160	160	178	226.0	5	10	287	17		
5KP160A	160	178	205.0	5	10	259	19		
5KP170	170	189	239.5	5	10	304	16		
5KP170A	170	189	217.5	5	10	275	18		
5KP180	180	198	253.8	1	5	322	16		
5KP180A	180	198	230.4	1	5	292	17		
5KP190	190	209	267.9	1	5	240	15		
5KP190A	190	209	243.2	1	5	308	16		
5KP200	200	220	282.0	1	5	358	14		
5KP200A	200	220	256.0	1	5	324	15		

NOTE: 1. Suffix "A" indicates ±5% Tolerance.

2. For Bidirectional use "C" or "CA" Suffix for types. (e.g.: 5KP45C, 5KP45CA, 5KP200C, 5KP200CA,...etc.), electrical characteristics apply in both directions.

The result of experience gained in the treatment of semiconductor devices shows that not only distinctive nature of the diodes but also application conditions(e.g.: circuit, mounting and environmental conditions, ...etc.) would affect the reliability of diodes. In order to get a higher reliability of application of diodes, please pay attention to the following points on system design, handling and storage.

A. Maximum Ratings

In any circumstance, the absolute maximum ratings should not be exceeded, even shortly. If a device works over its absolute maximum ratings, it might immediately be degraded or broken. Even if it could continue to work, its lifetime would decline considerably. Please use devices within the absolute maximum ratings at all times. For a more reliable system design, the derating usage of the diodes is recommended.

The analysis result of failure mode of diodes in user lines and markets shows that over voltage and over current are main cause of failures.

B. Caution on mounting

1. Lead forming and cutting

When diodes are mounted onto a circuit board, the excessive mechanical stress may destroy the diodes, shorten the lifetime or produce cracks on the body in the worst case. It should be noted that the effect of these cracks might become apparent only later and could result in the failure of the diodes.

(a) When bending the lead wires, please hold them securely between the body and the point to be bent with a pair of pliers. Then bend them, holding the open end of the lead with your fingers, so as to avoid any bending stress put on the body(See FIG. I).

The same consideration should be paid when many devices are simultaneously bent using lead forming machines(See FIG. II).

(b) The bend in the lead wires should be made away from the end of the body(See FIG. III).

(c) Do not bend the leads more than 90°.

(d) Avoid sudden forces on the leads or body.

(e) When forming and cutting by automatic machines, excessive force should not be applied to the body of

the diode. The tension from leads to body must be limited within 1Kg weight in such processing.

2. Soldering

Because semiconductor devices are sensitive to excessive junction temperatures, designers should pay special attention to the layout of equipment and ensure that there is adequate space between the heat-generating components and semiconductor devices. Furthermore, please pay attention to the following points in soldering process:

- Do not let soldering iron touch the body directly(See FIG. IV(a)).
- Please avoid any force on the body or leads during or immediately after soldering.
- The soldering point should be over 3mm away from the end of the body(See FIG. IV(b)).
- Use of strong acid or alkali might corrode the lead wires.
- Do not pull the lead wires by force when inserting diodes into printed circuit boards(See FIG. IV(c)).
- Do not adjust the position of an already soldered device by pushing, pulling or twisting the body.
- Avoid fast cooling after soldering.

3. Molding

If the diode bodies are molded directly with immoderately hardened resin, the diodes might happen to break because of a change in environmental temperature. Diode bodies are recommended to be molded with buffercoat resin in order to absorb the stress between mold resin and diode body.

C. Storage

It is better to store semiconductor devices in the following ways to prevent deterioration in their electrical characteristics, solderability, and appearance, and breakage.

- Devices should be stored in an ambient temperature of 5~30°C and in relative humidity of 40~60%.
- Devices should be stored in a clean environment, free from dust and reactive gas.
- Devices should be stored in a container which does not induce static electricity.
- Care should be taken not to allow condensation during storage caused by quick temperature change.

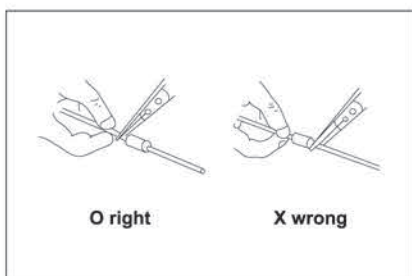


FIG. I - Caution in Bending the Lead Wires

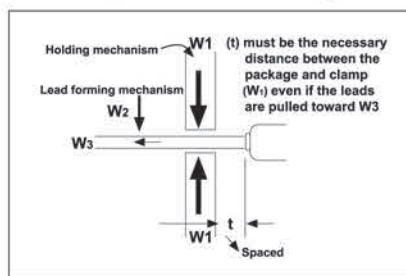


FIG. II - Caution in Bending the Lead Wires Using a Mould

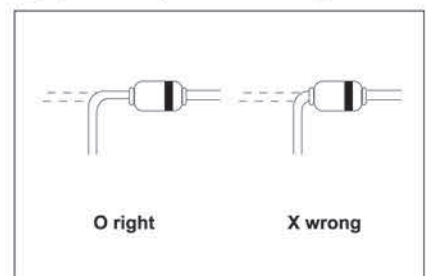


FIG. III - Caution in Bending Point

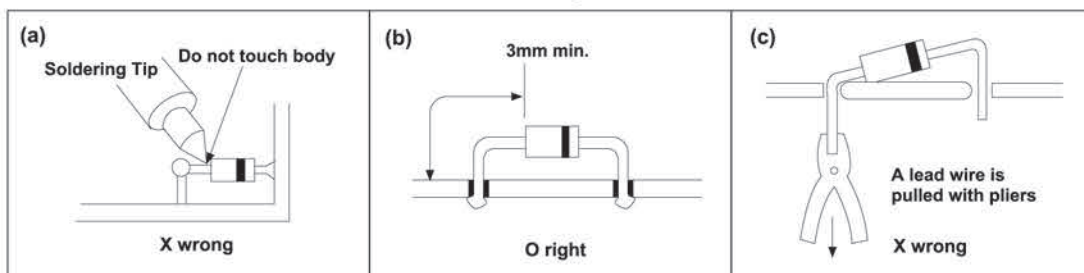


FIG. IV - Cautions in Soldering

RECOMMENDED SOLDERING PAD LAYOUT FOR SURFACE MOUNT DEVICES



Pad Layout Reference

Unit : inch(mm)

Figure Dimensions	Micro Melf	Mini Melf / Quadro Melf	Melf	SOD-123	SOD-323	SOD-523	SOD-123FL
A	.055 (1.4)	.067 (1.7)	.106 (2.7)	.028 (0.7)	.023 (0.65)	.031 (0.8)	.047 (1.2)
B	.024 (0.6)	.051 (1.3)	.059 (1.5)	.047 (1.2)	.053 (1.35)	.024 (0.6)	.047 (1.2)
C	.098 (2.5)	.189 (4.8)	.298 (6.3)	.193 (4.9)	.148 (3.75)	.091 (2.3)	.173 (4.4)
D	.051 (1.3)	.083 (2.1)	.129 (3.3)	.098 (2.5)	.041 (1.05)	.043 (1.1)	.079 (2.0)
E	.075 (1.9)	.014 (3.5)	.189 (4.8)	.146 (3.7)	.094 (2.4)	.067 (1.7)	.125 (3.2)

Figure Dimensions	SMA (DO-214AC)	SMB (DO-214AA)	SMC (DO-214AB)	SMA-L	0603C	0805C	1206C
A	.067 (1.7)	.091 (2.3)	.129 (3.3)	.067 (1.7)	.039 (0.99)	.055 (1.4)	.067 (1.7)
B	.098 (2.5)	.098 (2.5)	.098 (2.5)	.098 (2.5)	.020 (0.51)	.020 (0.51)	.025 (0.64)
C	.256 (6.5)	.264 (6.7)	.366 (9.3)	.256 (6.5)	.074 (1.88)	.088 (2.24)	.135 (3.44)
D	.059 (1.5)	.070 (1.8)	.173 (4.4)	.055 (1.4)	.034 (0.86)	.048 (1.22)	.085 (2.16)
E	.157 (4.0)	.169 (4.3)	.268 (6.8)	.157 (4.0)	.054 (1.37)	.068 (1.73)	.110 (2.8)

Figure Dimensions	SMAFL	SMBFL
A	.071 (1.8)	.10 (2.54)
B	.063 (1.6)	.071 (1.8)
C	.212 (5.4)	.259 (6.6)
D	.086 (2.2)	.118 (3.0)
E	.149 (3.8)	.188 (4.8)

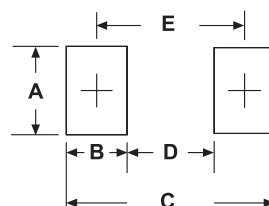


Figure Dimensions	SOT-323	SOT-23
A	.110 (2.8)	.114 (2.9)
B	.028 (0.7)	.031 (0.8)
C	.039 (1)	.053 (1.35)
D	.075 (1.9)	.079 (2)
E	.035 (0.9)	.035 (0.9)

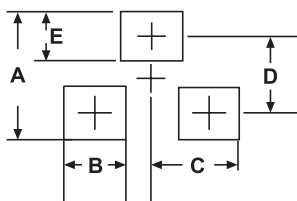


Figure Dimensions	TO-252 (DPAK)	TO-263 (D ² PAK)
A	.276 (7.0)	.425 (10.8)
B	.276 (7.0)	.449 (11.4)
C	.098 (2.5)	.138 (3.5)
D	.059 (1.5)	.043 (1.1)
E	.091 (2.3)	.098 (2.5)
F	.0272 (6.9)	.374 (9.5)
G	.457 (11.6)	.665 (16.9)
H	0.181 (4.6)	0.196 (5.0)

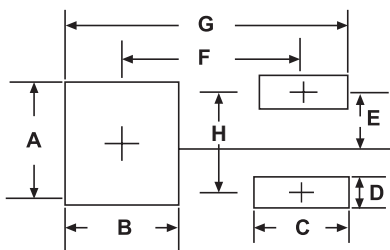


Figure Dimensions	SOT-363
A	.098 (2.5)
B	.051 (1.3)
C	.024 (0.6)
D	.017 (0.42)
E	.075 (1.9)
F	.026 (0.65)

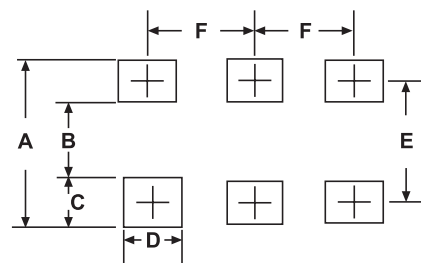


Figure Dimensions	TO-277A
A	.267 (6.8)
B	.189 (4.8)
C	.185 (4.7)
D	.050 (1.28)
E	.055 (1.4)
F	.046 (1.4)
G	0.11 (2.8)

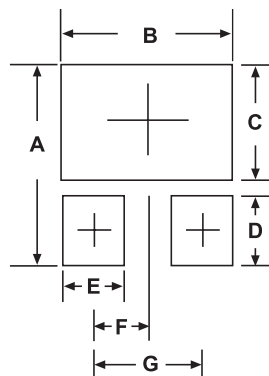


Figure Dimensions	DB-1MS	DB-1S	ABS/ABF	MBFL	MBF/MBS
A	.032 (0.82)	.047 (1.20)	.035 (0.9)	.035 (0.9)	.035 (0.9)
B	.036 (0.92)	.060 (1.52)	.024 (1.5)	.047 (1.2)	.094 (2.4)
C	.105 (2.67)	.205 (5.21)	.161 (4.1)	.106 (2.7)	.100 (2.5)
D	.272 (6.91)	.406 (10.3)	.264 (5.72)	.276 (7.0)	.330 (8.4)
E	0.24 (6.15)	0.34 (8.78)	0.16 (4.22)	0.22 (5.8)	0.24 (6.15)

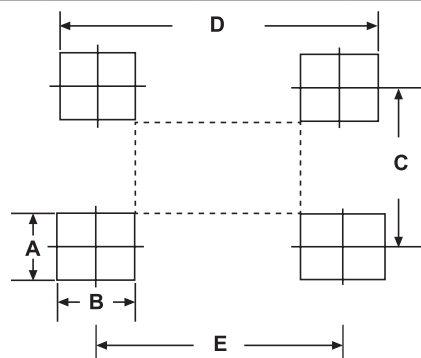


Table 1. Reflow Profiles Details

Profile Feature	Sn-Pb Eutectic Assembly	Pb-Free Assembly
Average Ramp-UP Rate (TS _{max} to TP)	3°C / second max.	3°C / second max.
Preheat - Temperature Min (TS_{min}) - Temperature Max (TS_{max}) - Time (TS_{min} to TS_{max})	100°C 150°C 60-120 sec	150°C 200°C 60-180 sec
Time maintained above: - Temperature (T_L) - Time (t_L)	183°C 60-150 sec	217°C 60-150 sec
Peak Temperature (T _P)	240 +0/ -5°C	260 +0/ -5°C
Time with 5°C of actual Peak Temperature (tp) ²	10-30 sec	20-40 sec
Ramp-down Rate	6°C / second max.	6°C / second max.
Time 25°C to Peak Temperature	6 minutes max	8 minutes max

Table 2. Typical solder paste characteristics

Solder	Melting temperature	Minimum peak reflow temperature
SnPb	183°C	215°C
Sn(96%)Ag(3.5%)Cu(0.5%)	217°C	235°C

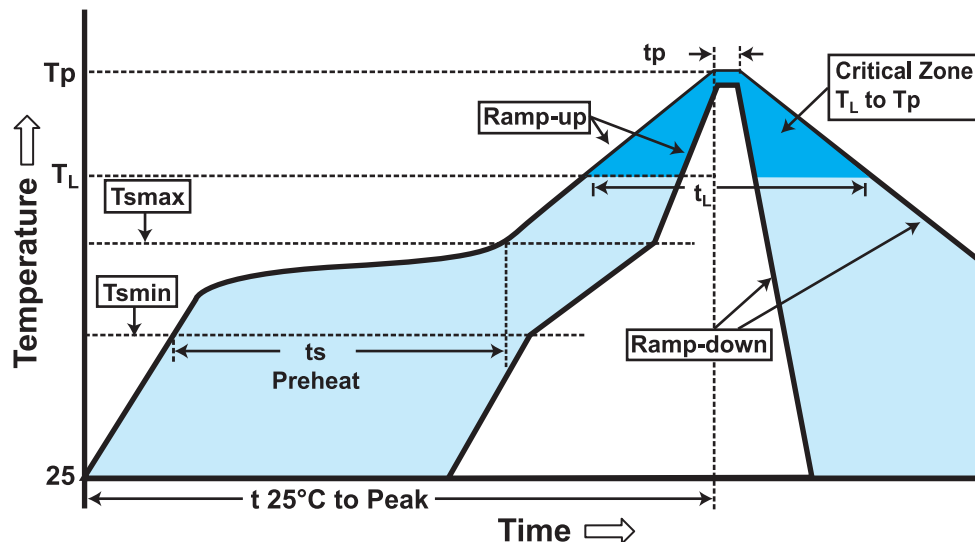
Table 3. SnPb Eutectic Process - Package Peak Reflow Temperatures

Package Thickness	Volume mm ³ <350	Volume mm ³ ≥350
<2.5 mm	240 +0/ -5°C	225 +0/ -5°C
≥2.5 mm	225 +0/ -5°C	225 +0/ -5°C

Table 4. Pb-free Process - Package Peak Reflow Temperatures

Package Thickness	Volume mm ³ <350	Volume mm ³ 350-2000	Volume mm ³ >2000
<1.6 mm	260°C*	260°C*	260°C*
1.6 mm - 2.5 mm	260°C*	250°C*	245°C*
>2.5 mm	250°C*	245°C*	245°C*

* Tolerance : The device manufacturer / supplier shall assure process compatibility up to and including the stated classification temperature at the rated MSL level.



