

ENGLISH

Introduction	1
Contents	3-5
Numerical Index	6-7
Cross Sectional Drawings	8-9
End-Use	10-11
Surface Mount Quick Guide	12
Standard Rectifiers	13-17
Fast Recovery Rectifiers	18-22
Clamper/Damper and High Voltage Rectifiers	23
Schottky Rectifiers	24-27
Fast Efficient Rectifiers	28-33
Bridge Rectifiers	34-37
Transient Voltage Suppressors (TVS)	38-58
Load Dump TVS Device	58
Zener Diodes	59-87
Stabilizer, Tuning and DIAC Diodes	88-90
Schottky Diodes	91
Small Signal Switching Diodes	92
Small Signal Bipolar Transistors	93
Small Signal DMOS Transistors	94
Reverse Recovery Time Circuits	95
Pad Layouts / Soldering Process	96-98
Case Drawings	99-107
Taping and Packaging	108-113

FRENCH

Introduction	1
Table des matières	3-5
Index numérique	6-7
Vue éclatée	8-9
Utilisation finale	10-11
Guide rapide pour montage en surface	12
Redresseurs standards	13-17
Redresseurs rapides	18-22
Redresseurs haute tension	23
Redresseurs Schottky	24-27
Redresseurs rapides et efficaces	28-33
Ponts redresseurs	34-37
Suppresseurs de tensions transitoires (TVS)	38-58
Protection "Load Dump"	58
Diodes Zener	59-87
Diodes de stabilisation, Tuners et DIAC	88-90
Diodes Schottky	6-91
Diodes de commutation de signal	92
Transistors bipolaires de signal	93
Transistors DMOS de signal	94
Circuits test de temps de recouvrement	95
Empreintes recommandées pour CMS	96-98
Dimensions des boîtiers	99-107
Mise en bande et conditionnement	108-113

GERMAN

Einführung	1
Inhalt	3-5
Alphanumerischer Index	6-7
Gehäusequerschnitte	8-9
Einsatzbereiche	10-11
SMD-Kurzübersicht	12
Standardgleichrichter	13-17
Schnelle Gleichrichter	18-22
Clamper-/Damper- und Hochspannungsgleichrichter	23
Schottky Gleichrichter	24-27
Superschnelle Gleichrichter	28-33
Brückengleichrichter	34-37
Überspannungsschutzdioden	38-58
“Load Dump” Schutzdioden	58
Zenerdioden	59-87
Stabilisatoren, Tuners und DIAC	88-90
Schottkydioden	91
Kleinsignal Dioden	92
Kleinsignal Bipolartransistoren	93
Kleinsignal DMOS Transistoren	94
Sperrverzugszeitschaltungen	95
Pad Layouts / Lötprofile	96-98
Gehäusezeichnungen	99-107
Gurtung und Verpackung	108-113

CHINESE

序言	1
产品包装	
目录	3-5
型号索引	6-7
产品剖面	8-9
最終用途	10-11
表面安裝品快速指引	12
标准整流器	13-17
快速恢复整流器	18-22
钳位电路/阻尼电路及高压整流器	23
肖特基整流器	24-27
快速高效整流器	28-33
桥式整流器	34-37
过度突波电压抑制器(TVS)	38-58
甩负荷 TVS 装置	58
齐纳二极管	59-87
稳压二极管	88-90
肖特基二极管	91
小信号开关二极管	92
小信号双极晶体管	93
小信号 DMOSD 型金氧半晶体管	94
逆向恢复时间电路	95
底面配置 / 焊接步骤	96-98
外壳图	99-107
包装	108-113

SPANISH

Introducción	1
Contenido	3-5
Índice numérico	6-7
Planos de secciones transversales	8-9
Uso final	10-11
Guía rápida para montaje en superficies	12
Rectificadores estándar	13-17
Rectificadores de recuperación rápida	18-22
Rectificadores de alta tensión y acoplador/amortiguador	23
Rectificadores Schottky	24-27
Rectificadores rápidos y eficaces	28-33
Rectificadores en puente	34-37
Supresores de tensión momentánea (TVS)	38-58
Dispositivos TVS de vuelco de carga	58
Diodo Zener	59-87
Diodos de estabilizadores, sintinizadores y DIAC	88-90
Diodos Schottky	91
Diodos del interruptor de señal pequeña	92
Transistores bipolares de señal pequeña	93
Transistores DMOS de señal pequeña	94
Circuitos temporizadores de recuperación inversa	95
Diseño de atenuadores / Proceso de soldadura	96-98
Planos de la caja	99-107
Encintado y embalaje	108-113

JAPANESE

はじめに	1
製品パッケージ	
目次	3-5
型名インデックス	6-7
内部構造図	8-9
アプリケーション	10-11
面実装デバイス早見表	12
一般整流素子	13-17
高速整流素子	18-22
高圧クランパ/ダンパーダイオード	23
ショットキー整流素子	24-27
高速高効率整流素子	28-33
整流ブリッジダイオード	34-37
サージ吸収素子	38-58
ロードダンプ用デバイス	58
ツェナーダイオード	59-87
スタビライザーダイオード	88-90
ショットキーダイオード	91
小信号スイッチングダイオード	92
小信号バイポーラトランジスター	93
小信号DMOSトランジスター	94
逆回復時間測定回路	95
バッドレイアウト/はんだ付条件	96-98
外形図 (アルファベット順)	99-107
テーピング/梱包形態	108-113

NUMERICAL INDEX

DEVICE	PAGE	DEVICE	PAGE	DEVICE	PAGE
1.5KA6.8 thru 1.5KA43, A	.52	BA157GP thru BA159GP	.18	EGL34A thru EGL34G	.28
1.5KE6.8 thru 1.5KE440, A, CA	.53	BAL series	.92	EGL41A thru EGL41G	.29
1N914	.92	BAS series	.91, 92	EGP10A thru EGP10G	.28
1N3611GP thru 1N3957GP	.13	BAT series	.91	EGP20A thru EGP20G	.29
1N4001 thru 1N4007, GP	.14	BAV series	.92	EGP30A thru EGP30G	.30
1N4148, W, WS	.92	BAW series	.92	EGP50A thru EGP50G	.31
1N4150 thru 1N4151, W	.92	BC series	.93	ES1A thru ES1D	.29
1N4245 thru 1N4249, GP	.14	BS series	.94	ES2A thru ES2G	.29
1N4383GP thru 1N4586GP	.13	BY228	.23	ES3A thru ES3G	.30
1N4448, W	.89	BY251GP thru BY255GP	.16	FE1A thru FE1D	.28
1N4728 thru 1N4764	.60	BY396P thru BY399P	.22	FE2A thru FE2D	.29
1N4933 thru 1N4937, GP	.19	BY500-100 thru BY500-800	.22	FE3A thru FE3D	.30
1N4942 thru 1N4948, GP	.19	BYM10-50 thru BYM10A-1000	.15	FE5A thru FE5D	.31
1N5059 thru 1N5062, GP	.14	BYM11-50 thru BYM11-1000	.20	FE6A thru FE6D	.31
1N5226 thru 1N5267	.61	BYM12-50 thru BYM12-400	.29	FEP16ACT thru FEP16JCT	.32
1N5391 thru 1N5399, GP	.15	BYM13-20 thru BYM13-60	.24	FEP30APT thru FEP30JPT	.33
1N5400 thru 1N5408	.16	BYV26D and BYV26E	.28	FES8AT thru FES8JT	.31
1N5415 thru 1N5420	.21	BYV27-50 thru BYV27-200	.29	FES16AT thru FES16JT	.31
1N5550 thru 1N5552	.16	BYV28-50 thru BYV28-200	.30	G1A thru G1M	.14
1N5614,16, 18, 20, 22	.14	BYV32-50 thru BYV32-200	.32	G2A thru G2M	.15
1N5615, 17,19, 21, 23, GP	.19	BYV95A thru BYV96E	.20	G3A thru G3M	.16
1N5624 thru 1N5627	.16	BYW29-50 thru BYW29-200	.31	G4A thru G4J	.16
1N5711	.91	BYW32 thru BYW36	.20	GBL005 thru GBL10	.36
1N5817 thru 1N5819	.24	BYW32-50 thru BYW32-200	.32	GBPC1005 thru GBPC110	.36
1N5820 thru 1N5822	.25	BYW72 thru BYW76	.21	GBPC12005 thru GBPC1210,W	.37
1N6263	.91	BZT52 series	.65	GBPC15005 thru GBPC1510,W	.37
1N6478 thru 1N6484	.14	BZV55 series	.66	GBPC25005 thru GBPC2510, W	.37
1N746A thru 1N759A	.62	BZW04-256 thru BZW04-376, P	.42	GBPC35005 thru GBPC3510, W	.37
1N957B thru 1N992B	.63	BZW04-40 thru BZW04-256, P	.41	GBPC6005 thru GBPC610	.36
2KBP005M thru 2KBP10M	.35	BZW04-5V8 thru BZW04-40, P	.40	GBU4A thru GBU4M	.36
2N4124	.93	BZX55 series	.67	GBU6A thru GBU6M	.36
2N4126	.93	BZX79 series	.68	GBU8A thru GBU8M	.37
2N7000	.94	BZX84 series	.69	GF1A thru GF1M	.15
2N7002	.94	BZX85 series	.70	GI1001 thru GI1004	.28
2W005G thru 2W10G	.35	BZY97 series	.71	GI1101 thru GI1104	.30
3N246 thru 3N259	.35	CG1 thru CG3	.23	GI1401 thru GI1404	.31
5KP5.0 thru 5KP110, A	.57	DF005M thru DF10M	.34	GI1-1200 thru GI1-1600	.23
6KA24	.58	DF005S thru DF10S	.34	GI2401 thru GI2404	.32
AZ23 series	.64	DG1 thru DG3	.23	GI250-1 thru GI250-4	.23
B40C800DM thru B380C800DM	.34	DZ23 series	.61	GI500 thru GI510	.16
B40C800G thru B380C800G	.34	EDF1AM thru EDF1DM	.34	GI750 thru GI758	.17
B40C1000G thru B4380C1000G	.34	EDF1AS thru EDF1DS	.34	GI810 thru GI818	.19
B40C1500G thru B380C1500G	.35	EGF1A thru EGF1D	.29	GI820 thru GI828	.22