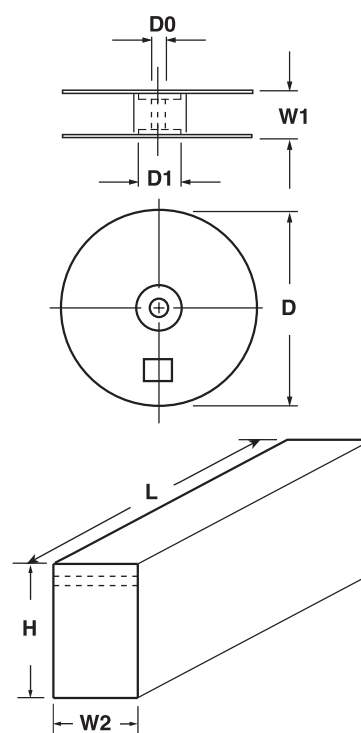
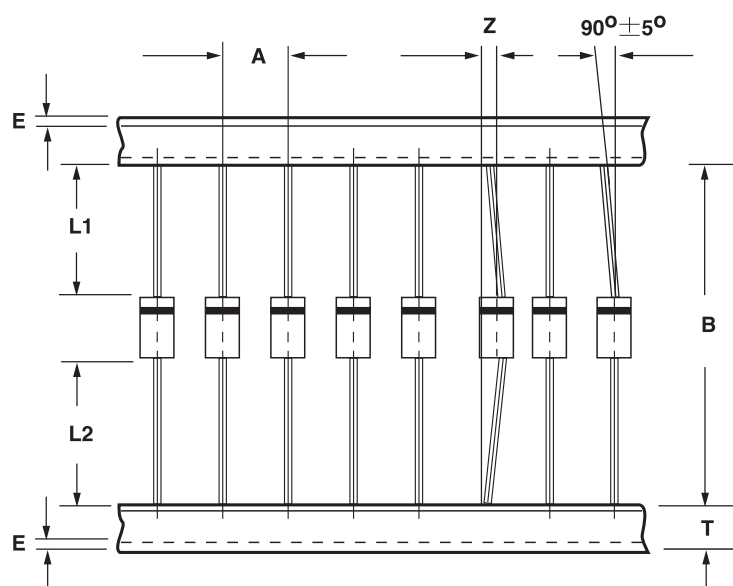
REEL TAPING & AMMO BOX PACKAGING SPECIFICATIONS FOR AXIAL LEAD RECTIFIERS



Axial lead devices are packed in accordance with EIA standard RS-296-D and specifications given below:

COMPONENT OUTLINE	COMPONENT PITCH A	INNER TAPE PITCH B*	CUMULATIVE PITCH TOLERANCE
	$\pm 0.5\text{mm} (.020")$	$\pm 1.5\text{mm} (.059")$	
DO-34/DO-35	5.0mm	52.4mm	2.0mm/10pitch
R-1	5.0mm	52.4mm	2.0mm/10pitch
A-405	5.0mm	52.4mm	2.0mm/10pitch
DO-41	5.0mm	52.4mm	2.0mm/10pitch
DO-15	5.0mm	52.4mm	2.0mm/10pitch
R-3	5.0mm	52.4mm	2.0mm/10pitch
DO-27/DO-201AE	10.0mm	52.4mm	2.0mm/10pitch
R-6/R-6M	10.0mm	52.4mm	2.0mm/10pitch

*INNER TAPE PITCH B 26mm for DO-34/DO-35/R-1/A-405 also available upon request.

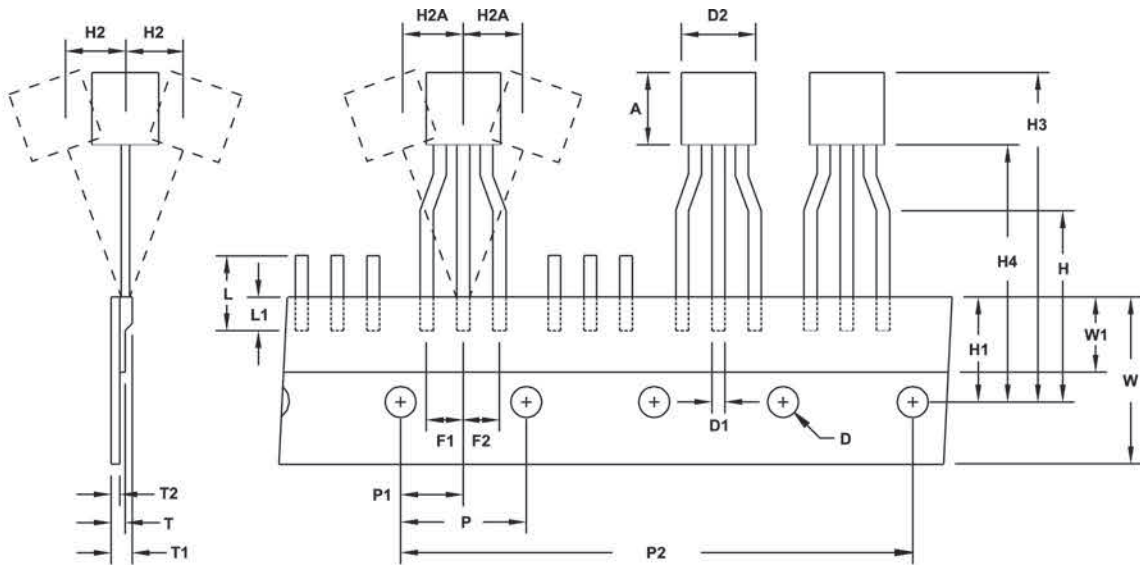


ITEM	SYMBOL	SPECIFICATIONS (mm)	SPECIFICATIONS (inch)
Component alignment	Z	1.2max.	0.048 max.
Tape width	T	6.0 ± 0.4	0.236 ± 0.016
Exposed adhesive	E	0.8 max.	0.032 max.
Body eccentricity	L1-L2	1.0max.	0.040 max.
Reel outside diameter	D	330	13
Reel inner diameter	D1	85.7 ± 0.3	3.375 ± 0.012
Feed hole diameter	D0	16.6 ± 0.4	0.655 ± 0.016
Reel width	W1	79.0 ± 1.0	3.110 ± 0.040
Box length	L	255.0 ± 5.0	10.04 ± 0.197
Box width	W2	78.0 ± 5.0	3.070 ± 0.197
Box height	H	95.0 ± 5.0	3.740 ± 0.197

NOTE: 1.Each component lead shall be sandwiched between tapes for a minimum of 3.2mm (0.126inch)

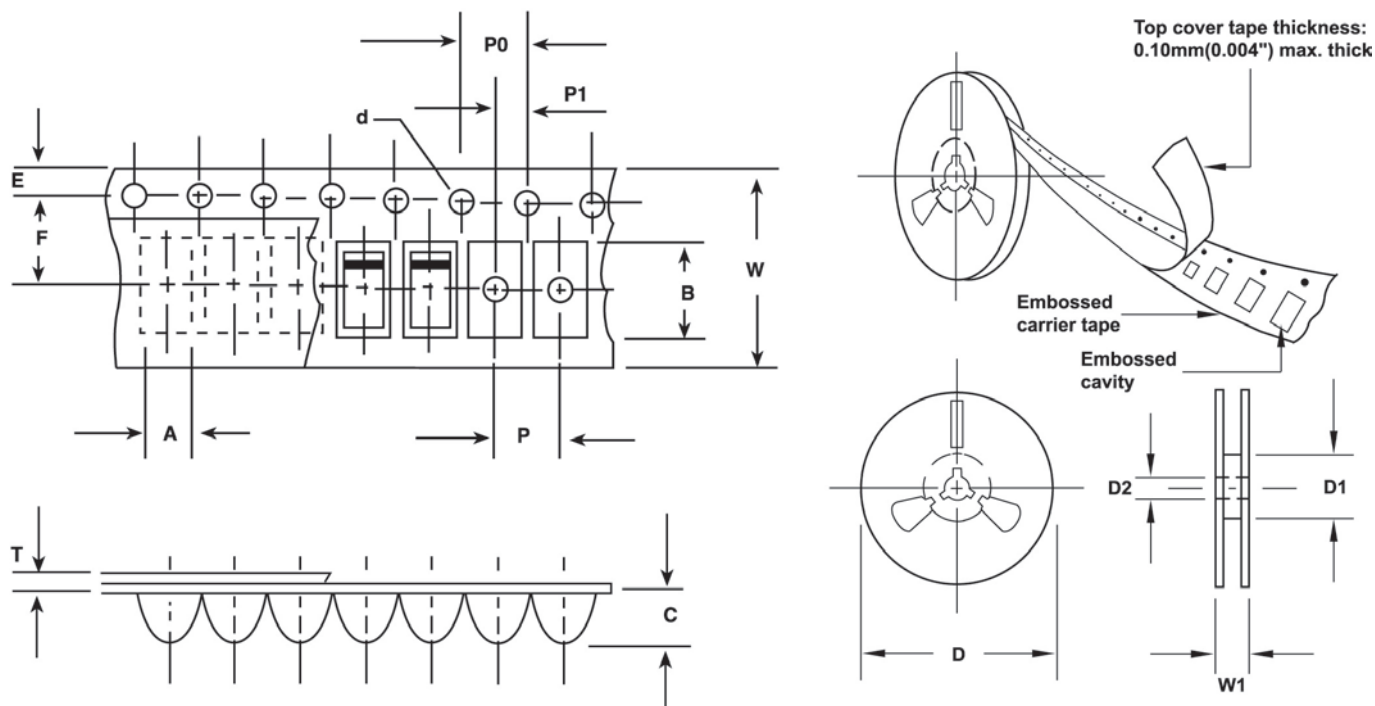
2.The reel width "W1" and the box width "W2" for 26mm taping are $50.0 \pm 1.0\text{mm}$ ($1.97 \pm 0.040\text{inch}$)

AMMO BOX TAPING SPECIFICATIONS FOR TO-92 PACKAGE DEVICES



ITEM	SYMBOL	SPECIFICATIONS (mm)		SPECIFICATIONS (inch)	
		Min.	Max.	Min.	Max.
Component body height	A	4.33	4.83	0.170	0.192
Tape feed diameter	D	3.80	4.20	0.149	0.165
Lead diameter	D1	0.36	0.53	0.014	0.021
Component body diameter	D2	4.33	4.83	0.170	0.190
Component lead pitch	F1,F2	2.40	2.90	0.096	0.114
Component lead pitch difference	F1-F2	-	±0.30	-	±0.012
Height of seating plane	H	15.5	16.5	0.610	0.650
Feed hole location	H1	8.50	9.50	0.335	0.374
Front to rear deflection	H2	-	1.00	-	0.039
Deflection left or right	H2A	-	1.00	-	0.039
Component height	H3	-	27.0	-	1.063
Feed hole to bottom of component	H4	-	21.0	-	0.827
Lead length after component removal	L	-	11.0	-	0.433
Lead wire enclosure	L1	2.50	-	0.098	-
Feed hole pitch	P	12.5	12.9	0.492	0.508
Center of seating plane location	P1	5.95	6.75	0.234	0.266
4 feed hole pitch	P2	50.3	51.3	1.180	2.020
Overall tape thickness	T	-	0.55	-	0.022
Total taped package thickness	T1	-	1.42	-	0.056
Carrier tape thickness	T2	0.36	0.68	0.015	0.027
Tape width	W	17.5	19.0	0.689	0.748
Adhesive tape width	W1	5.00	7.00	0.197	0.275
20 pcs pitch	-	253	255	9.960	10.04

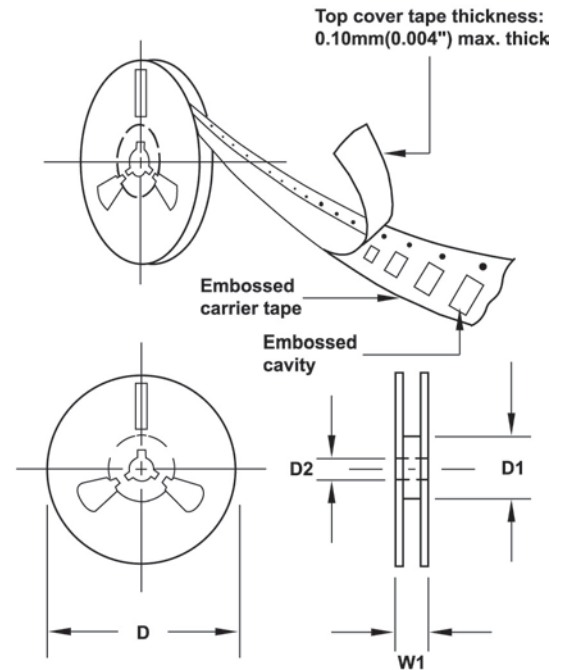
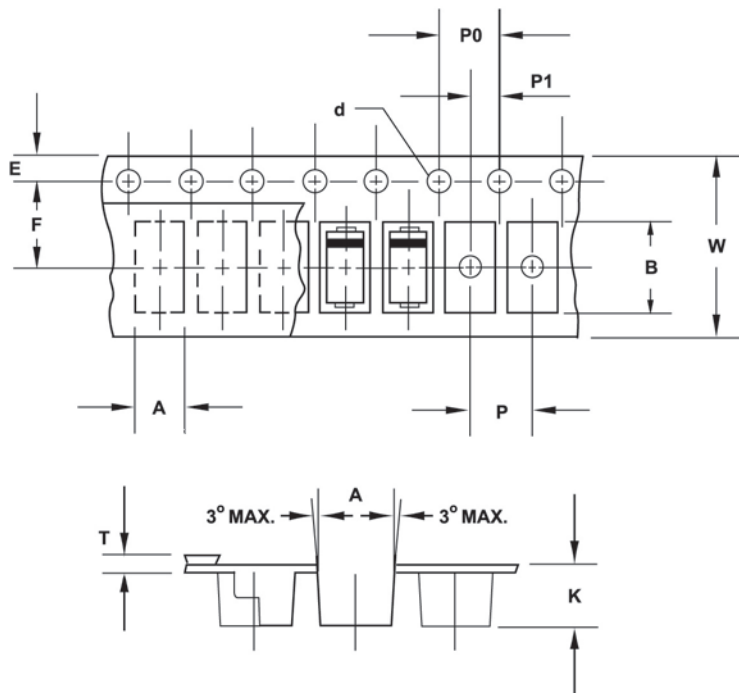
REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES (MELF TYPE)



ITEM	SYMBOL	PACKAGE			
		Micro Melf	Quadro Melf Mini Melf(DL-35) SM-2(DO-213AA)	Melf(DL-41)	SM-1 (DO-213AB)
Carrier Width	A	1.75(0.069) Max.	2.00(0.079) Max.	3.00(0.118) Max.	3.20(0.126) Max.
Carrier Length	B	2.50(0.098) Max.	3.70(0.146) Max.	5.40(0.213) Max.	7.80(0.307) Max.
Carrier Depth	C	1.60(0.063) Max.	1.80(0.071) Max.	2.70(0.106) Max.	4.50(0.177) Max.
Sprocket Hole	d	1.50(0.059) Typ.			
Reel Outer Diameter	D	178.0(7)		330.0(13)	330.0/178.0(13/7)
Reel Inner Diameter	D1	50.0(1.969) Min.			
Feed Hole Diameter	D2	13.0(0.512) Typ.			
Sprocket Hole Position	E	1.75(0.069) Typ.			
Punch Hole Position	F	5.50(0.217) Typ.			
Punch Hole Pitch	P	4.00(0.157) Typ.			
Sprocket Hole Pitch	P0	4.00(0.157) Typ.			
Embossment Center	P1	2.00(0.079) Typ.			
Overall Tape Thickness	T	1.10(0.043) Max.			
Tape Width	W	8.00(0.315) Typ.		12.0(0.472) Typ.	
Reel Width	W1	8.40(0.331) Min.		12.4(0.488) Min.	
Reel Packing Q'ty(13"/7")		0 / 2500 pcs		5000 / 0 pcs	5000 / 1500 pcs

- NOTE: 1. The clearance between the component and the cavity must be within 0.05mm min to 0.5mm max. for 8mm tape and 0.05mm min. to 0.65mm max. for 12mm tape. In addition, the components cannot rotate more than 20° within the determined cavity.
2. There shall be leader of 230mm minimum which may consist of carrier and or cover tape followed by a minimum of 160mm of carrier tape sealed with cover tape.
3. Devices are packed in accordance with EIA standard RS-481-A and specifications given above. Available for Micro Melf(glass case), Quadro Melf(glass case), DL-35(Mini Melf, glass case), SM-2(Mini Melf, plastic case), DL-41(Melf, glass case) and SM-1(Melf, plastic case) package.

REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES (FLAT TYPE - PART 1)



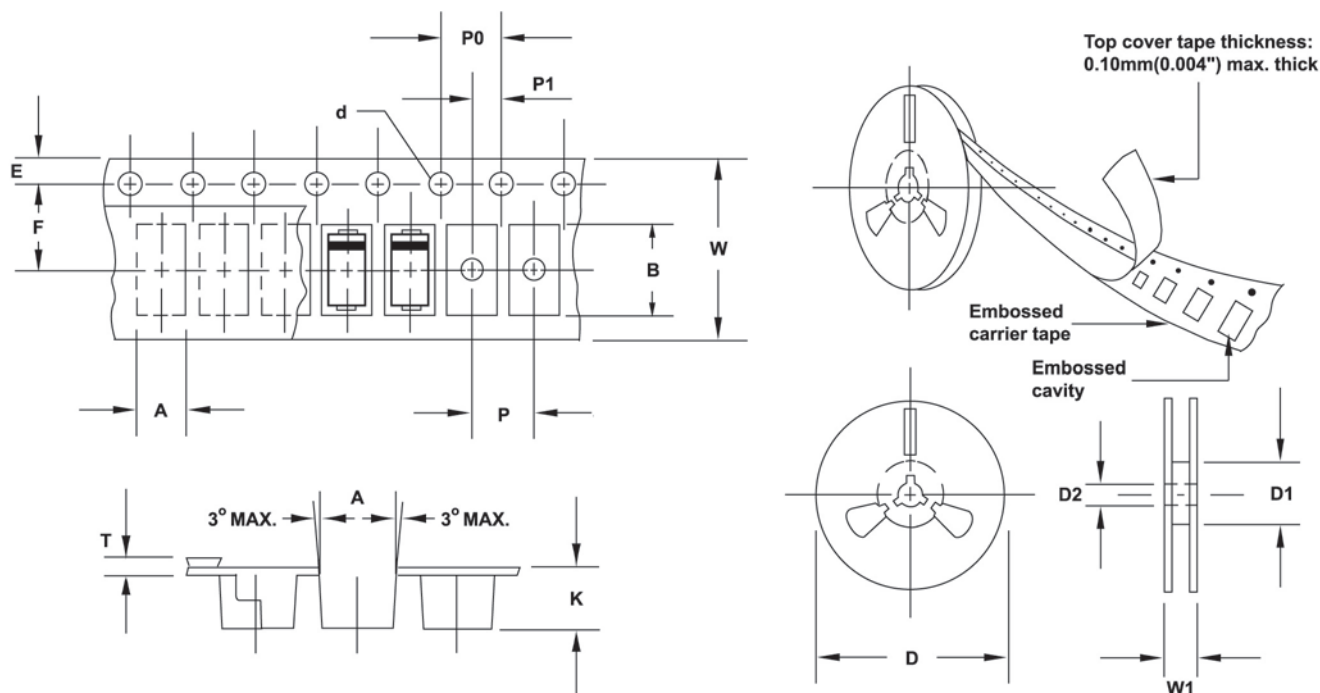
SPECIFICATION mm(inch) SYMBOL ITEM		PACKAGE					
		SOD-323 SOD-523	SOD-123	SOD-123FL	0603C	0805C	1206C
Carrier Width	A	1.70(0.067) Max.	1.90(0.075) Max.		1.1(0.043) Max.	1.65(0.065) Max.	2.00(0.079) Max.
Carrier Length	B	2.85(0.112) Max.	4.11(0.162) Max.		2.00(0.079) Max.	2.40(0.094) Max.	3.60(0.142) Max.
Sprocket Hole	d	1.55(0.061) Typ.			1.50(0.059) Typ.		1.55(0.061) Typ.
Reel Outer Diameter	D	178.0(7)					
Reel Inner Diameter	D1	50.0(1.969) Min.					60.0(2.362) Min.
Feed Hole Diameter	D2	13.0(0.512) Typ.					
Sprocket Hole Position	E	1.75(0.069) Typ.					
Punch Hole Position	F	3.50(0.138) Typ.					
Carrier Depth	K	1.23(0.048) Typ.	1.55(0.061) Typ.	1.35(0.053) Typ.	0.95(0.037) Typ.		1.25(0.049) Max.
Punch Hole Pitch	P	4.00(0.157) Typ.					
Sprocket Hole Pitch	P0	4.00(0.157) Typ.					
Embossment Center	P1	2.00(0.079) Typ.					
Overall Tape Thickness	T	0.20(0.008) Typ.	0.25(0.010) Typ.		0.054(0.002) Typ.		0.200(0.009) Typ.
Tape Width	W	8.00(0.315) Typ.					
Reel Width	W1	8.40(0.331) Min.					14.4(0.567) Min.
Reel Packing Q'ty(13"/7")		0 / 3000 pcs			0 / 5000 pcs		

NOTE: 1. The clearance between the component and the cavity must be within 0.05mm min. to 0.5mm max. for 8mm tape and 0.05mm min. to 0.65mm max. for 12mm tape. In addition, the components cannot rotate more than 20° within the determined cavity.

2. There shall be leader of 230mm minimum which may consist of carrier and or cover tape followed by a minimum of 160mm of carrier tape sealed with cover tape.

3. Devices are packed in accordance with EIA standard RS-481-A and specifications given above. Available for SOD-123 / SOD-323 / SOD-123FL / SOD-523 / 0603C / 0805C / 1206C package.

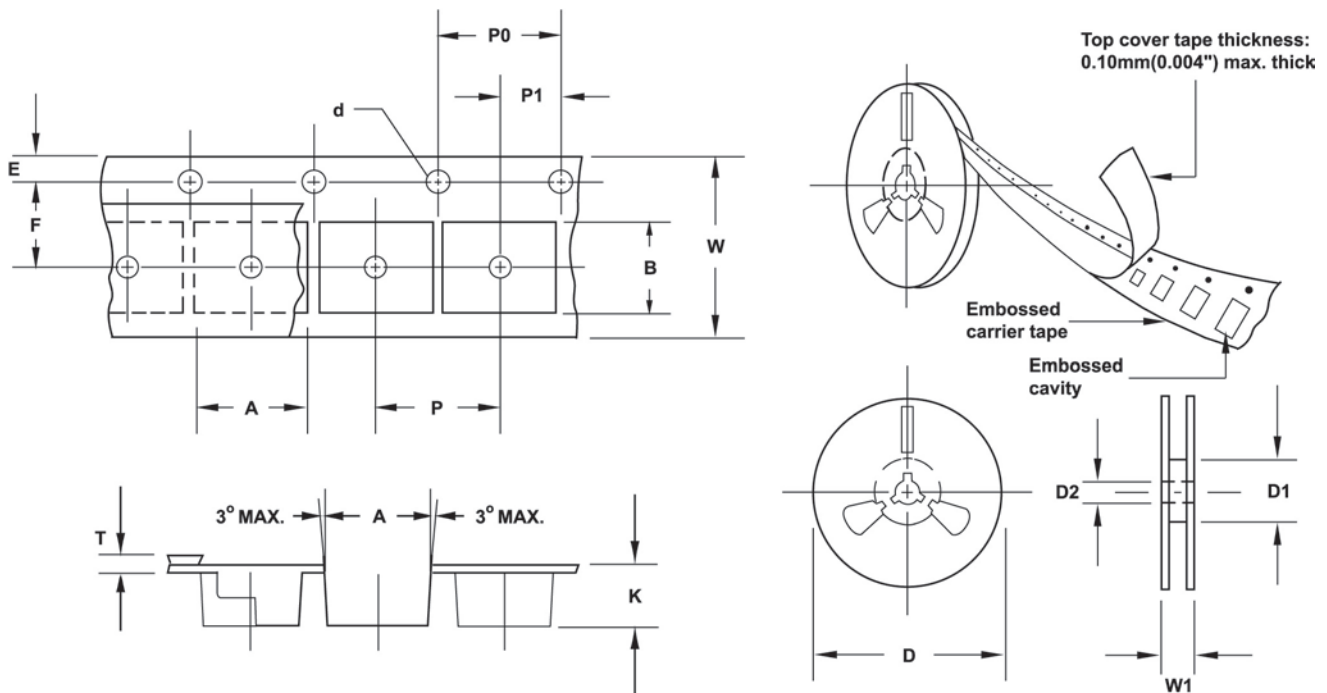
REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES (FLAT TYPE - PART 2)



ITEM	SYMBOL	PACKAGE				
		SMA (DO-214AC) SMA-L	SMB (DO-214AA)	SMC (DO-214AB)	SMAFL	SMBFL
Carrier Width	A	2.82(0.111) Max.	3.94(0.155) Max.	6.15(0.006) Max.	2.82(0.111) Max.	3.94(0.155) Max.
Carrier Length	B	5.35(0.211) Max.	5.87(0.231) Max.	8.45(0.333) Max.	5.35(0.211) Max.	5.87(0.231) Max.
Sprocket Hole	d	1.55(0.061) Typ.				
Reel Outer Diameter	D	330.0/178.0(13/7)				
Reel Inner Diameter	D1	50.0(1.969) Min.				
Feed Hole Diameter	D2	13.0(0.512) Typ.				
Sprocket Hole Position	E	1.75(0.069) Typ.				
Punch Hole Position	F	5.55(0.219) Typ.		7.50(0.295) Typ.	5.55(0.219) Typ.	
Carrier Depth	K	2.36(0.093) Typ.				
Punch Hole Pitch	P	4.00(0.157) Typ.	8.00(0.315) typ.		4.00(0.157) Typ.	8.00(0.315) typ.
Sprocket Hole Pitch	P0	4.00(0.157) Typ.				
Embossment Center	P1	2.00(0.079) Typ.				
Overall Tape Thickness	T	0.30(0.012) Typ.	0.40(0.016) Typ.		0.30(0.012) Typ.	0.40(0.016) Typ.
Tape Width	W	12.0(0.472) Typ.		16.0(0.630) Typ.	12.0(0.472) Typ.	
Reel Width	W1	12.4(0.488) Min.		16.4(0.646) Min.	14.7(0.578) Min.	
Reel Packing Q'ty(13"/7")		7500 / 1800 pcs	3000 / 500 pcs		10000 / 3000 pcs	5000 / 0 pcs

- NOTE: 1. The clearance between the component and the cavity must be within 0.05mm min. to 0.5mm max. for 8mm tape and 0.05mm min. to 0.65mm max. for 12mm tape. In addition, the components cannot rotate more than 20° within the determined cavity.
2. There shall be leader of 230mm minimum which may consist of carrier and or cover tape followed by a minimum of 160mm of carrier tape sealed with cover tape.
- 3.Devices are packed in accordance with EIA standard RS-481-A and specifications given above. Available for SMA / SMA-L / SMB / SMC / SMAFL / SMBFL package.

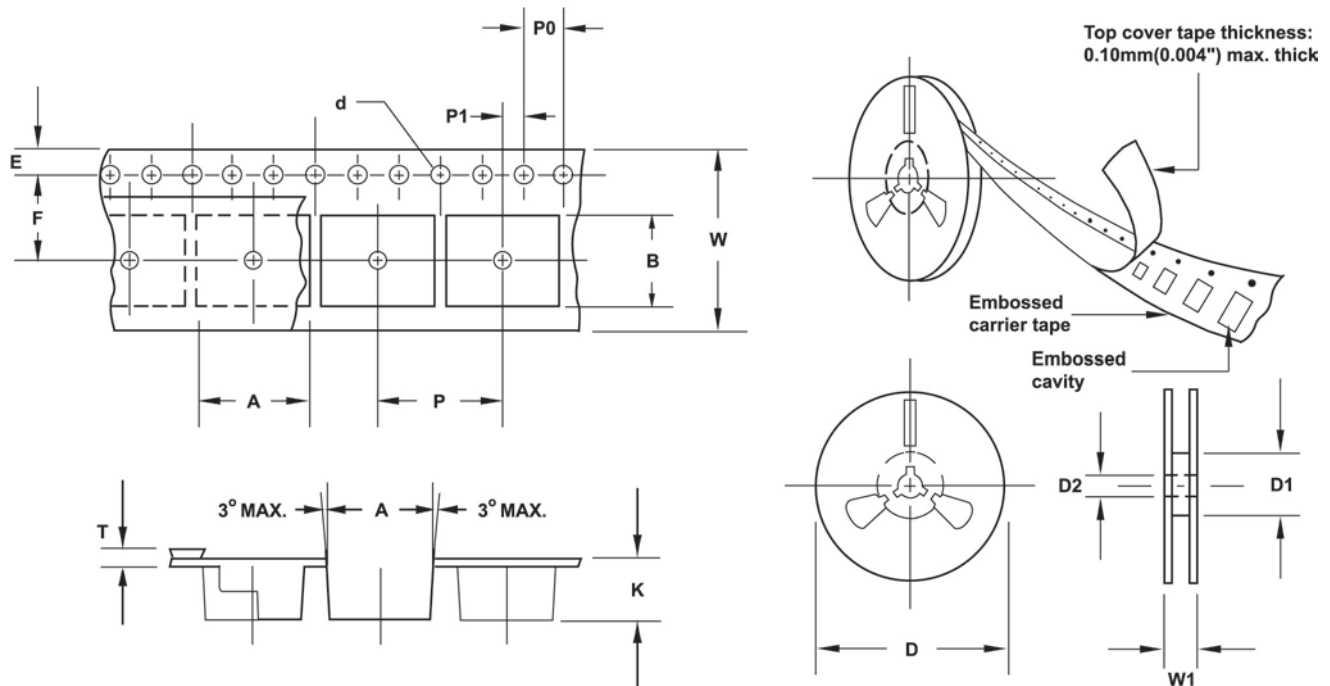
REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES (FLAT TYPE - PART 3)



ITEM	SYMBOL	PACKAGE					
		SOT-323	SOT-23	SOT-363	TO-252(DPAK)	TO-263(D ² PAK)	TO-277A
Carrier Width	A	2.26(0.089) Max.	3.25(0.128) Max.	2.6(0.102) Max.	7.06(0.278) Max.	10.9(0.429) Max.	4.38(0.172) Max.
Carrier Length	B	2.65(0.104) Max.	2.75(0.108) Max.	2.65(0.104) Max.	10.6(0.417) Max.	16.2(0.638) Max.	6.9(0.271) Max.
Sprocket Hole	d	1.55(0.061) Typ.					
Reel Outer Diameter	D	178.0(7)			330.0(13)		
Reel Inner Diameter	D1	50.0(1.969) Min.					100(3.937) Min.
Feed Hole Diameter	D2	13.0(0.512) Typ.					
Sprocket Hole Position	E	1.75(0.069) Typ.					
Punch Hole Position	F	3.50(0.138) Typ.			7.50(0.295) Typ.	11.5(0.453) Typ.	7.50(0.295) Typ.
Carrier Depth	K	1.17(0.046) Typ.	1.27(0.050) Typ.	1.2(0.047) Typ.	2.79(0.110) Typ.	5.21(0.205) Typ.	1.4(0.055) Typ.
Punch Hole Pitch	P	4.00(0.157) Typ.			8.00(0.315) Typ.	16.0(0.630) Typ.	8.00(0.315) Typ.
Sprocket Hole Pitch	P0	4.00(0.157) Typ.					
Embossment Center	P1	2.00(0.079) Typ.					
Overall Tape Thickness	T	0.20(0.008) Typ.			0.30(0.012) Typ.	0.40(0.016) Typ.	
Tape Width	W	8.00(0.315) Typ.			16.0(0.630) Typ.	24.0(0.945) Typ.	16.0(0.630) Typ.
Reel Width	W1	8.40(0.331) Min.			16.4(0.646) Min.	24.4(0.961) Min.	16.4(0.646) Min.
Reel Packing Q'ty		3000 pcs	3000 pcs	3000 pcs	2500 pcs	800 pcs	5000 pcs

- NOTE: 1. The clearance between the component and the cavity must be within 0.05mm min. to 0.5mm max. for 8mm tape and 0.05mm min. to 0.65mm max. for 12mm tape. In addition, the components cannot rotate more than 20° within the determined cavity.
2. There shall be leader of 230mm minimum which may consist of carrier and or cover tape followed by a minimum of 160mm of carrier tape sealed with cover tape.
3. Devices are packed in accordance with EIA standard RS-481-A and specifications given above. Available for SOT-323 / SOT-23 / SOT-363 / TO-252 / TO-263 / TO-277A package.

REEL TAPING SPECIFICATIONS FOR SURFACE MOUNT DEVICES (DIP TYPE)



ITEM	SYMBOL	PACKAGE				
		ABS MBF	ABF	MBFL	DB-1MS MBS	DB-1S
Carrier Width	A	5.25(0.206) Typ.		5.05(0.199) Typ.	4.90(0.193) Typ.	8.64(0.340) Typ.
Carrier Length	B	6.70(0.263) Typ.		7.10(0.280) Typ.	7.24(0.285) Typ.	10.40(0.140) Typ.
Sprocket Hole	d	1.55(0.061) Typ.				
Reel Outer Diameter	D	330.0/178.0(13/7)				330.0(13)
Reel Inner Diameter	D1	50.0(1.969) Min.				
Feed Hole Diameter	D2	13.0(0.512) Typ.				
Sprocket Hole Position	E	1.75(0.069) Typ.				
Punch Hole Position	F	5.55(0.219) Typ.				7.50(0.295) Typ.
Carrier Depth	K	1.59(0.063) Typ.	1.70(0.067) Typ.	3.33(0.131) Typ.	3.81(0.150) Typ.	
Punch Hole Pitch	P	8.00(0.315) Typ.				12.00(0.472) Typ.
Sprocket Hole Pitch	P0	4.00(0.157) Typ.				
Embossment Center	P1	2.00(0.079) Typ.				
Overall Tape Thickness	T	0.30(0.012) Typ.				0.32(0.013) Typ.
Tape Width	W	12.0(0.472) Typ.				16.00(0.630) Typ.
Reel Width	W1	12.4(0.488) Min.				16.40(0.646) Min.
Reel Packing Q'ty(13"/7")		5000 / 0 pcs			3000 / 500 pcs	1500 / 200 pcs

- NOTE: 1. The clearance between the component and the cavity must be within 0.05mm min. to 0.5mm max. for 8mm tape and 0.05mm min. to 0.65mm max. for 12mm tape. In addition, the components cannot rotate more than 20° within the determined cavity.
2. There shall be leader of 230mm minimum which may consist of carrier and or cover tape followed by a minimum of 160mm of carrier tape sealed with cover tape.
3. Devices are packed in accordance with EIA standard RS-481-A and specifications given above. Available for ABS / ABF / MBS / MBF / MBFL / DB-1MS / DB-1S package.

The scope of products

Products	Category	STD	SKY	FR / HER	SF	TVS
Switching Power Supply		✓	✓	✓	✓	✓
Inverter		✓	✓		✓	
Computer interface			✓	✓	✓	
Charger		✓				
Stabilizer		✓				✓
AC-DC converters		✓	✓			✓
Electronic Ballasts		✓	✓	✓		✓
Electrostatic precipitator		✓				
High voltage negative ion generator		✓	✓			
Motor speed controller		✓	✓	✓		✓
Electronic ignition		✓	✓			
Uninterruptible power system		✓	✓			✓
E-provincial power		✓	✓			
Temperature Controller		✓	✓			
Solid State Relay		✓				

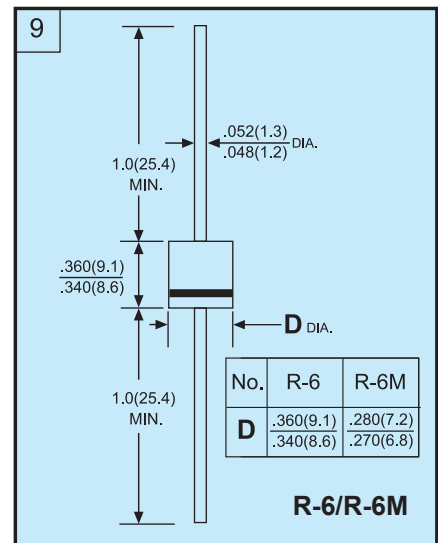
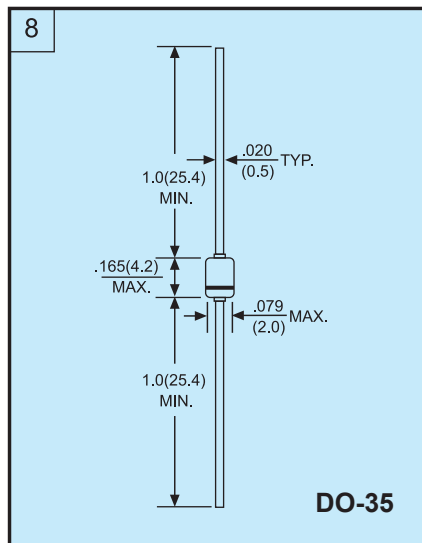
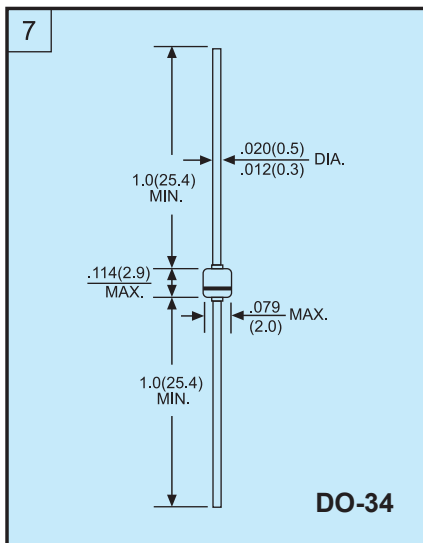
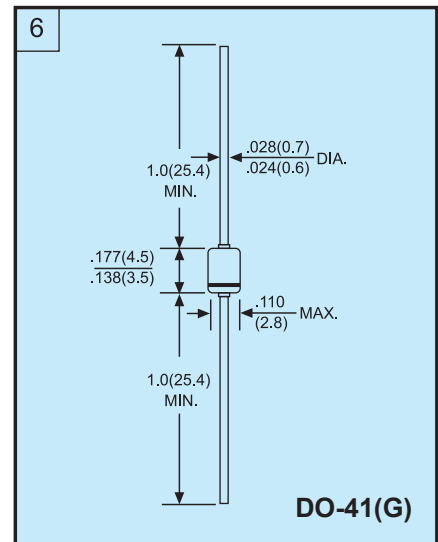
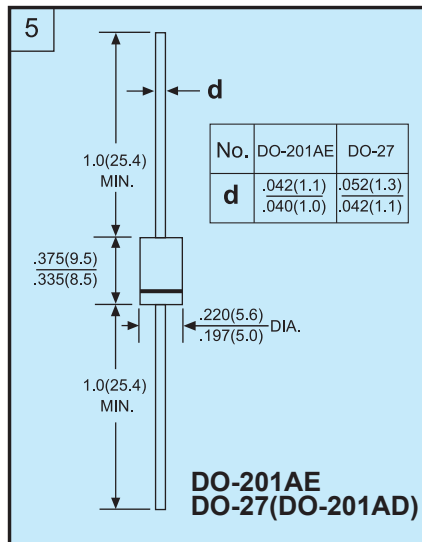
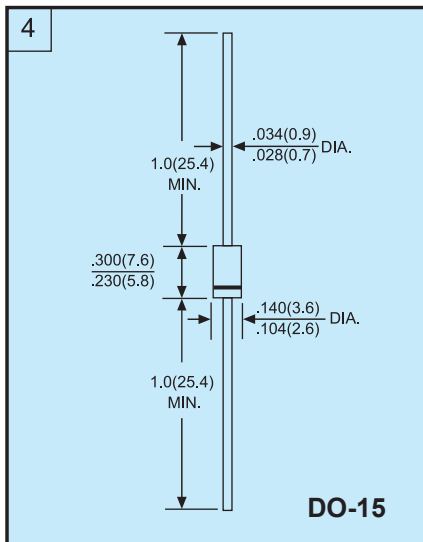
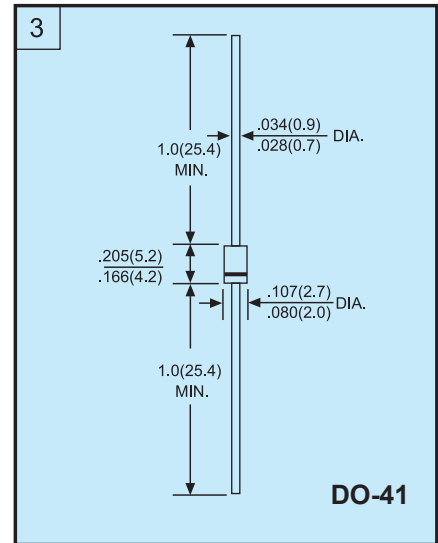
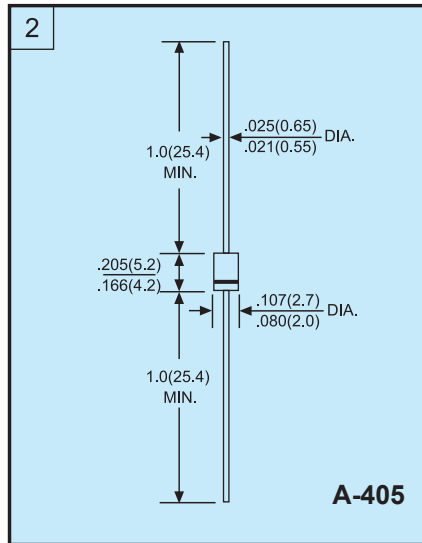
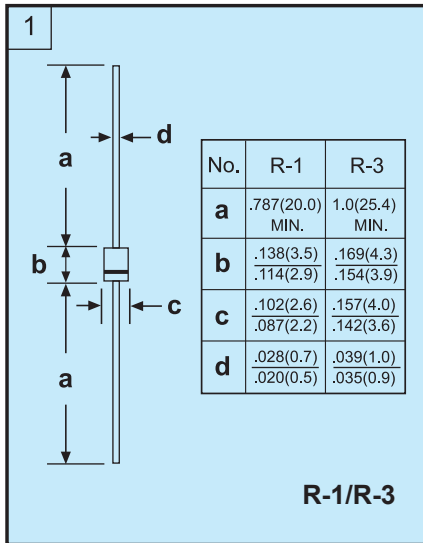
The list of diode application examples

Product Name	The elements to be used
Home Appliance Motor, Powered hand tools Solid State Relay, Charger, Emergency Lights Hair Dryer, Electronic clock, Three-phase inverter	STD
Automotive engine rectifier	TVS
Ultrasonic cleaning machine, Washing machine Flash, Remote control, Phone, Answering machine Interphone, Wireless Communications, Electric toys Hum, Temperature Controller, Rice cooker High voltage negative ion generator, Electronic ignition E-provincial power,	STD, FR
Switching Power Supply	SKY, SF, HER, FR, STD, TVS
Inverter, Copier	SKY, SF, FR, STD, TVS
Fax machine	SKY, FR, STD, TVS
Video Equipment	SKY, SF, HER, STD, FR, HV.STD, HV.FR, TVS
Printer	SF, HER, FR, STD, TVS
Computer interface	SF, HER, FR
Power Supply	STD, FR, TVS
The motor controls the drive device	STD, HER, FR
Stabilizer	STD, TVS
Fluorescent Lamp Ballast, AC-DC converters,	STD, FR, HER, TVS
Induction Cooker Lighting control, Electronic scales, instant start fluorescent lamp, Electronic cash register, Dehumidifiers Anti-theft device, Uninterruptible power system	STD, FR, TVS
Air Filter	FR, HV.STD
Camera	STD, FR, HER
Terminal, Graphics terminal	STD, FR, HV.STD, HV.FR, TVS
Table with three, Oscilloscope, Digital meter	STD, FR, SF, HER, TVS
Recorder	STD, FR, TVS
Electrostatic precipitator	STD, HV.STD
Motor speed control	STD, FR, HER, SKY, TVS
Other electronic power supply circuit	STD, FR, HV.STD, SF, TVS, SKY

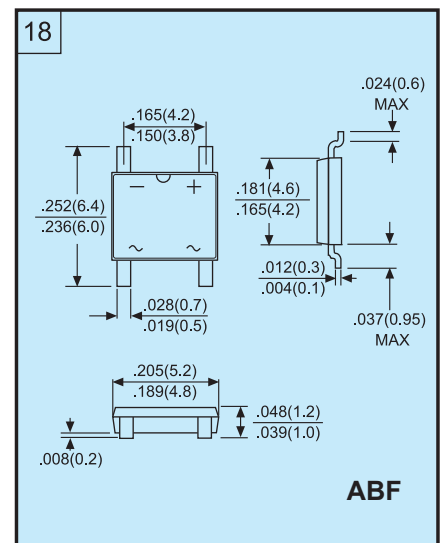
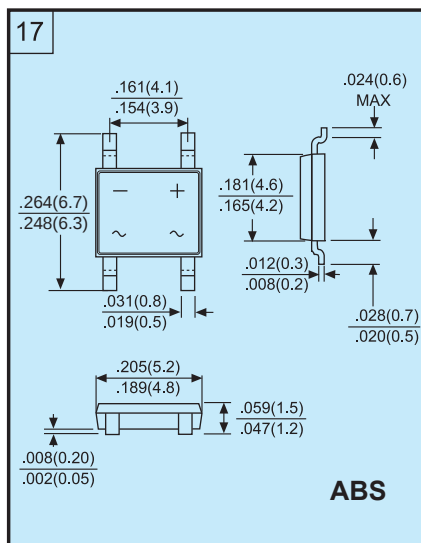
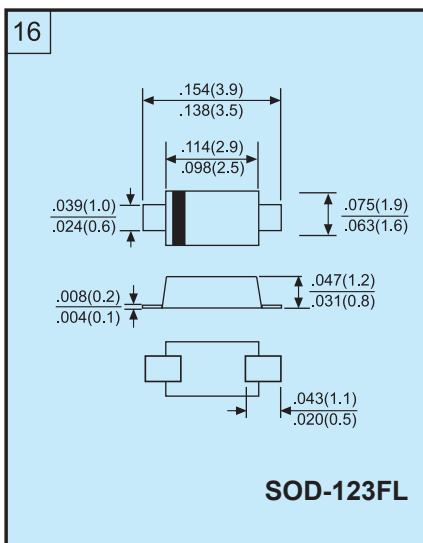
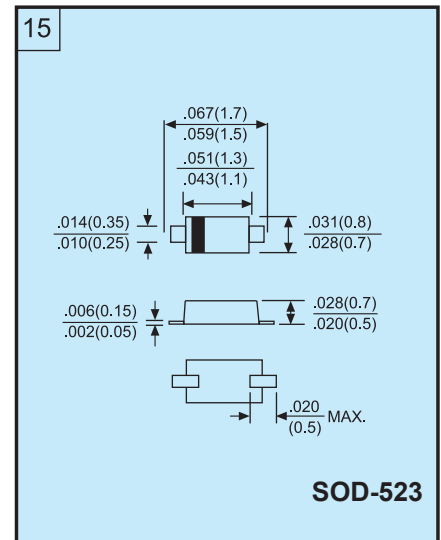
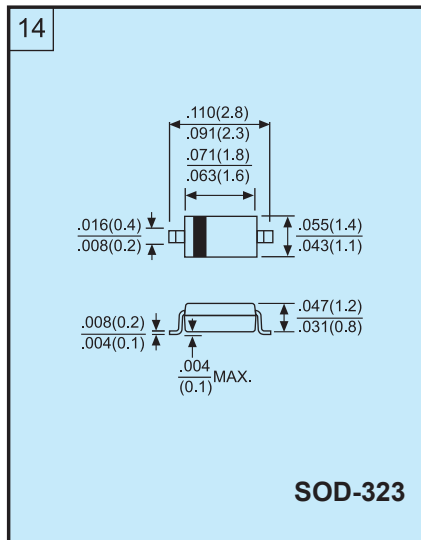
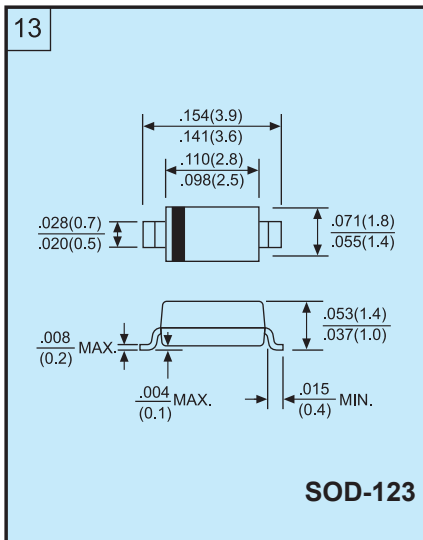
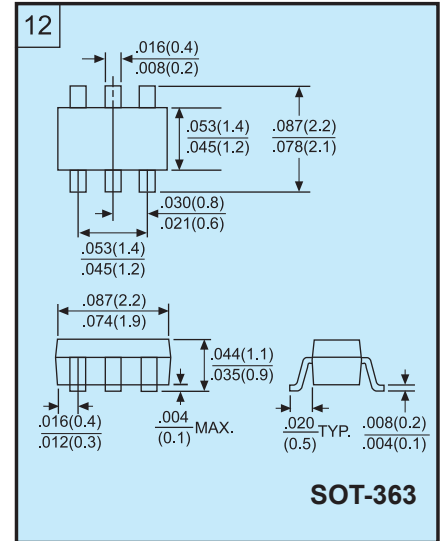
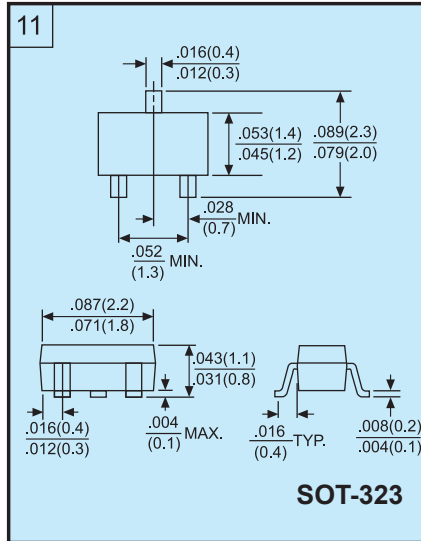
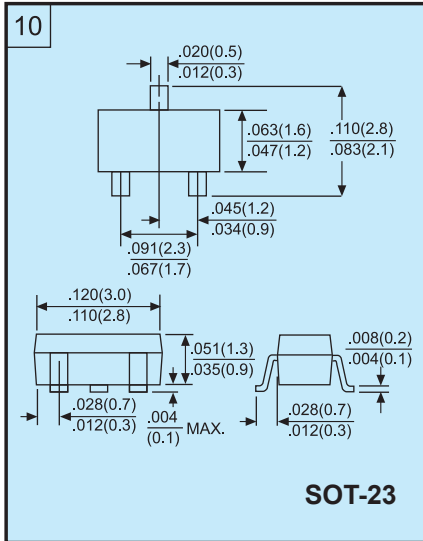
NOTE: STD - Standard, FR - Fast Recovery, HER - High Efficiency Rectifier, SF - Super Fast, SKY - Schottky,
TVS - Transient Voltage Suppressors, HV - High Voltage