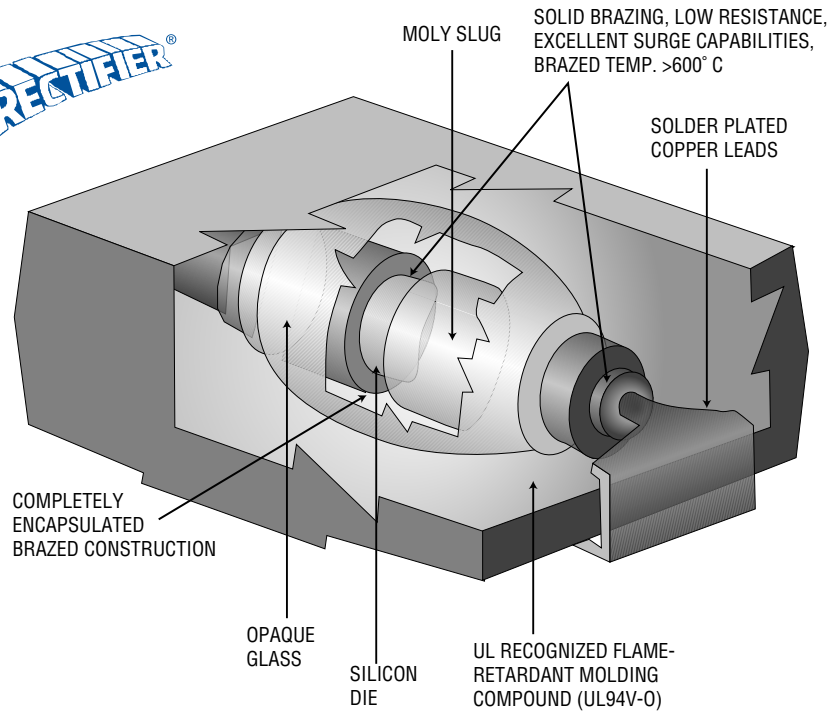
NUMERICAL INDEX

DEVICE	PAGE	DEVICE	PAGE	DEVICE	PAGE
GI850 thru GI856	.21	P6KE6.8 thru P6KE440, A, CA	.49	SMAJ5.0 thru SMAJ170,CA	.38
GI910 thru GI917	.21	RG1A thru RG1M	.19	SMBJ/G5.0 thru SMBJ/G170, A, CA	.50
GL34A thru GL34J	.13	RG2A thru RG2M	.20	SMCJ/G5.0 thru SMCJ/G170, A, CA	.55
GL41A thru GL41Y	.14	RG3A thru RG3M	.21	SML4735 thru SML4763	.76
GLL4735 thru GLL4763	.72	RG4A thru RG4J	.21	SMZG/J3789 thru SMZG/J3809A, B	.77
GP02-20 thru GP02-40	.23	RGF1A thru RGF1M	.20	SRP100A thru SRP100K	.19
GP08A thru GP08J	.13	RGL34A thru RGL34J	.18	SRP300A thru SRP300K	.22
GP10A/E thru GP10M/E	.13	RGL41A thru RGL41M	.19	SRP600A thru SRP600K	.22
GP10N thru GP10Y	.13	RGP02-12E thru RGP02-20E	.18	SS12 thru SS16	.24
GP15A thru GP15M	.15	RGP10A/E thru RGP10M/E	.18	SS22 thru SS26	.24
GP20A thru GP20J	.15	RGP15A thru RGP15M	.20	SS32 thru SS36	.25
GP25A thru GP25M	.15	RGP20A thru RGP20J	.20	SUF30G and SUF30J	.30
GP30A thru GP30M	.16	RGP25A thru RGP25M	.21	TGL41-6.8 thru TGL41-200, A	.39
ICTE-5 thru ICTE-15, C	.54	RGP30A thru RGP30M	.21	TMPG06-6.8 thru TMPG06-43, A	.43
IMBD4148, 4448	.92	RMB2S thru RMB6S	.34	TPSMA6.8 thru TPSMA43, A	.45
KBL005 thru KBL10	.36	RMPG06A thru RMPG06J	.18	TPSMB6.8 thru TPSMB43, A	.51
KBP005M thru KBP10M	.35	RS1A thru RS1K	.20	TPSMC6.8 thru TPSMC43, A	.56
KBU4A thru KBU4M	.36	RS2A thru RS2M	.20	UF4001 thru UF4007	.28
KBU6A thru KBU6M	.36	RS3A thru RS3K	.21	UF5400 thru UF5408	.30
KBU8A thru KBU8M	.37	S1A thru S1M	.15	UG06A thru UG06D	.28
LCE6.5 thru LCE28,A	.54	S2A thru S2M	.15	UG1A thru UG1D	.28
LL series	.91, 92	S3A thru S3M	.15	UG2A thru UG2D	.29
LL1.5 thru LL2.4	.88	SA5.0 thru SAB170C,A	.46	UG4A thru UG4D	.30
M100A thru M100M	.14	SAC5.0 thru SAC50	.47	UG8AT thru UG8JT	.31
MB2S thru MB6S	.34	SB020 thru SB040	.24	UG10ACT thru UG10GCT	.32
MBR1035 thru MBR1060	.25	SB120 thru SB160	.24	UG18ACT thru UG18DCT	.32
MBR1535CT thru MBR1560CT	.26	SB320 thru SB360	.24	UG30APT thru UG30DPT	.33
MBR1635 thru MBR1660	.25	SB520 thru SB560	.25	US1A thru US1J	.29
MBR2035CT thru MBR2060CT	.26	SBL1030 and SBL1040	.25	W005G thru W10G	.35
MBR2535CT thru MBR2560CT	.26	SBL1030CT and SBL1040CT	.26	Z4KE100 thru Z4KE200, A	.78
MBR3035PT thru MBR3060PT	.27	SBL1630CT and SBL1640CT	.26	ZGL41-100 thru ZGL41-200, A	.73
MBR4035PT thru MBR4060PT	.27	SBL2030CT and SBL2040CT	.26	ZM4728 thru ZM4764	.79
MBR735 thru MBR760	.25	SBL2030PT and SBL2040PT	.27	ZMM1 thru ZMM75	.80
MMBT3904, 3906	.93	SBL25L20CT thru SBL25L30CT	.26	ZMM5225 thru ZMM5267	.81
MMBZ5225 thru MMBZ5267	.74	SBL3030PT and SBL3040PT	.27	ZMU100 thru ZMU180	.82
MMSZ5225 thru MMSZ5267	.75	SBL4030PT and SBL4040PT	.27	ZMY1 thru ZMY100	.83
MPG06A thru MPG06M	.13	SD101, 103, 104 series	.91	ZPD1 thru ZPD75	.84
NS8AT thru NS8MT	.17	SD241P	.27	ZPU100 thru ZPU180	.85
P300A thru P300M	.17	SGL41-20 thru SGL41-60	.24	ZPY1 thru ZPY68	.86
P4KA6.8 thru P4KA43, A	.43	SL12 and SL13	.24	ZTE1.5 thru ZTE2.4	.89
P4KE6.8 thru P4KE440, A, CA	.44	SL22 and SL23	.24	ZTK11 thru ZTK33	.90
P600A thru P600M	.17	SL42 and SL43	.25	ZY11 thru ZY68	.87
P6KA6.8 thru P6KA43, A	.48	SM5A27 thru SM8A27	.58		