NO.	EXPERIMENT ITEM	EXPERIMENT METHOD AND CONDITIONS	DOCUMENTATION
1.	SOLDERABILITY	230°C±5°C / 5 SEC.	MIL-STD-750D METHOD-2026
2.	SOLDERABILITY RESISTANCE	● TEMPERATURE OF SOLDER POT = 260°C±5°C ● TIME FOR DIPPING IN SOLDER = 10±1 SEC. ● DIPPING DEPTH = 1~1.5 mm BELOW BODY ● FOR ONE CYCLE	MIL-STD-750D METHOD-2031
3.	PULL TEST	1kg IN AXIAL LEAD DIRECTION / 10 SEC.	MIL-STD-750D METHOD-2036
4.	BEND TEST	0.5kg WEIGHT APPLIED TO EACH LEAD FOR THREE TIMES 90°±5°ARCS	MIL-STD-750D METHOD-2036
5.	HIGH TEMPERATURE REVERSE BIAS TEST	T _A = 100°C / 100 HRS. / V _R = 80% RATED V _R	MIL-STD-750D METHOD-1026
6.	FORWARD OPERATION LIFE TEST	T _A = 25°C RATED AVERAGE RECTIFIED CURRENT / 500 HRS.	MIL-STD-750D METHOD-1027
7.	INTERMITTENT FORWARD OPERATION LIFE	● ON: 5 min. T_J = 125°C~175°C WITH RATED I_{RMS} POWER ● OFF: 5 min. T_J = T_A+15°C WITH COOL FORCED AIR ● 1000 CYCLES	MIL-STD-750D METHOD-1036
8.	PRESSURE COOKER	15 PSIG, T _A = 121°C, 4 HRS.	MIL-STD-19500E APPENDIX C
9.	TEMPERATURE CYCLING	● -55°C / +125°C, 30 MINUTES FOR DWELLED TIME ● 5 MINUTES FOR TRANSFERRED TIME ● 10 CYCLES	MIL-STD-750D METHOD-1051
10.	THERMAL SHOCK	0°C / 5 MINUTES, 100°C / 5 MINUTES, 10 CYCLES	MIL-STD-750D METHOD-1056
11.	FORWARD SURGE	8.3mS SINGLE HALF SINE-WAVE SUPERIMPOSED ON RATED LOAD ONE SURGE	MIL-STD-750D METHOD-4066
12.	HUMIDITY TEST	T _A = 65°C, RH = 98%, T = 1000 HRS.	MIL-STD-750D METHOD-1021
13.	HIGH TEMPERATURE STORAGE LIFE	150°C / 1000 HRS.	MIL-STD-750D METHOD-1031