CROSS SECTIONAL DRAWINGS

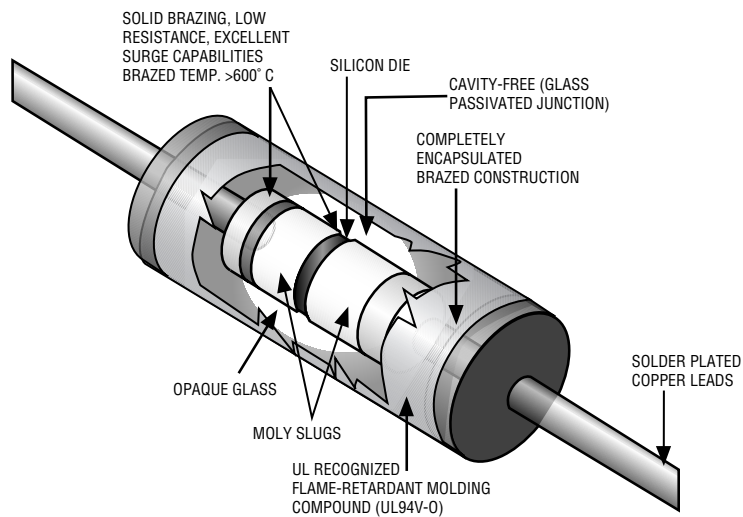
SUPERRECTIFIER®

(GF1 / RGF1 / EGF1)



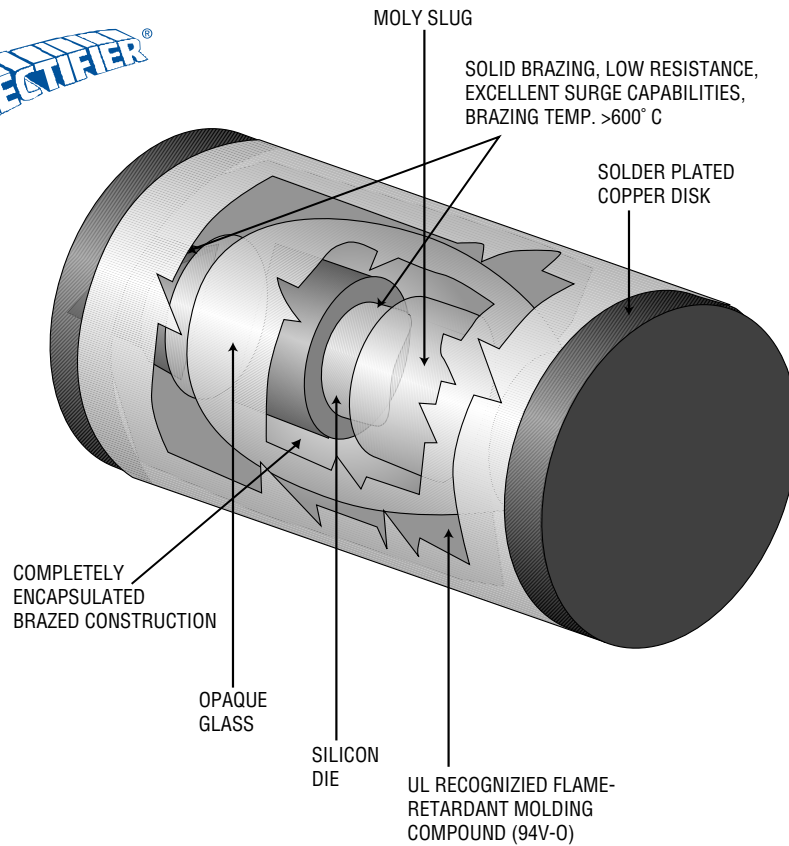
SUPERRECTIFIER®

(STD / FAST REC. / FER)

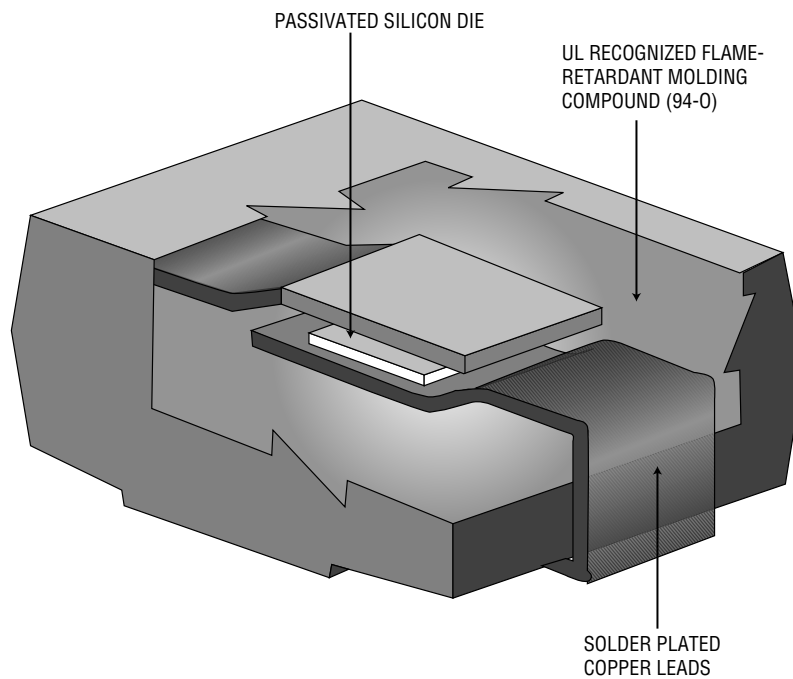


CROSS SECTIONAL DRAWINGS

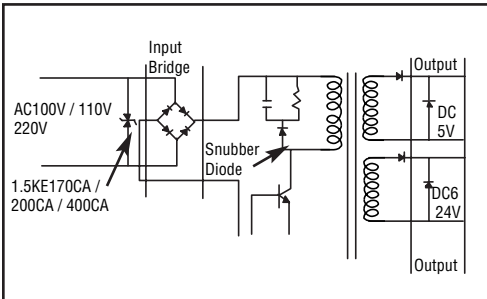
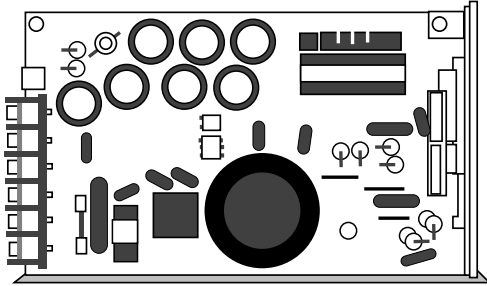
(GL41 / RGL41 / EGL41)



SMA / SMB / SMC (STD / FAST REC. / FER / SCHOTTKY / TVS)



SWITCHING POWER SUPPLY



END-USE	IF(AV) to	V(BR)		
		400V	600V	800V
INPUT BRIDGE (A)	1.0A	DF04M	DF06M	DF08M
	1.5A	W04G	W06G	W08G
	2.0A	KBP04M	KBP06M	KBP08M
	4.0A	GBU4G	GBU4J	GBU4K
	6.0A	GBU6G	GBU6J	GBU6K
OUTPUT / SNUBBER	8.0A	GBU8G	GBU8J	GBU8K
	1.0A		RGP10J	RGP10K
	1.5A		RGP15J	RGP15K
	3.0A		RGP30J	RGP30K
	5.0A		FEP6JT	
	10A		FEP16JT	
(5V) OUTPUT	30A		FEP30JT	
	0.5A		40V	60V
(5V) OUTPUT	1.0A		SB040	
	3.0A		SB140	SB160
	10A		SB340	SB360
	15A		SBL1040CT	
	30A		SBL1640CT	MBR1560CT
OUTPUT (>100V) / SNUBBER			SBL3040CT	MBR3060CT
	1.0A		800V	1000V
	1.0A		UF4006	UF4007
	1.5A		RGP10K	RGP10M
	3.0A		RGP15K	RGP15M
OUTPUT (>100V) / SNUBBER	3.0A		RGP30K	RGP30M
	3.0A		UF5407	UF5408

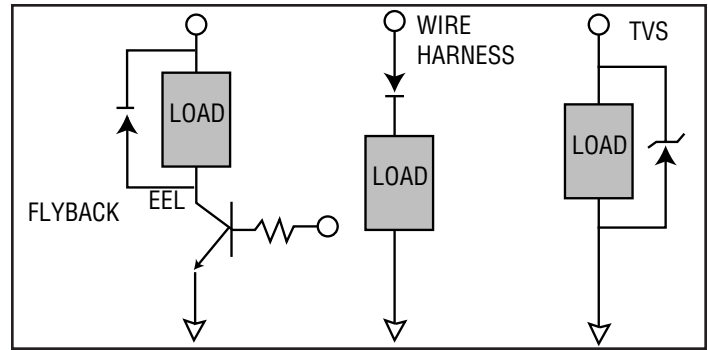
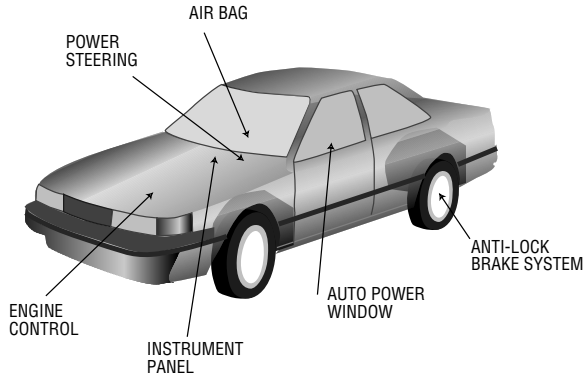
FLUORESCENT LIGHTING



END-USE	IF(AV) to	V(BR)			
		400V	600V	800V	
INPUT BRIDGE	0.5A	MB4S	MB6S		
	1.0A	DF04S	DF06S	DF08S	
	1.0A	DF04M	DF06M	DF08M	
	1.5	KBP04M	KBP06M	KBP08M	
	2.0	2KBP04M	2KBP06M	2KBP08M	
	4.0A	GBU4G	GBU4J	GBU4K	
INVERTER CIRCUITRY	6.0A	GBU6G	GBU6J	GBU6K	
	1.0A	RMPG06G	RMPG06J	RMPG06K	
	1.0A	RGP10G	RGP10J	RGP10K	
	1.5A	RGP15G	RGD15J	RGP15K	
	3.0A	RGP30G	RGP30J	RGP30K	
	1.0A	RS1G	RS1J	RGF1K	
	1.0A	EGP10G			
	1.0A	UF4004	UF4005	UF4006	
	OUTPUT CIRCUITRY	2.0A	EGP20G		
		3.0A	EGP30G	UF5406	UF5407
CONTROL CIRCUITRY	0.4A	RGP10G/EGP10G	RGP02-16E	1,600V	
	1.0A		RGP02-18E	1,800V	
				CG1	1,400V
		DG1	1,500V		

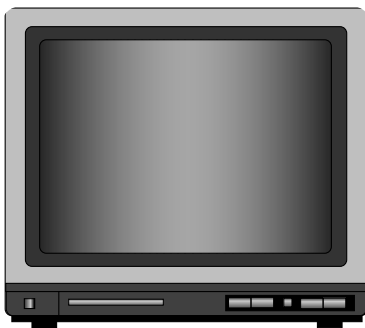
General Semiconductor manufactures a wide range of rectifier products which are ideal for all inverter fluorescent and ballast lamp applications.

AUTOMOTIVE

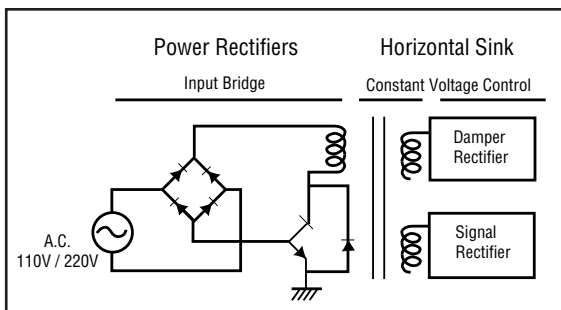


END-USE	$V_{(BR)}$ to	400V	600V	DEVICE TYPE
	1.0A	GP10G(E)	GP10J(E)	GENERAL USE
AIR BAG	1.0A	MPG06G	MPG06J	
POWER STEERING	3.0A	GP30G	GP30J	
INSTRUMENT PANEL	1.0A	G1G	G1J	
ENGINE CONTROL	3.0A	G4G	G4J	
	3.0A	G3G	G3J	
	1.0W	TMPG06-6.8 - 33		TVS
	1.5W	1.5KE12 - 33		
	5.0W	5KP24 - 33		

TELEVISION



END-USE	$V_{(BR)}$ to	600V	800V	DEVICE TYPE
POWER RECTIFIERS	INPUT	4.0A	GBU4J	GBU4K
	BRIDGE	6.0A	GBU6J	GBU6K
CONSTANT VOLTAGE CONTROL	1.5A	GP15J	GP15K	
	3.0A	GP30J	GP30K	
	1.0A	RGP10J	RGP10K	
	1.0A	RMPG06J		
	1.5A	RGP15J	RGP15K	
	3.0A	RGP30J	RGP30K	
	1.0A	UF4005	UF4006	UF4007 (1000V)
	3.0A	UF5406	UF5407	UF5408 (1000V)
	6.0A	FEP6J		
	10A	FEP16J		
	0.6A			SB040 (40V)
	1.0A			SB140 (40V)
3.0A				
0.5A			RGP02-17E (1,700V)	
3.0A			DG3 (1,500V)	
1.0A	RMPG06J			
1.0A	RGP10J	RGP10K		
1.0A	UF4005	UF4006		
3.0A	UF5406	UF5407		