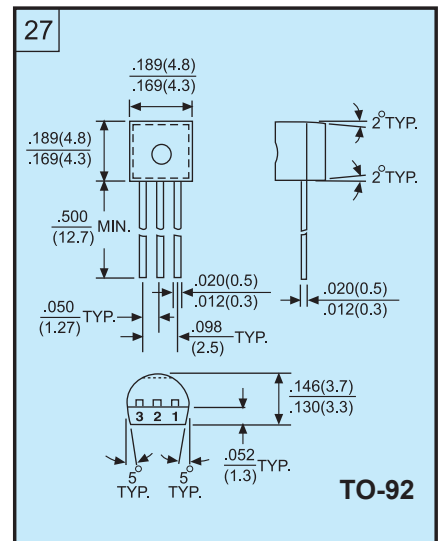
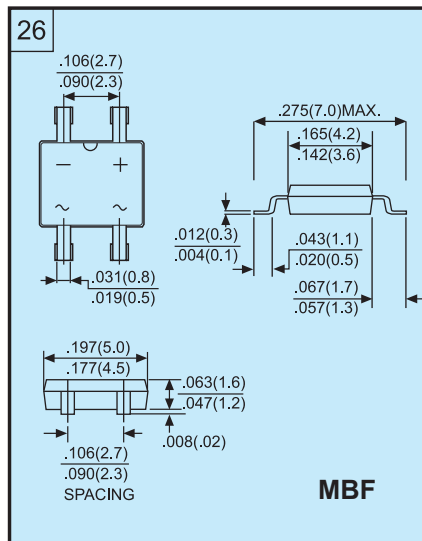
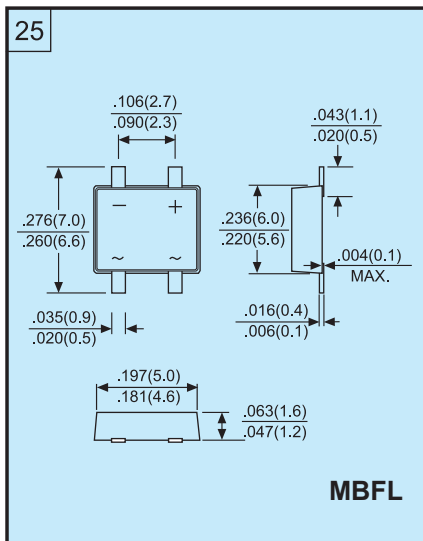
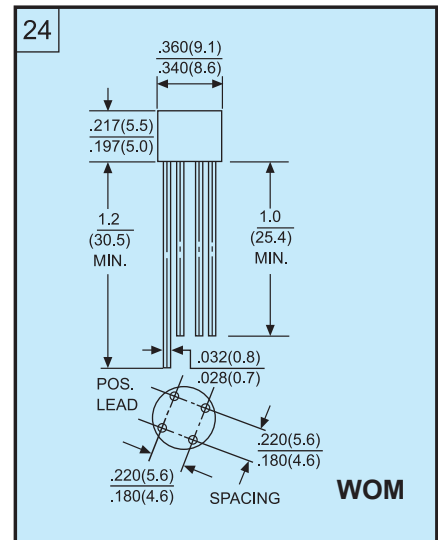
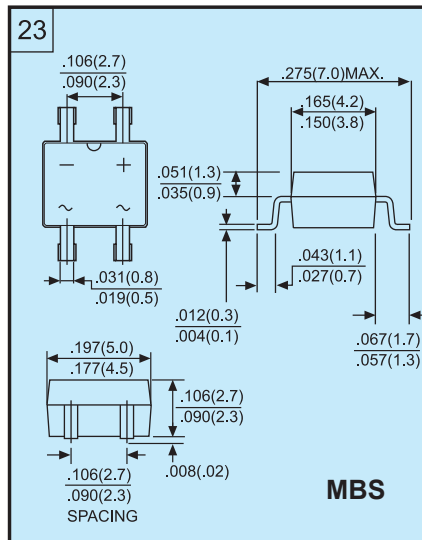
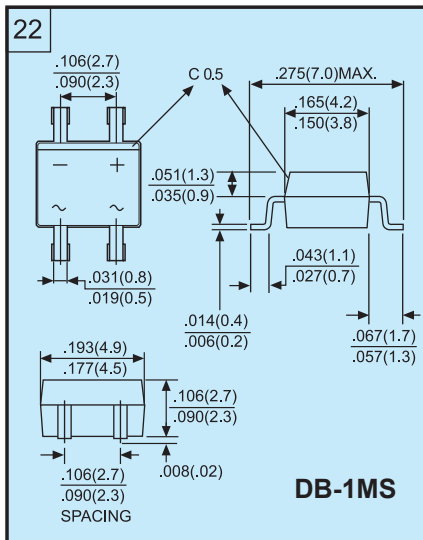
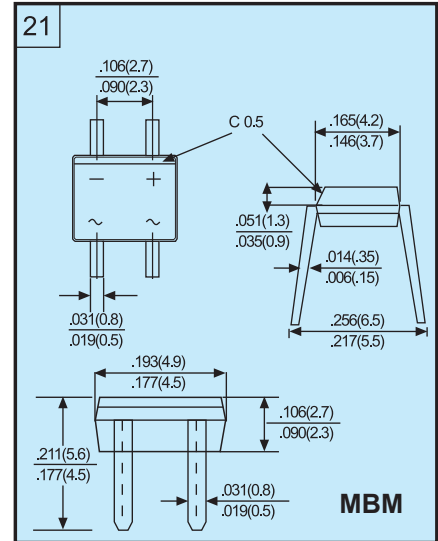
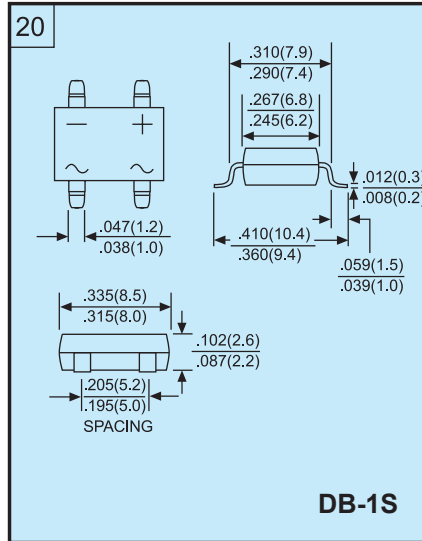
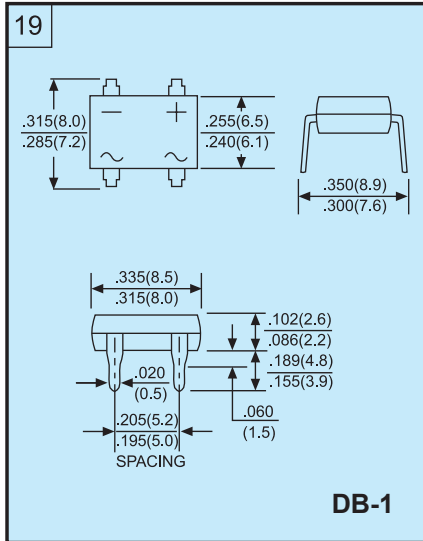
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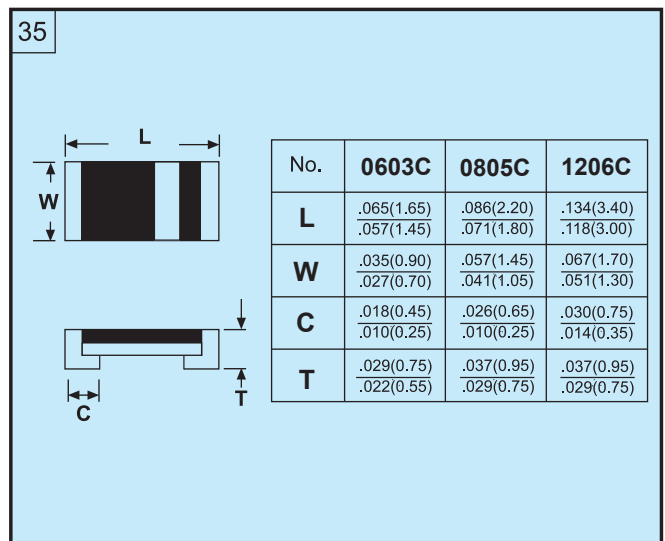
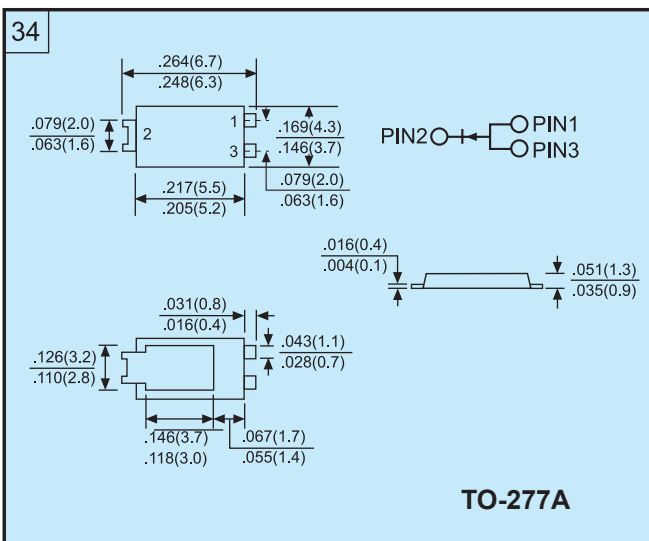
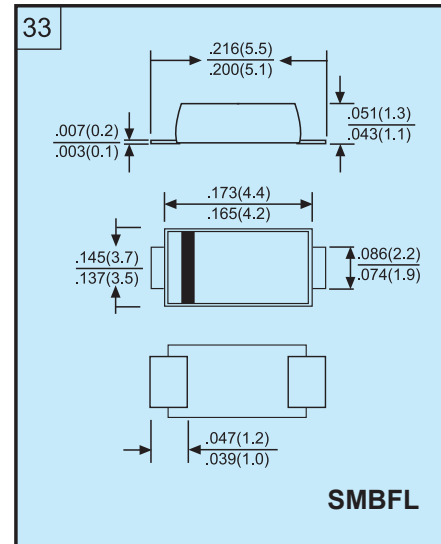
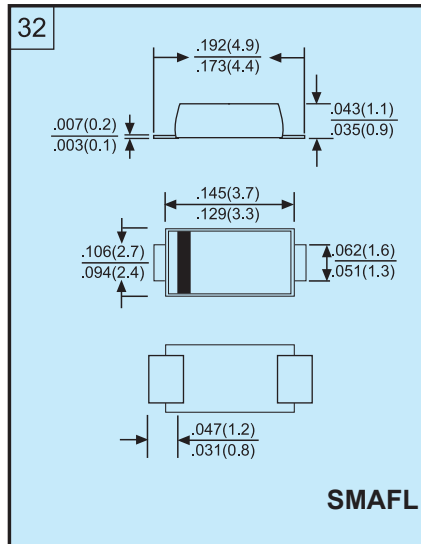
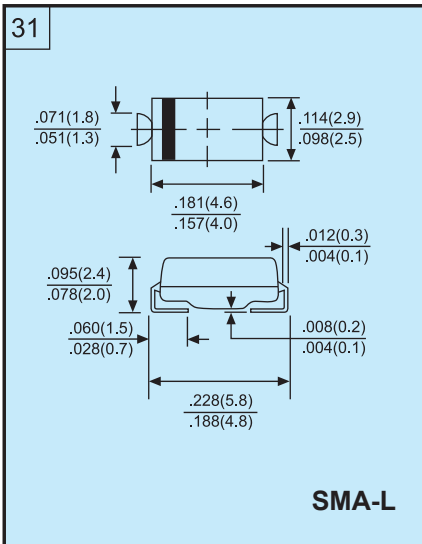
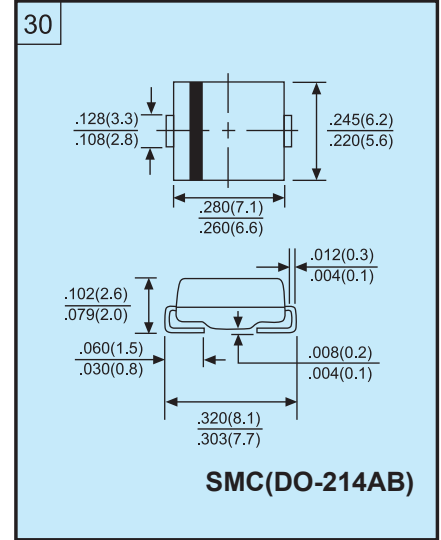
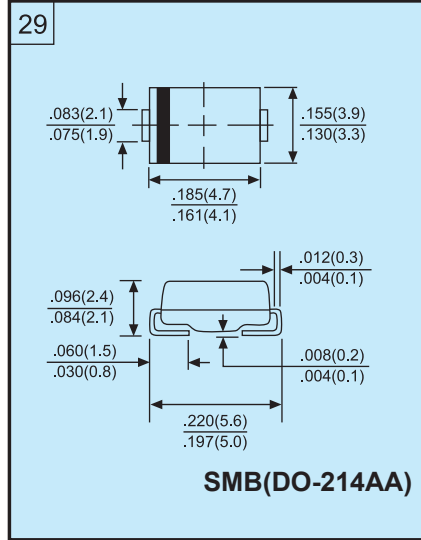
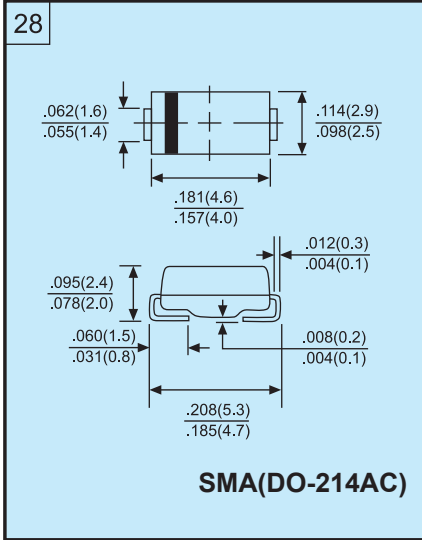
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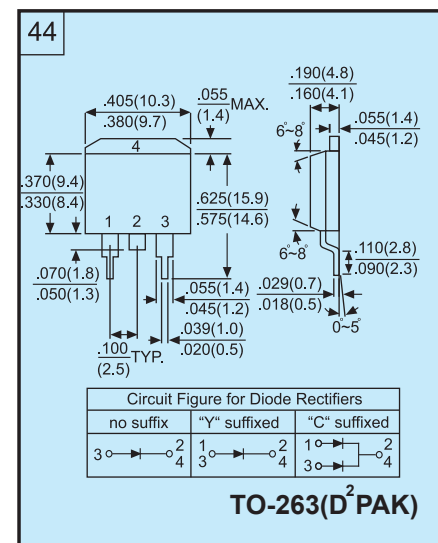
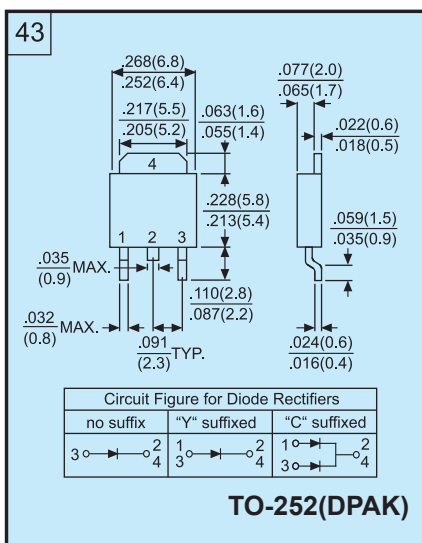
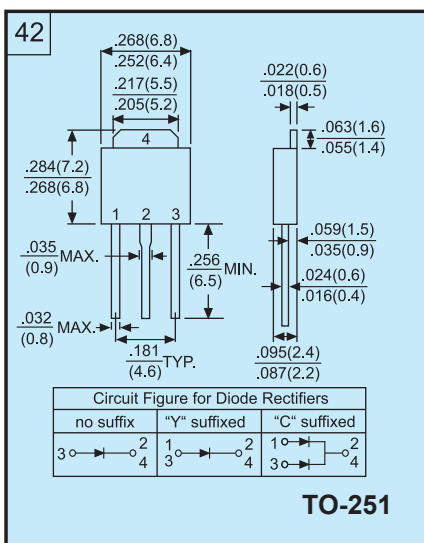
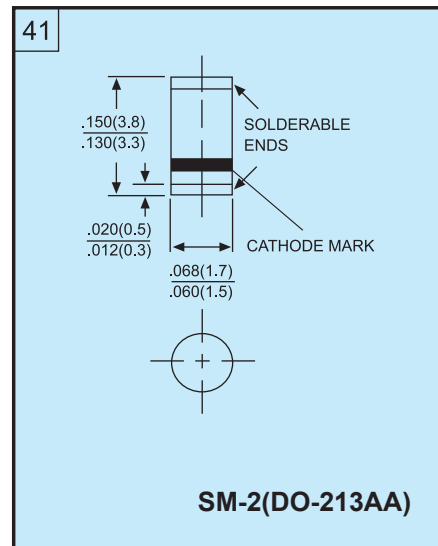
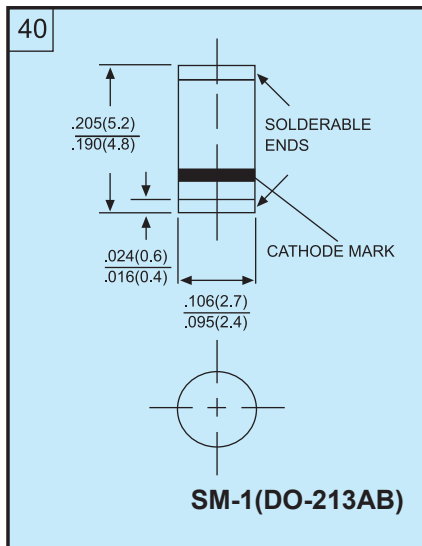
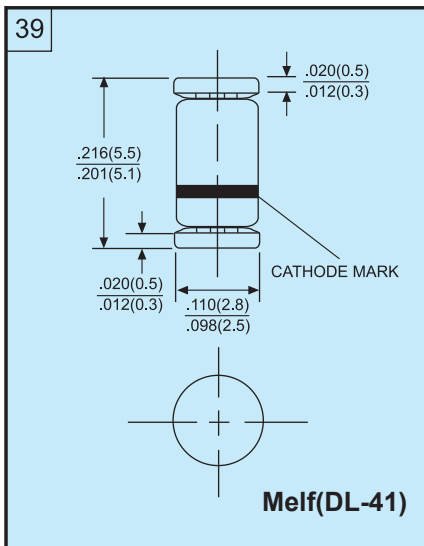
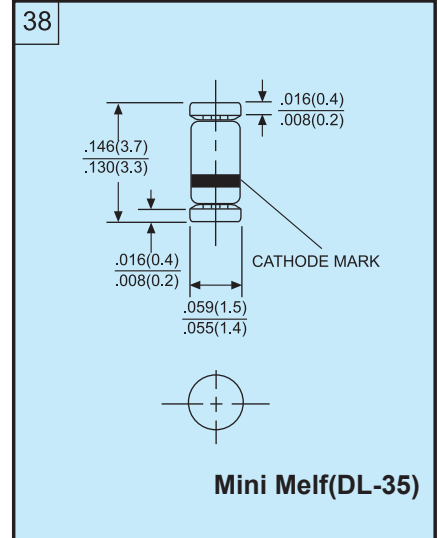
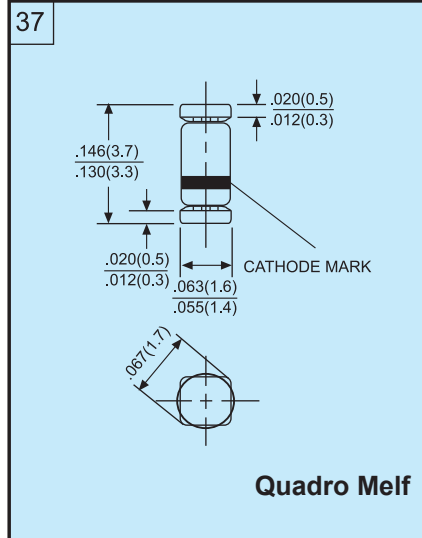
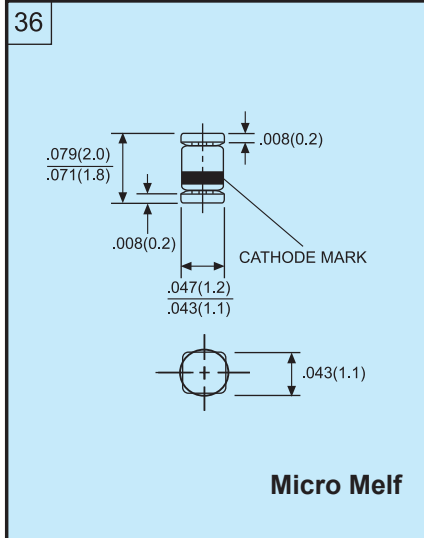