SURFACE MOUNT QUICK GUIDE

Series	Type	Voltage (V)	Current or Power	t _{rr} (s)	Case
GL34*	Standard	50-600	0.5A	---	MELF/DO-213AA
EGL34*	Fast Efficient	50-400	0.5A	50n	MELF/DO-213AA
BYM07	Fast Efficient	50-400	0.5A	50n	MELF/DO-213AA
RGL34*	Fast Recovery	50-600	0.5A	150/250n	MELF/DO-213AA
MB-S	Standard Bridge	200-600	0.5A	2.0μ	SM MINI-DIP/ITO-269AA
1N64XX*	Standard	50-1000	1.0A	---	MELF/DO-213AB
GL41*	Standard	50-1600	1.0A	---	MELF/DO-213AB
BYM10*	Standard	50-1000	1.0A	---	MELF/DO-213AB
BYM11*	Fast Recovery	50-1000	1.0A	150-500n	MELF/DO-213AB
BYM13	Schottky	20-60	1.0A	---	MELF/DO-213AB
SGL41	Schottky	20-60	1.0A	---	MELF/DO-213AB
RGL41*	Fast Recovery	50-1000	1.0A	150-500n	MELF/DO-213AB
EGL41*	Fast Efficient	50-400	1.0A	50n	MELF/DO-213AB
BYM12*	Fast Efficient	50-400	1.0A	50n	MELF/DO-213AB
GF1*	Standard	50-1000	1.0A	2.5μ	DO-214BA modified
RGF1*	Fast Recovery	50-1000	1.0A	150-500n	DO-214BA modified
EGF1*	Fast Efficient	50-200	1.0A	50n	DO-214BA modified
S1	Standard	50-600	1.0A	---	SMA/DO-214AC
RS1	Fast Recovery	50-600	1.0A	150-250n	SMA/DO-214AC
ES1	Fast Efficient	50-200	1.0A	15n	SMA/DO-214AC
SS1, SL1	Schottky	20-60	1.0A	---	SMA/DO-214AC
EDF1XS	Efficient Bridge	50-200	1.0A	50n	SM DIP
DFXS	Standard Bridge	50-1000	1.0A	2.5μ	SM DIP
S2	Standard	50-1000	1.5A	2.0μ	SMB/DO-214AA
RS2	Fast Recovery	50-800	1.5A	150-500n	SMB/DO-214AA
ES2	Fast Efficient	50-200	2.0A	20n	SMB/DO214AA
SS2, SL2	Schottky	20-60	2.0A	---	SMB/DO-214AA
S3	Standard	50-1000	2.5A	2.5μ	SMC/DO-214AB
RS3	Fast Recovery	50-800	2.5A	150-250n	SMC/DO-214AB
ES3	Fast Efficient	50-200	3.0A	20n	SMC/DO-214AB
SS3	Schottky	20-60	3.0A	---	SMC/DO-214AB
GLL47XX	Zener	6.2-91.0	1.0W	---	MELF/DO213AB
ZGL41	Zener	100-200	1.0W	---	MELF/DO213AB
SMZG,J	Zener	10.0-68.0	1.5W	---	SMB/DO214AA/215AA
TGL41	TVS	5.0-170.0	300 W	---	MELF/DO-213AB
SMAJ	TVS	5.0-170.0	300 W	---	SMA/DO-214AC
SMBG,J**	TVS	5.0-170.0	600 W	---	SMB/DO-214AA/ DO-215AA
SMCG,J**	TVS	5.0-170.0	1500 W	---	SMC/DO-214AB/ DO-215AB

*Indicates SUPERECTIFIER® structure

**Available with "J-bend" leads or "Gull- Wing" leads

New Small Signal Surface Mount Packages

TO-263AB (SOT-23): Zeners, Schottky Diodes, Switching Diodes, Bipolar Transistors, DMOS Transistors
 SOD-123: Schottky Diodes, Switching Diodes
 SOD-323: Schottky Diodes, Switching Diodes
 DO-213AB (Glass MELF): Zeners
 SOD-80C (Glass mini-MELF): Zeners, Schottky Diodes, Switching Diodes

STANDARD RECTIFIERS

I _o (A)	0.5	0.8	1.0		
CASE TYPE	DO-213AA MINI-MELF	DO-204AL	MPG06	DO-204AL	DO-204AC
V _{RRM} (VOLTS)					
50	GL34A	GP08A	MPG06A#	(1)GP10A/E	
100	GL34B	GP08B	MPG06B#	(1)GP10B/E	
200	GL34D	GP08D	MPG06D#	(1)GP10D/E 1N3611GP	1N4383GP
300					
400	GL34G	GP08G	MPG06G#	(1)GP10G/E 1N3612GP	1N4384GP
500					
600	GL34J	GP08J	MPG06J#	(1)GP10J/E 1N3613GP	1N4385GP
700					
800			MPG06K#	(1)GP10K/E 1N3614GP	1N4585GP
1000			MPG06M#	(1)GP10M/E 1N3957GP	1N4586GP
1100-1600				GP10N- GP10Y**	
SURGE (A)	10.0	25.0	40.0	30.0/25.0	50.0

Notes:




#Uses glass passivated chips

Shaded area indicates SUPERRECTIFIER®

** Up to 1600 volts available with GP10 series

(1) "E" Suffix indicates .026"/.023" (.66/.58mm) diameter leads which are available upon request

STANDARD RECTIFIERS (cont.)

I _o (A)	1.0					
CASE TYPE	DO-204AP				DO-204AL	DO-213AB MELF
VRRM (VOLTS)						
50				G1A	1N4001* / M100A	1N6478 / GL41A
100				G1B	1N4002* / M100B	1N6479 / GL41B
200	1N4245*	1N5059*	1N5614	G1D	1N4003* / M100D	1N6480 / GL41D
300						
400	1N4246*	1N5060*	1N5616	G1G	1N4004* / M100G	1N6481 / GL41G
500						
600	1N4247*	1N5061*	1N5618	G1J	1N4005* / M100J	1N6482 / GL41J
700						
800	1N4248*	1N5062*	1N5620	G1K	1N4006* / M100K	1N6483 / GL41K
1000	1N4249*		1N5622	G1M	1N4007* / M100M	1N6484 / GL41M
1100-1600						GL41T / GL41Y**
SURGE (A)	25.0	50.0	50.0	50.0	30.0/50.0	30.0 / 25.0









Notes:

 Shaded area indicates SUPERECTIFIER®

* Also available in SUPERECTIFIER® by adding "GP" suffix, or with .026"/.023" (.66/.58mm) lead diameters by adding suffix letters "GPE"

** Up to 1600 Volts available with GL41 series

STANDARD RECTIFIERS (cont.)

Io (A)	1.0			1.5			2.0		2.5	3.0
CASE TYPE	DO-213AB MELF	DO-214AC SMA	DO-214BA	DO-204AC		DO-214AA SMB	GP20	DO-204AP	DO-201AD	DO-214AB SMC
VRRM (VOLTS)										
50	⁽¹⁾ BYM10-50	S1A#	GF1A	GP15A	1N5391*	S2A#	GP20A	G2A	GP25A	S3A#
100	⁽¹⁾ BYM10-100	S1B#	GF1B	GP15B	1N5392*	S2B#	GP20B	G2B	GP25B	S3B#
200	⁽¹⁾ BYM10-200	S1D#	GF1D	GP15D	1N5393*	S2D#	GP20D	G2D	GP25D	S3D#
300					1N5394*					
400	⁽¹⁾ BYM10-400	S1G#	GF1G	GP15G	1N5395*	S2G#	GP20G	G2G	GP25G	S3G#
500					1N5396*					
600	⁽¹⁾ BYM10-600	S1J#	GF1J	GP15J	1N5397*	S2J#	GP20J	G2J	GP25J	S3J#
700										
800	⁽¹⁾ BYM10A-800	S1K#	GF1K	GP15K	1N5398*	S2K#		G2K	GP25K	S3K#
1000	⁽¹⁾ BYM10A-1000	S1M#	GF1M	GP15M	1N5399*	S2M#		G2M	GP25M	S3M#
1100-1600										
SURGE (A)	30.0	30.0	30.0	50.0	50.0	50.0	80.0	50.0	100.0	100.0

Notes:





#Uses glass passivated chips

 Shaded area indicates SUPERRECTIFIER®

* Also available in SUPERRECTIFIER® by adding "GP" suffix

(1) BYM10, A-XXX numbers (European designations) are equivalent to the GL41 series

STANDARD RECTIFIERS (cont.)




Io (A)	3.0							
CASE TYPE	DO-201AD		G3		G4		DO-201AD	
VRRM (VOLTS)								
50	GP30A			G3A		G4A	GI500	1N5400
100	GP30B			G3B		G4B	GI501	1N5401
200	GP30D	BY251GP	1N5624*	G3D	1N5550	G4D	GI502	1N5402
300								1N5403
400	GP30G	BY252GP	1N5625*	G3G	1N5551	G4G	GI504	1N5404
500								1N5405
600	GP30J	BY253GP	1N5626*	G3J	1N5552	G4J	GI506	1N5406
700								
800	GP30K	BY254GP	1N5627*	G3K			GI508	1N5407
1000	GP30M			G3M			GI510	1N5408
1100-1600		BY255GP						
SURGE (A)	125.0	100.0	125.0	125.0	125.0	125.0	100.0	200.0

Notes:

 Shaded area indicates SUPERECTIFIER®

* Also available in SUPERECTIFIER® by adding "GP" suffix


STANDARD RECTIFIERS (cont.)

I _o (A)	3.0	6.0		8.0
CASE TYPE	DO-210AD	P600		TO-220AC
V _{RRM} (VOLTS)				
50	P300A	P600A	GI750	NS8AT#
100	P300B	P600B	GI751	NS8BT#
200	P300D	P600D	GI752	NS8DT#
300				
400	P300G	P600G	GI754	NS8GT#
500				
600	P300J	P600J	GI756	NS8JT#
700				
800	P300K	P600K	GI758	NS8KT#
1000	P300M	P600M		NS8MT#
SURGE (A)	200.0	400.0	400.0	175.0

Note:

#Uses glass passivated chips

FAST RECOVERY RECTIFIERS

I _o (A)	0.5			1.0	
CASE TYPE	DO-204AL		DO-213AA MINI-MELF	MPG06	DO-204AL
V _{RRM} (VOLTS)					
50			RGL34A	RMPG06A#	RGP10A/E ⁽¹⁾
100			RGL34B	RMPG06B#	RGP10B/E ⁽¹⁾
200			RGL34D	RMPG06D#	RGP10D/E ⁽¹⁾
300					
400		BA157GP	RGL34G	RMPG06G#	RGP10G/E ⁽¹⁾
500					
600		BA158GP	RGL34J	RMPG06J#	RGP10J/E ⁽¹⁾
700					
800		BA159DGP			RGP10K/E ⁽¹⁾
1000		BA159GP			RGP10M/E ⁽¹⁾
1100					
1200- 2000	RGP02-12E ⁽¹⁾ RGP02-20E				
SURGE (A)	20.0	20.0	10.0	40.0	30.0
t _{rr} (ns)	300 (*ckt #1)	150-500 (*ckt #1)	150-250 (*ckt #1)	150-200 (*ckt #1)	150-500 (*ckt #1)

Notes:





(1) "E" suffix indicates .026"/.023" (.66 / 58mm) diameter leads which are available upon request

#Uses glass passivated chips

☐ Shaded area indicates SUPERRECTIFIER®

*Circuits are on page 95

FAST RECOVERY RECTIFIERS (cont.)

Io (A)	1.0						
CASE TYPE	DO-204AC	DO-204AP			DO-204AL		DO-213AB MELF
VRRM (VOLTS)							
50	GI810		RG1A		SRP100A	1N4933*	RGL41A
100	GI811		RG1B		SRP100B	1N4934*	RGL41B
200	GI812	1N5615*	RG1D	1N4942*	SRP100D	1N4935*	RGL41D
300							
400	GI814	1N5617*	RG1G	1N4944*	SRP100G	1N4936*	RGL41G
500							
600	GI816	1N5619*	RG1J	1N4946*	SRP100J	1N4937*	RGL41J
700							
800	GI817	1N5621*	RG1K	1N4947	SRP100K		RGL41K
1000	GI818	1N5623*	RG1M	1N4948*			RGL41M
1100							
SURGE (A)	30.0	50.0	30.0	25.0	30.0	30.0	30.0
t_{rr} (ns)	750 (**ckt #2)	150-500 (**ckt #1)	150-500 (**ckt #1)	150-500 (**ckt #1)	100-200 (**ckt #1)	200 (**ckt #2)	150-500 (**ckt #1)








Notes:

■ Shaded area indicates SUPERRECTIFIER®

* Also available in SUPERRECTIFIER® by adding "GP" suffix

**Circuits are on page 95

FAST RECOVERY RECTIFIERS (cont.)

Io (A)	1.0			1.5			2.0		
VRRM (VOLTS)	DO-213AB MELF 	DO-214AC 	DO-214BA 	DO-204AC	DO-204AP 	DO-214AA 	GP20 	DO-204AP 	
50	BYM11-50 ⁽¹⁾	RS1A#	RGF1A	RGF15A		RS2A#	RGF20A	RG2A	
100	BYM11-100 ⁽¹⁾	RS1B#	RGF1B	RGF15B		RS2B#	RGF20B	RG2B	
200	BYM11-200 ⁽¹⁾	RS1D#	RGF1D	RGF15D	BYV95A	RS2D#	RGF20D	RG2D	BYW32
300									BYW33
400	BYM11-400 ⁽¹⁾	RS1G#	RGF1G	RGF15G	BYV95B	RS2G#	RGF20G	RG2G	BYW34
500									BYW35
600	BYM11-600 ⁽¹⁾	RS1J#	RGF1J	RGF15J	BYV95C	RS2J#	RGF20J	RG2J	BYW36
700									
800	BYM11-800 ⁽¹⁾	RS1K#	RGF1K	RGF15K	BYV96D	RS2K#		RG2K	
1000	BYM11-1000 ⁽¹⁾		RGF1M	RGF15M	BYV96E	RS2M#		RG2M	
SURGE (A)	30.0	30.0	30.0	50.0	35.0	50.0	80.0	50.0	50.0
trr(ns)	150-500 (*ckt #1)	150-250 (*ckt #1)	150-500 (*ckt #1)	150-500 (*ckt #1)	250-500 (*ckt #1)	150-500 (*ckt #1)	150-500- (*ckt #1)	150-500 (*ckt #1)	200 (*ckt #1)

Notes:






■ Shaded area indicates SUPERRECTIFIER®

(1) BYM11-XX numbers (European designations) are equivalent to the RGL41 series

#Uses glass passivated chips

*Circuits are on page 95

FAST RECOVERY RECTIFIERS (cont.)

I _o (A)	2.5		3.0						
CASE TYPE	DO-201AD		DO-214AB	G3		G4		DO-201AD	
V _{RRM} (VOLTS)									
50	RGP25A	RGP30A	RS3A#	RG3A		1N5415	RG4A	GI910	GI850
100	RGP25B	RGP30B	RS3B#	RG3B		1N5416	RG4B	GI911	GI851
200	RGP25D	RGP30D	RS3D#	RG3D	BYW72	1N5417	RG4D	GI912	GI852
300					BYW73				
400	RGP25G	RGP30G	RS3G#	RG3G	BYW74	1N5418	RG4G	GI914	GI854
500					BYW75	1N5419			
600	RGP25J	RGP30J	RS3J#	RG3J	BYW76	1N5420	RG4J	GI916	GI856
700									
800	RGP25K	RGP30K	RS3K#	RG3K				GI917	
1000	RGP25M	RGP30M		RG3M					
SURGE (A)	100.0	125.0	100.0	100.0	60.0	80.0	100.0	100.0	100.0
t_{rr} (ns)	150-500 (*ckt #1)	150-500 (*ckt #1)	150-500 (*ckt #1)	150-500 (*ckt #1)	200.0 (*ckt #1)	150-400 (*ckt #1)	150-500 (*ckt #1)	750 (*ckt #2)	200 (*ckt #2)





Notes:

 Shaded area indicates SUPERRECTIFIER®

#Uses glass passivated chips

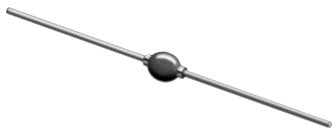

*Circuits are on page 95

FAST RECOVERY RECTIFIERS (cont.)