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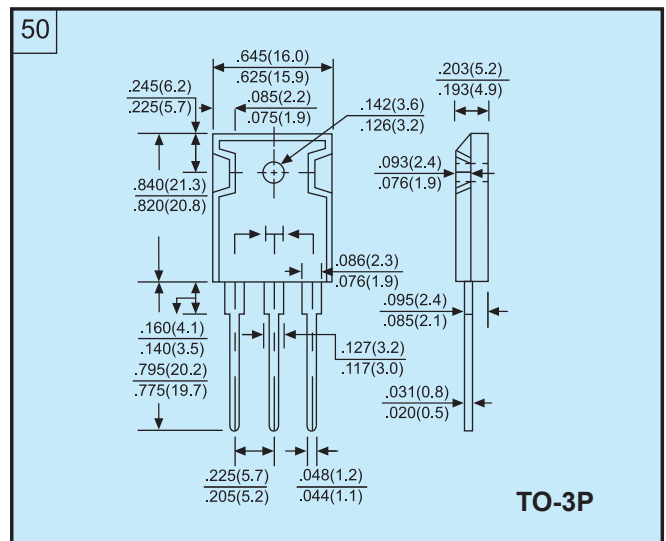
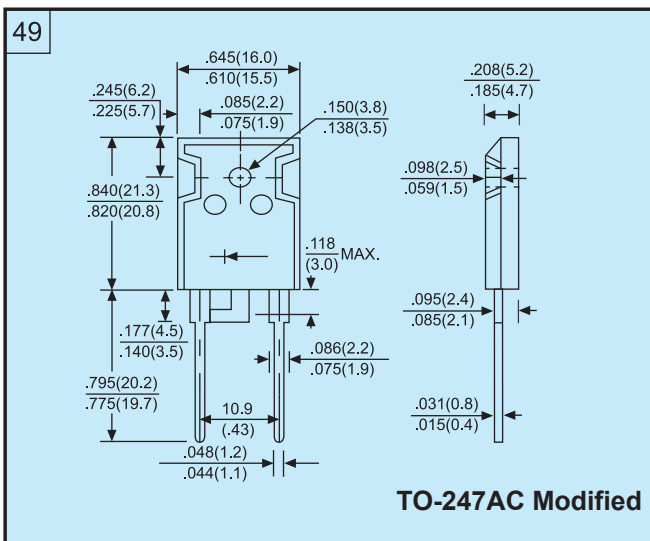
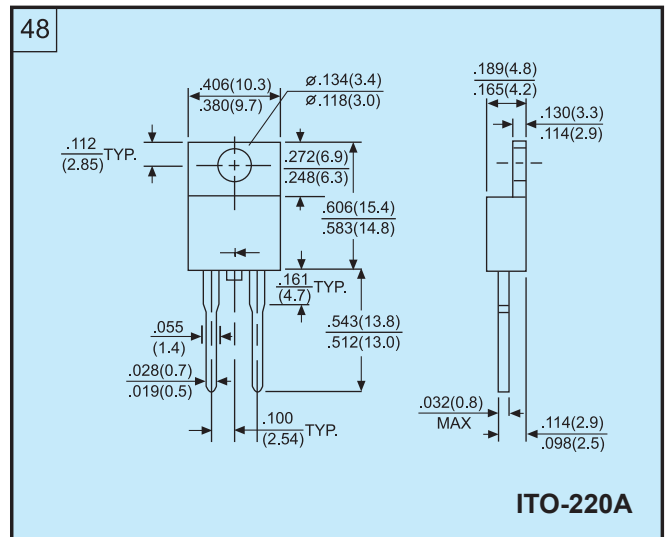
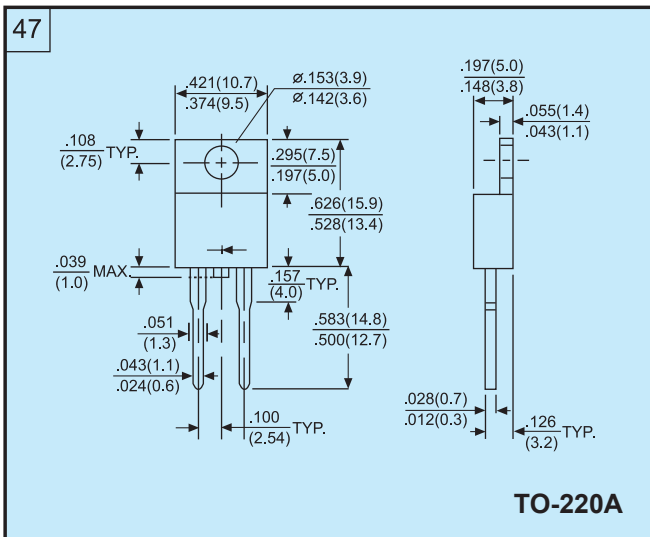
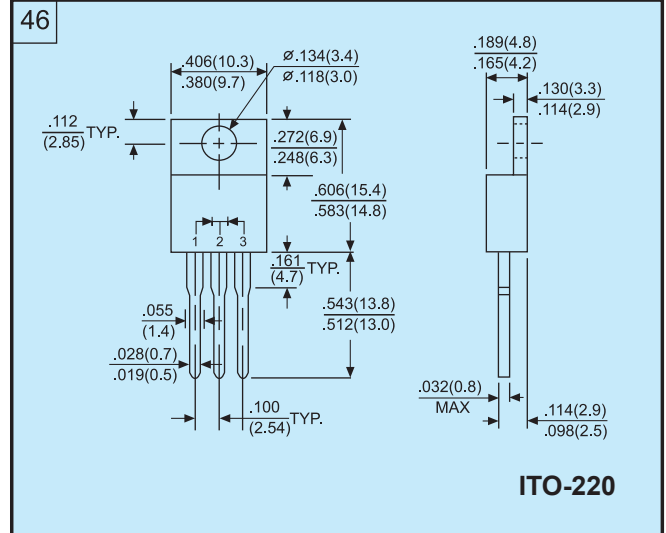
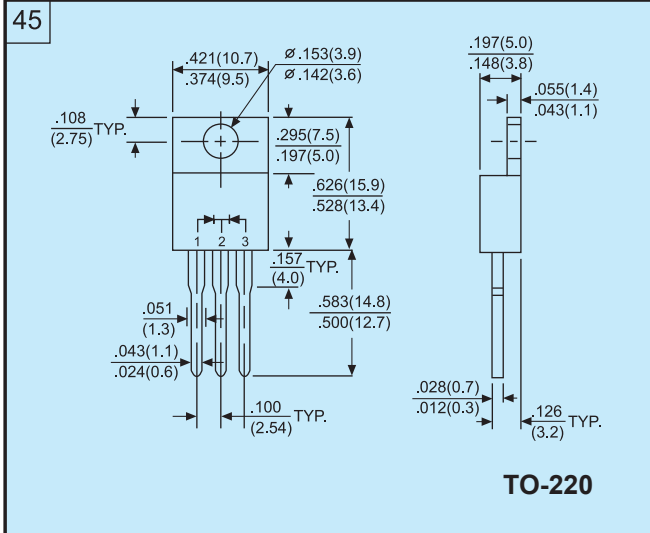
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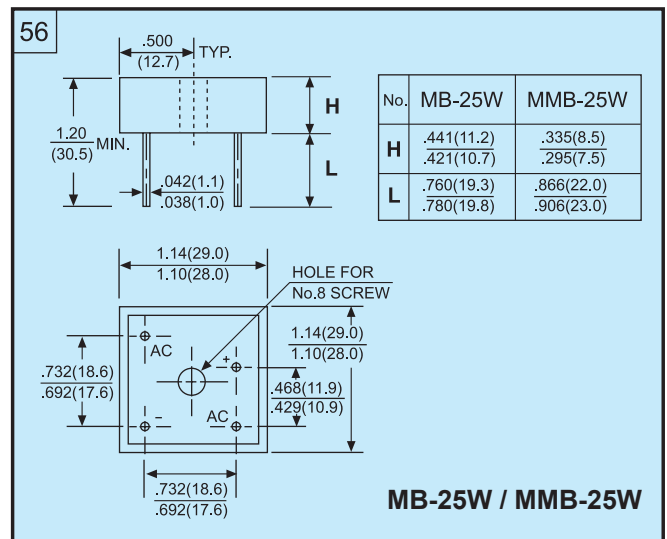
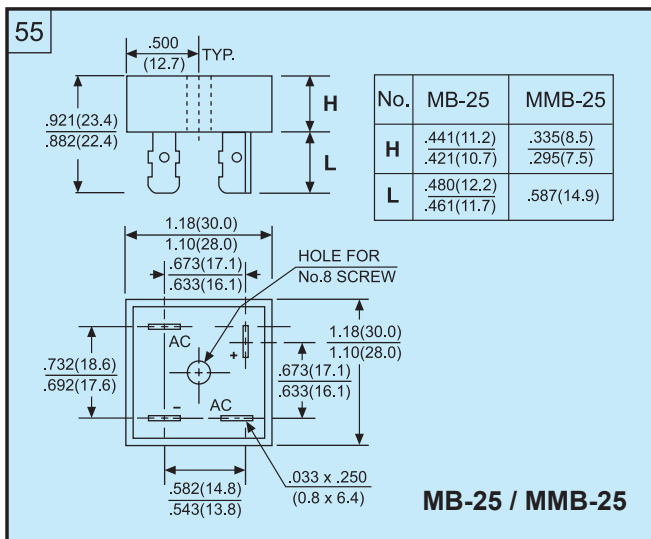
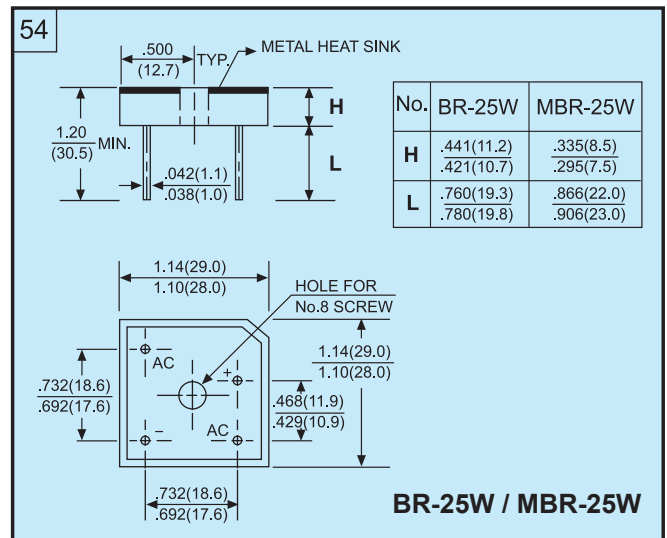
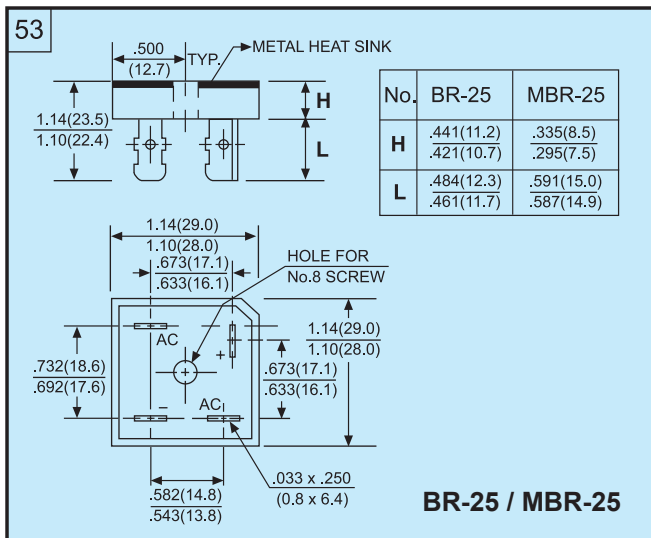
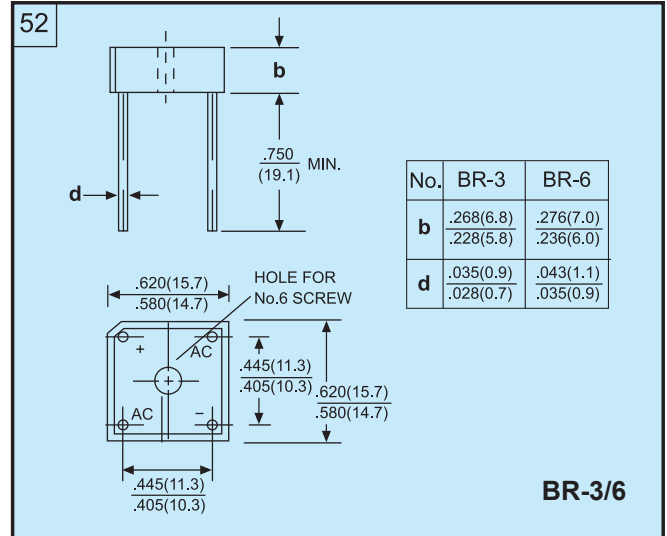
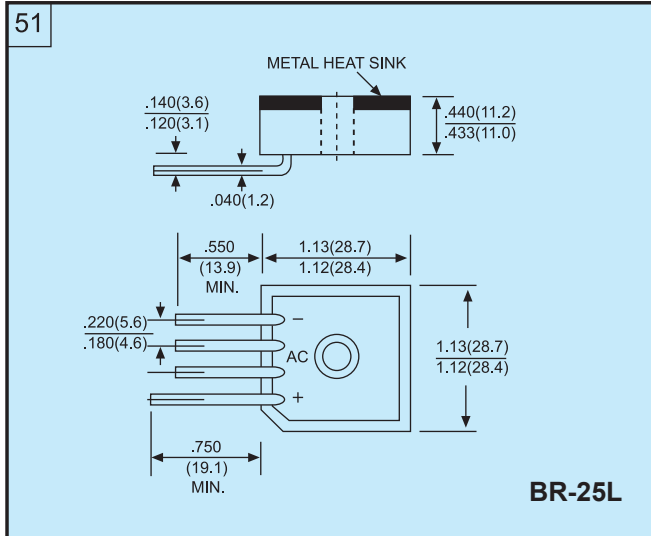
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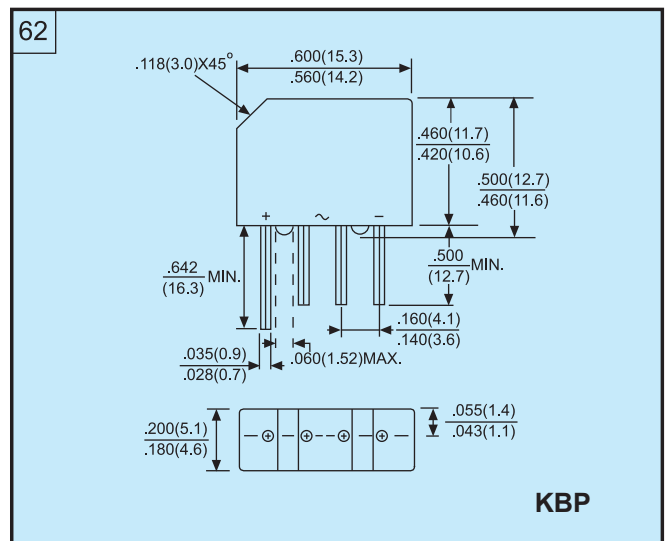
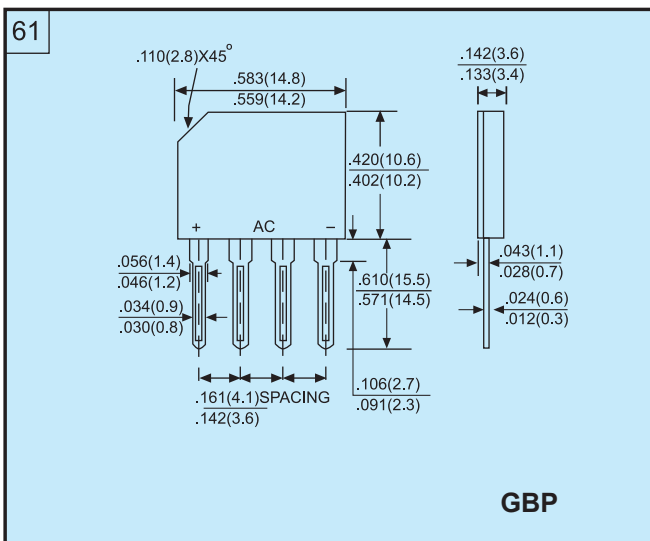
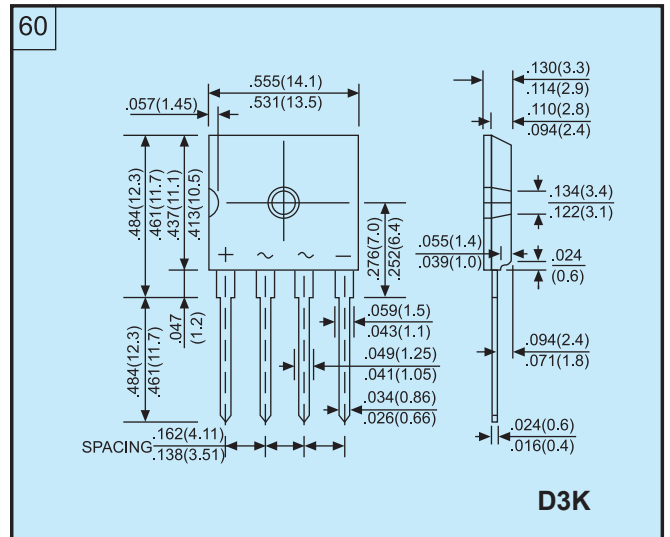
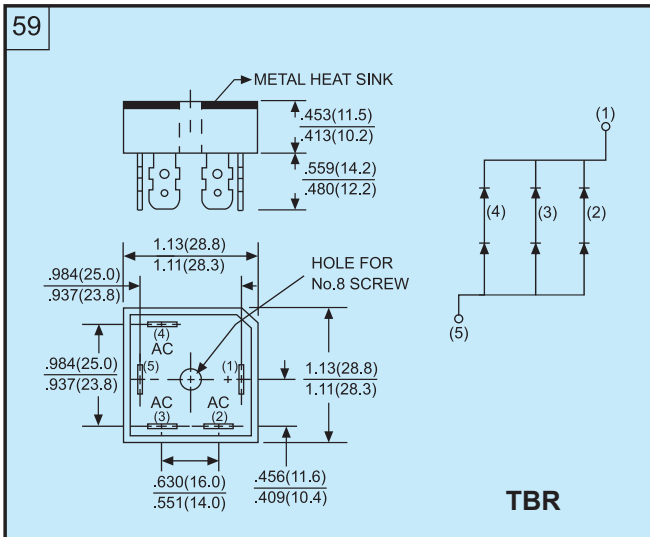
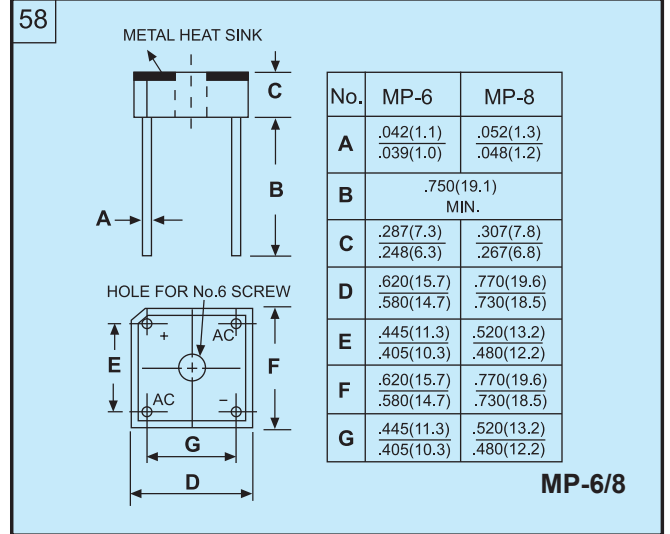
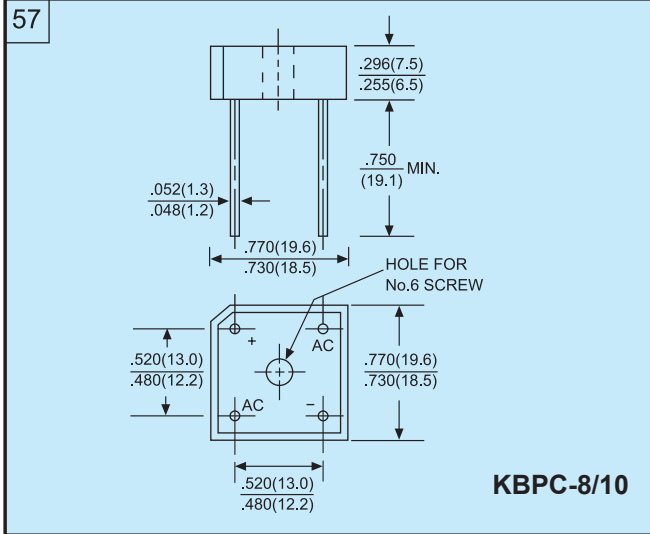
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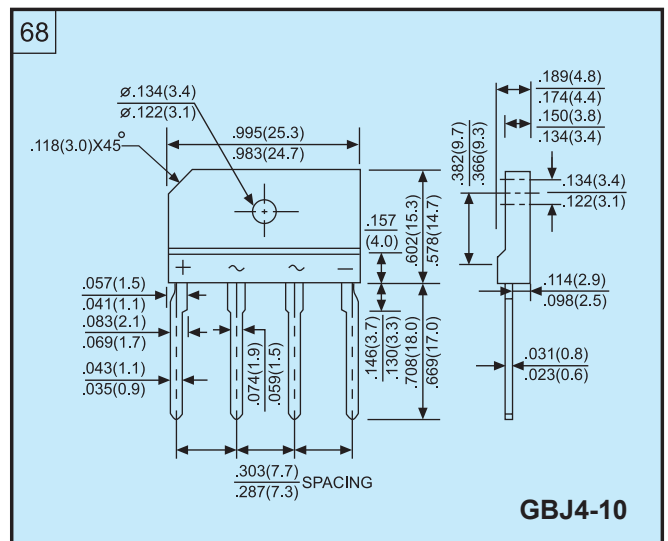
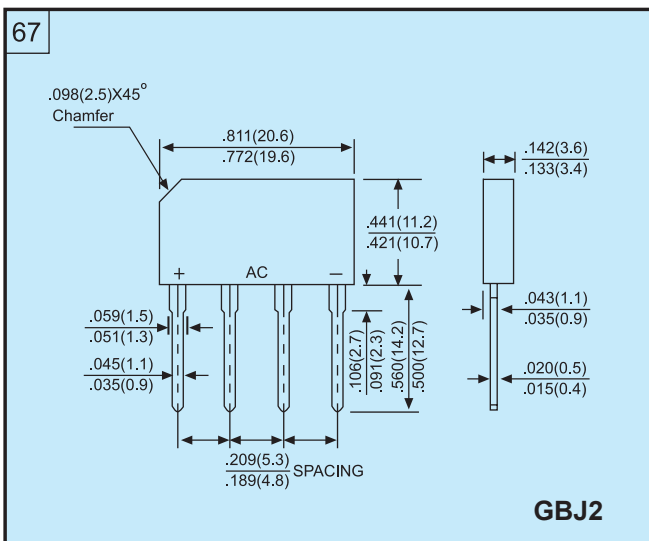
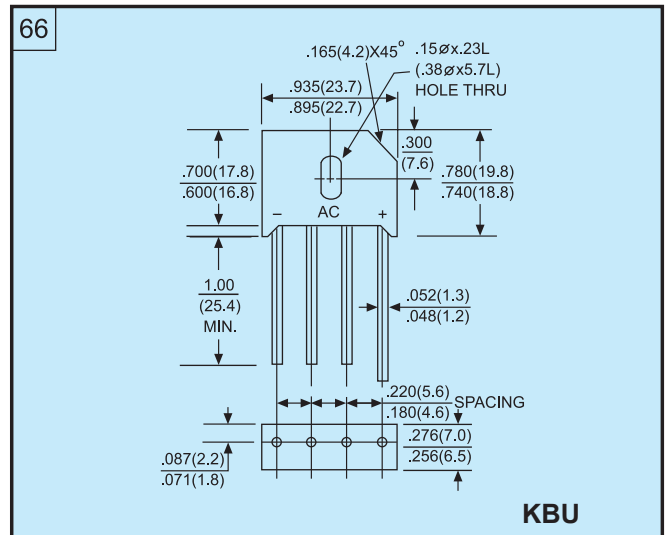
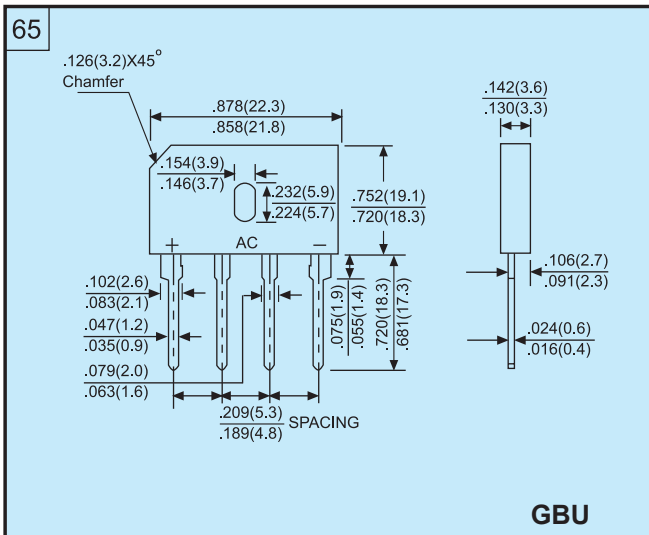
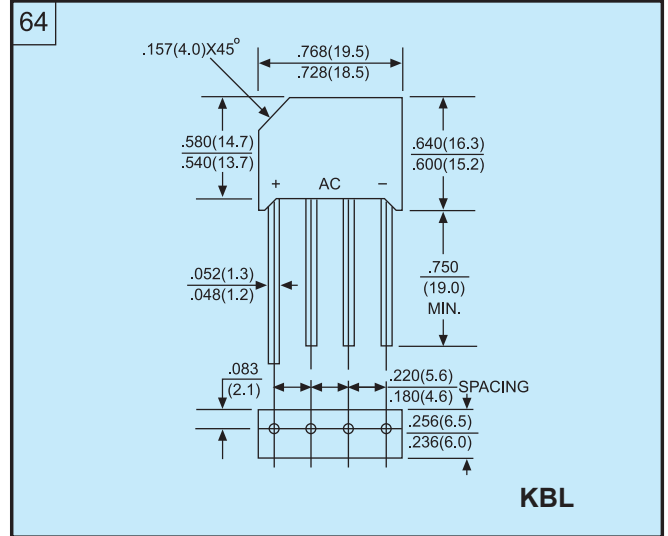
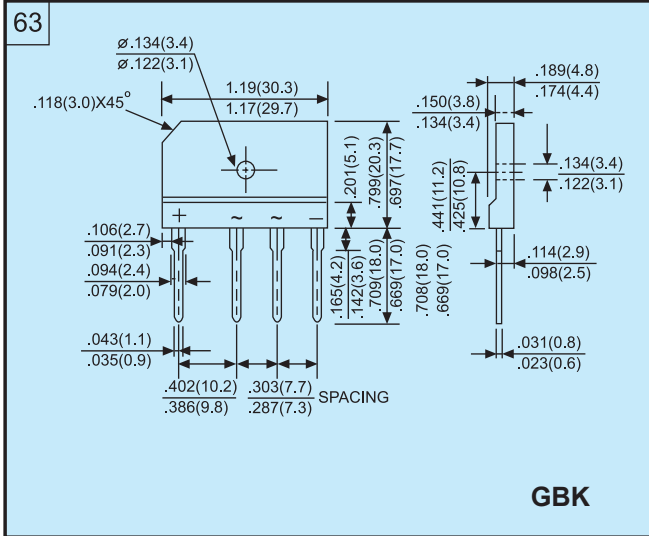
Unit: inch(mm)



Unit: inch(mm)



Unit: inch(mm)



Developing Types - Low VF Products

CATEGORY	IO (A)	PRV (V)	VF (V)	PACKAGE
Low VF Bridge Rectifiers	4 / 6 / 8 / 10	600	0.89	GBJ4-10
	6 / 8 / 10 / 15			GBK
	4 / 6 / 8 / 10 / 15			GBU
	4 / 6 / 8 / 10		0.92	GBJ4-10
	6 / 8 / 10 / 15 / 20			GBK
	4 / 6 / 8 / 10 / 15 / 25			GBU
Low VF SCHOTTKY	5	40	0.43	DO-27 / SMAFL
	1 / 2 / 5	45	0.45	DO-41 / DO-15 / DO-27 / SMA / SMAFL / SOD-123FL
	10			DO-27 / TO-220AB / ITO-220AB / TO-252 / TO-263
	3 / 5 / 8	40	0.47	DO-27 / SMA / SMAFL / SMB / SMC
	15 / 20 / 30	45	0.48	DO-27 / TO-220AB / ITO-220AB / TO-263
	5	60	0.49	SMB
	1 / 2 / 3 / 5 / 8	40 / 60	0.55	DO-41 / DO-15 / DO-27 / SMB
	10 / 20 / 30	60		TO-220AB / ITO-220AB / TO-252 / TO-263
	3	100	0.65	DO-27 / SMA
	5 / 8	100	0.7	DO-27 / SMB
	10 / 16 / 20			TO-220AC / TO-220AB / ITO-220AC / ITO-220AB / TO-252 / TO-263
	20 / 30	100	0.71	TO-220AB / ITO-220AB / TO-263
	20	100	0.75	TO-220AC / ITO-220AC

Discontinued Types

Type No.	Alternative	Package
2KBP005 thru 2KBP10	KBP2005G thru KBP210G	KBP
B125C5000/3300	GBK6A thru GBK6M	GBK
B380C5000/3300		
B40C5000/3300		
B80C5000/3300		
GBL2A thru GBL2M	-	-
KBK6A thru KBK6M	GBK6A thru GBK6M	GBK
KBK8A thru KBK8M	GBK8A thru GBK8M	
KBK10A thru KBK10M	GBK10A thru GBK10M	
KBK15A thru KBK15M	GBK15A thru GBK15M	
KBK20A thru KBK20M	GBK20A thru GBK20M	
KBK25A thru KBK25M	GBK25A thru GBK25M	
RB151 thru RB157	-	-
RC201 thru RC207	-	-
RS101G thru RS107G	KBP005G thru KBP10G	KBP
RS201 thru RS207	KBP2005G thru KBP210G	
RS501 thru RS507	GBK6A thru GBK6M	GBK

AMMO PACK(T/B)

PACKAGE	BOX (EA)	COMPONENT SPACE(m/m)	TAPE SPACE (m/m)	BOX SIZE (m/m) L x W x H	CARTON SIZE (m/m) L x W x H	CARTON (EA)	GROSS WEIGHT(kg)
R-1/A-405/DO-41	2,500	5.0	52	255x78x95	500x265x310	45,000	12.0/13.0/15.0
R-3	1,200					21,600	13.0
DO-15	1,500					27,000	14.0
DO-27/DO-201AE	500	9,000				14.0	
R-6M	250	4,500				12.0	
R-6						13.0	
DO-41(G)	2,500	5.0		255x80x80	410x275x350	50,000	22.0
DO-34/DO-35	5,000					100,000	18.0/20.0
TO-92	2,000	13.2	-	331x184x40	505x405x240	150,000	9.0

BULK PACK(B/P)

PACKAGE	BOX (EA)	INNER BOX SIZE (m/m) L x W x H	CARTON SIZE (m/m) L x W x H	CARTON (EA)	GROSS WEIGHT(kg)
R-1/A-405/DO-41	1,000	185x80x20	450x205x255	50,000	13.0/14.0/16.0
R-3	500			25,000	15.0
DO-15	500			25,000	12.0
DO-27/DO-201AE	250			12,500	18.0
R-6M	100			5,000	12.5
R-6					13.5
DO-34/DO-35	10,000	160x150x75	420x320x195	100,000	16.0
WOM	1,000	255x168x61	330x310x268	10,000	15.5
KBL	500	230x230x54	490x240x192	3,000	19.0
KBU	400			2,400	20.0
KBP	500	200x200x35	445x215x260	6,000	15.0
BR-3/6/MP-6	200	203x203x55	445x215x260	2,000	11.5
MP8			490x240x310		15.0
KBPC-8/10		230x230x50	500x240x300		16.0
MB/MMB/BR/MBR-25	50	203x203x44	445x215x260	500	10.0
MB/MMB/BR/MBR-25(W)					8.0
BR-25L	120				
TBR	50	203x203x44	445x215x260	500	13.0
TO-92	10,000	245x170x100	525x375x270	100,000	24.0

REEL PACK(T/R)

PACKAGE	REEL (EA)	COMPONENT SPACE(m/m)	TAPE SPACE (m/m)	REEL DIA (m/m)	CARTON SIZE (m/m) L x W x H	CARTON (EA)	GROSS WEIGHT(kg)	
R-1/A-405	5,000	5.0	52	330	350x350x440	25,000	10.0/12.0	
DO-41/DO-41(G)							14.0	
R-3	3,000					15,000	14.0	
DO-15	4,000					20,000	14.0	
DO-27/DO-201AE	1,250	9.5				6,250	13.0	
R-6M	500					2,500	9.0	
R-6							10.0	
DO-34/DO-35	10,000					5.0	50,000	13.0
SM-1	5,000	4.0	---	178	370x370x360	80,000	18.0	
SM-2	2,500				350x350x440	100,000	10.0	
SOD-123	3,000				390x240x420	150,000	10.0	
SOD-323					9.5			
SMAFL (7")	3,000				385x385x235	120,000	9.0	
SMA-L (7")	1,800				390x240x420	72,000	8.5	
SMA (7")						72,000	8.5	
SMB (7")	500	20,000				7.5		
SMC (7")		15,000				7.5		
SMAFL (13")	10,000	4.0		330	350x350x230	100,000	8.0	
SMBFL (13")	5,000				50,000	8.5		
SMA-L (13")	7,500				370x370x360	120,000	17.0	
SMA (13")					120,000	17.5		
SMB (13")	3,000	8.0			370x370x360	48,000	14.0	
SMC (13")					42,000	16.5		
SOD-123FL	3,000	4.0			178	385x385x235	180,000	10.0
SOT-23/SOT-323						390x240x420	150,000	10.0/9.5
SOD-523 (7")		420X410X310				240,000	8.18	
TO-252(DPAK)		8.0		330	375X360X390	45,000	19.6	
TO-263(D ² PAK)	800	16			6,400	14.5		
TO-277A	5,000	8.0			375x360x390	80,000	9.0	
Micro Melf	2,500	4.0		178	620x405x215	200,000	13.5	
Quadro Melf							13.5	
Mini Melf(DL-35)							13.5	
Melf(DL-41)	5,000			330	360x360x395	100,000	23.5	
DB-1MS	3,000	8.0			380x380x400	48,000	14.5	
DB-1S	1,500	12.0			18,000	13.0		
0603C	5,000	4.0		178	392x365x188	300,000	11.6	
0805C							12.1	
1206C							13.0	
TBS	5,000	8.0		330	370x370X420	80,000	17.0	
MBFL					392x365x188	100,000	22.5	
ABS					350x350x230	50,000	9.0	
ABF							9.0	
MBF							9.0	
MBS							3,000	30,000

TUBE PACK

PACKAGE	TUBE (EA)	BOX (EA)	INNER BOX SIZE (m/m) L x W x H	CARTON SIZE (m/m) L x W x H	CARTON (EA)	GROSS WEIGHT(kg)
D3K	30	1,500	450x145x73	470x240x310	9,000	25
DB-1	50	2,500			15,000	11
DB-1S		5,000			30,000	17
GBJ2	20	-	-	48x129x137	2,000	7.6
GBJ4-10		-	-	548x226x100	1,000	7.1
GBK	15	-	-	496x224x101	750	7.8
GBP	25	-	-	408x187x128	3,000	7.7
GBU	20	-	-	496x225x90	1,000	6.5
KBP	30	1,200	490x145x85	505x325x195	4,800	17
MBM	100	-	-	548x226x100	20,000	5.9
TO-220A/TO-220	50	1,000	558x148x38	565x225x170	5,000	14.1
TO-251	80	4,000	565x158x55	590x310x180	20,000	8.6
TO-252(DPAK)	80				20,000	8.6
TO-263(D ² PAK)	50	1,000	558x148x38	565x225x170	5,000	11.2
TO-3P	30	360	520x115x60	550x325x135	1,800	14.7