I _o (A)	3.0		5.0		6.0
CASE TYPE	DO-201AD		P600	DO-201AD	P600
V _{RRM} (VOLTS)					
50	SRP300A		GI820		SRP600A
100	SRP300B	BY396P	GI821	BY500-100	SRP600B
200	SRP300D	BY397P	GI822	BY500-200	SRP600D
300					
400	SRP300G	BY398P	GI824	BY500-400	SRP600G
500					
600	SRP300J		GI826	BY500-600	SRP600J
700					
800	SRP300K	BY399P	GI828	BY500-800	SRP600K
SURGE(A)	150.0	100.0	300.0	200.0	300.0
t_{rr} (ns)	100-200 (*ckt #1)	500 (*ckt #3)	200 (*ckt #2)	200 (*ckt #2)	100-200 (*ckt #1)

*Circuits are on page 95

GLASS PASSIVATED CLAMPER/DAMPER RECTIFIERS

Io (A)	1.0	1.5	2.0	2.5	3.0			
CASE TYPE	DO-204AP				G3			
								
VRRM (VOLTS)								
1200	GI1-1200							
1400	GI1-1400	CG1		CG2		CG3		
1500			DG1		DG2	BY228	DG3	
1600	GI1-1600							
t _{rr} (μs)	25.0 (*ckt #4)	15.0 (*ckt #4)	20.0 (*ckt #4)	15.0 (*ckt #4)	20.0 (*ckt #4)	20.0 (*ckt #4)	15.0 (*ckt #4)	20.0 (*ckt #4)
SURGE (A)	30.0	40.0	40.0	50.0	50.0	100.0	100.0	100.0

HIGH VOLTAGE RECTIFIERS







Io (A)	0.25	
CASE TYPE	DO-204AL	
		
VRRM (VOLTS)		
1000		GI250-1
1200		
2000	GP02-20	GI250-2
2500	GP02-25	
3000	GP02-30	GI250-3
3500	GP02-35	
4000	GP02-40	GI250-4
SURGE(A)	15.0	15.0

Note:

 Shaded area indicates SUPERRECTIFIER®

*Circuits are on page 95





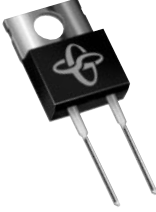


SCHOTTKY RECTIFIERS

I_o (A)	0.6	1.0				2.0		3.0	
CASE TYPE	MPG06	DO-204AL		DO-213AB MELF	DO-214AC SMA		DO-214AA SMB		DO-201AD
V_{RRM} (VOLTS)									
20	SB020	SB120	1N5817	SGL41-20 ⁽¹⁾ BYM13-20	SS12	SL12	SS22	SL22	SB320
30	SB030	SB130	1N5818	SGL41-30 ⁽¹⁾ BYM13-30	SS13	SL13	SS23	SL23	SB330
40	SB040	SB140	1N5819	SGL41-40 ⁽¹⁾ BYM13-40	SS14		SS24		SB340
50		SB150		SGL41-50 ⁽¹⁾ BYM13-50	SS15		SS25		SB350
60		SB160		SGL41-60 ⁽¹⁾ BYM13-60	SS16		SS26		SB360
MAX V_F (volts)	0.55	0.50 / 0.70	0.45 / 0.60	0.50 / 0.70	0.5 / 0.75	0.445	0.5 / 0.70	0.44	0.50 / 0.74
I_R (mA) T_A=+25°C	0.50	0.50	1.0	0.50	0.20/0.50	0.20	0.50	0.40	0.50
I_R (mA) T_A=+100°C	10.0	10.0 / 5.0	10.0	10.0	10.0 / 5.0	6.0	20.0 / 10.0	10.0	20.0
SURGE(A)	20.0	40.0	25.0	30.0	30.0		50.0		80.0

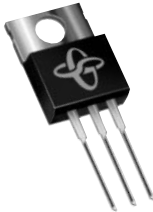

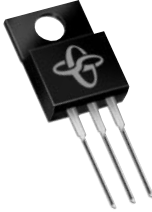
Note:

⁽¹⁾ BXM13-XX numbers (European designations) are equivalent to the SGL41 series

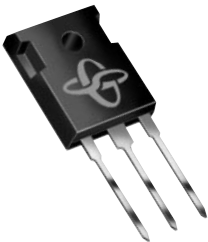
SCHOTTKY RECTIFIERS (cont.)

Io (A)	3.0		4.0	5.0	7.5	10.0		16.0
CASE TYPE	DO-201AD	DO-214AB SMC	DO-214AB SMC	DO-201AD	TO-220AC	TO-263AB "B" Prefix ex. SBLBxxx		ITO-220AC "F" Prefix ex. SBLFxxx
VRRM (VOLTS)								
20	1N5820	SS32	SL42	SB520				
30	1N5821	SS33	SL43	SB530		SBL1030		
35					MBR735		MBR1035	MBR1635
40	1N5822	SS34		SB540		SBL1040	MBR1045	
45					MBR745		MBR1050	MBR1645
50		SS35		SB550	MBR750		MBR1060	MBR1650
60		SS36		SB560	MBR760			MBR1660
MAX VF (volts)	0.475 / 0.52	0.5 / 0.75	0.42	0.55 / 0.67		0.60	0.84 / 0.95	0.63 / 0.75
IR (mA) TA=+25°C	2.0	0.5	0.5	0.50		1.0	0.10 / 0.15	0.2 / 1.0
IR (mA) TA=+100°C	20.0	20.0	35.0	50.0 / 25.0		50.0		
IR (mA) TA=+125°C					15.0 / 50.0		15.0/50.0	40.0 / 50.0
SURGE (A)	80.0	100.0	150.0	150.0	150.0	250.0	150.0	150.0









SCHOTTKY RECTIFIERS (cont.)

Io (A)	10.0	15.0	16.0	20.0		25.0	
CASE TYPE	TO-220AB		TO-263AB "B" Prefix ex. MBRBxxCT		ITO-220AB "F" Prefix ex. MBRFxxCT		
VRRM (VOLTS)							
20							SBL25L20CT
25							SBL25L25CT
30	SBL1030CT		SBL1630CT		SBL2030CT		SBL25L30CT
35		MBR1535CT		MBR2035CT		MBR2535CT	
40	SBL1040CT		SBL1640CT		SBL2040CT		
45		MBR1545CT		MBR2045CT		MBR2545CT	
50		MBR1550CT		MBR2050CT		MBR2550CT	
60		MBR1560CT		MBR2060CT		MBR2560CT	
MAX V _F (volts)	0.55	0.84 / 0.75	0.55	0.84 / 0.95	0.55	0.82 / 0.75	0.49
I _R (mA)	0.50	0.10 / 0.50	0.50	0.10 / 0.50	1.0	0.2 / 1.0	1.0
I _R (mA) T _A =+100°C	50.0		50.0		50.0		50.0
I _R (mA) T _A =+125°C		15.0 / 50.0		15		40.0 / 50.0	
SURGE (A)	175.0	150.0	250.0	150.0		150.0	

SCHOTTKY RECTIFIERS (cont.)

Io(A)	20.0		30.0		40.0	
CASE TYPE	TO-247AD					
VRRM (VOLTS)						
30	SBL2030PT	SBL3030PT				SBL4030PT
35			MBR3035PT		MBR4035PT	
40	SBL2040PT	SBL3040PT				SBL4040PT
45			MBR3045PT	SD241P	MBR4045PT	
50			MBR3050PT		MBR4050PT	
60			MBR3060PT		MBR4060PT	
MAX V _F (volts)	0.55	0.55	0.76 / 0.75	0.60	0.70 / 0.80	0.58
I _R (mA) T _A =+25°C	1.0	1.0	1.0 / 5.0	10.0 at V _R =30V	10.0	10.0
I _R (mA) T _A =+100°C	50.0	75.0				100.0
I _R (mA) T _A =+125°C			60.0 / 100.0	100.0 at V _R =30V	100.0	
SURGE (A)	250.0	275.0	200.0 / 300.0	400.0	400.0	400.0

FAST EFFICIENT RECTIFIERS

I_o (A)	0.50	0.60	1.0					
CASE TYPE	DO-213AA MINI-MELF	UG06	DO-204AL		DO-204AP		DO-204AL	DO-204AP
V_{RRM} (VOLTS)								
50	EGL34A	UG06A#	EGP10A	UF4001#	FE1A		UG1A#	GI1001
100	EGL34B	UG06B#	EGP10B	UF4002#	FE1B		UG1B#	GI1002
150	EGL34C	UG06C#	EGP10C		FE1C		UG1C#	GI1003
200	EGL34D	UG06D#	EGP10D	UF4003#	FE1D		UG1D#	GI1004
300	EGL34F		EGP10F					
400	EGL34G		EGP10G	UF4004#				
500								
600				UF4005#				
800				UF4006#		BYV26D		
1000				UF4007#		BYV26E		
MAX V_F (volts)	1.25 / 1.35	0.95	0.95 / 1.25	1.0 / 1.7	0.95	2.5	0.95	0.975
t_{rr} (ns)	50.0 (*ckt #1)	15.0 (*ckt #2)	50.0 (*ckt #1)	50.0 / 75.0 (*ckt #1)	35.0 (*ckt #1)	75.0 (*ckt #1)	15.0 (*ckt #2)	25.0 (*ckt #1)
I_R (μA) T_A=+25°C	5.0	5.0	5.0	10.0	2.0	5.0	5.0	2.0
I_R (μA) T_A=+100°C		100.0		50.0	50.0		200.0	50.0
I_R (μA) T_A=+125°C	50.0							
I_R (μA) T_A=+150°C			100.0			15.0 T _J =165°C		
SURGE (A)	10.00	40.0	30.0	30.0	30.0	30.0	40.0	30.0









Notes:

■ Shaded area indicates SUPERRECTIFIER®

Uses glass passivated chips

*Circuits are on page 95

FAST EFFICIENT RECTIFIERS (cont.)

I_o (A)	1.0			1.5	2.0					
CASE TYPE	DO-213AB MELF	DO-214AC SMA		DO-214BA	GP20	DO-204AC	DO-204AP		DO-204AC	DO-214AA SMB
V_{RRM} (VOLTS)										
50	EGL41A ⁽¹⁾ BYM12-50	ES1A#	US1A#	EGF1A		EGP20A	FE2A	BYV27-50	UG2A#	ES2A#
100	EGL41B ⁽¹⁾ BYM12-100	ES1B#	US1B#	EGF1B		EGP20B	FE2B	BYV27-100	UG2B#	ES2B#
150	EGL41C ⁽¹⁾ BYM12-150	ES1C#		EGF1C		EGP20C	FE2C	BYV27-150	UG2C#	ES2C#
200	EGL41D ⁽¹⁾ BYM12-200	ES1D#	US1D#	EGF1D		EGP20D	FE2D	BYV27-200	UG2D#	ES2D#
300	EGL41F ⁽¹⁾ BYM12-300					EGP20F				ES2F
400	EGL41G ⁽¹⁾ BYM12-400		US1G#		SUF15G#	EGP20G				ES2G
600			US1J#		SUF15J#					
MAX V_F (volts)	1.0 / 1.25	0.92	1.0/1.7	1.0	1.80	0.95 / 1.25	0.95	1.07	0.95	0.90/
t_{rr} (ns)	50.0 (*ckt #1)	15.0 (*ckt #1)	50.0/75.0 (*ckt #1)	50.0 (*ckt #1)	35.0 (*ckt #1)	50.0 (*ckt #1)	35.0 (*ckt #1)	25.0 (*ckt #1)	15.0 (*ckt #2)	20.0/ (*ckt #1)
I_R (μA) T_A=+25°C	5.0	5.0	10.0	5.0	10.0	5.0	2.0	1.0	5.0	10.0
I_R (μA) T_A=+100°C		100	50		100		50.0		200.0	350.0
I_R (μA) T_A=+125°C	50.0			50.0		100.0				
I_R (μA) T_A=+150°C							50.0	150.0 T _A =+165°C		
SURGE (A)	30.0	30.0	30.0	30.0	50.0	75.0	50.0	30.0	50.0	50.0

Notes:








■ Shaded area indicates SUPERRECTIFIER®

⁽¹⁾ BYM12-XX numbers (European designations) are equivalent to the EGL41X series

Uses glass passivated chips

*Circuits are on page 95

FAST EFFICIENT RECTIFIERS (cont.)




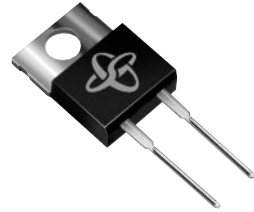


I_o (A)		3.0					3.5	4.0
CASE TYPE		DO-201AD	GP20	P600	G4	DO-214AB	G3	DO-201AD
V_{RRM} (VOLTS)								
50	GI1101	UF5400#	EGP30A		FE3A	ES3A#	BYV28-50	UG4A#
100	GI1102	UF5401#	EGP30B		FE3B	ES3B#	BYV28-100	UG4B#
150	GI1103		EGP30C		FE3C	ES3C#	BYV28-150	UG4C#
200	GI1104	UF5402#	EGP30D		FE3D	ES3D#	BYV28-200	UG4D#
300		UF5403#	EGP30F					
400		UF5404#	EGP30G	SUF30G#				
500		UF5405#						
600		UF5406#		SUF30J#				
800		UF5407#						
1000		UF5408#						
MAX V_F (volts)	0.975/1.25	1.0 / 1.70	0.95 / 1.25	1.8/2.0	0.95	0.90	1.1	0.95
t_{rr} (ns)	25.0 / 50.0 (*ckt #1)	50.0 / 75.0 (*ckt #1)	50.0 (*ckt #1)	35.0 (*ckt #1)	35.0 (*ckt #1)	20.0 (*ckt #1)	30.0 (*ckt #1)	20.0 (*ckt #2)
I_R (μ A) $T_A=+25^\circ\text{C}$	2.0/10.0	10.0	5.0	10.0	5.0	10.0	1.0	5.0
I_R (μ A) $T_A=+100^\circ\text{C}$	50.0/200.0	50.0		100.0	50.0	500		300.0
I_R (μ A) $T_A=+125^\circ\text{C}$			100.0					
I_R (μ A) $T_A=+150^\circ\text{C}$					50.0		150.0 $T_A=+165^\circ\text{C}$	
SURGE (A)	50	150.00	125.0	80.0	125.0	100.0	90.0	125.0

Notes:

■ Shaded area indicates SUPERRECTIFIER®
Uses glass passivated chips

*Circuits are on page 95

FAST EFFICIENT RECTIFIERS (cont.)

I _o (A)	5.0		6.0	8.0			16.0	
CASE TYPE	GP20	G4	G4	TO-220AC	TO-263AB "B" prefix ex. UGBXX	ITO-220AC "F" prefix ex. UGFXX		
V _{RRM} (VOLTS)								
50	EGP50A	FE5A	FE6A	UG8AT#	FES8AT#	GI1401#	BYW29-50#	FES16AT#
100	EGP50B	FE5B	FE6B	UG8BT#	FES8BT#	GI1402#	BYW29-100#	FES16BT#
150	EGP50C	FE5C	FE6C	UG8CT#	FES8CT#	GI1403#	BYW29-150#	FES16CT#
200	EGP50D	FE5D	FE6D	UG8DT#	FES8DT#	GI1404#	BYW29-200#	FES16DT#
300	EGP50F			UG8FT#	FES8FT#			FES16FT#
400	EGP50G			UG8GT#	FES8GT#			FES16GT#
500				UG8HT#	FES8HT#			FES16HT#
600				UG8JT#	FES8JT#			FES16JT#
MAX V _F (volts)	0.95 / 1.25	0.95	0.975	1.0 / 1.30 / 1.75	0.95 / 1.3 / 1.5	0.975	1.3	0.95 / 1.3 / 1.5
t _{rr} (ns)	50.0 (*ckt #1)	35.0 (*ckt #1)	35.0 (*ckt #1)	20.0 / 25.0 (*ckt #1&2)	35.0 / 50.0 (*ckt #1)	35.0 (*ckt #1)	25.0 (*ckt #2)	35.0 / 50.0 (*ckt #1)
I _R (μA) T _A =+25°C	5.0	5.0	5.0	10.0	10.0	5.0	10.0	10.0
I _R (μA) T _A =+100°C		50.0	50.0	300.0	100.0	150.0	100.0	500.0
I _R (μA) T _A = +150°C	50.0		50.0		50.0			
SURGE (A)	150.0	135.0	150.0	150.0 / 100.0	125.0	150.0	100.0	250.0

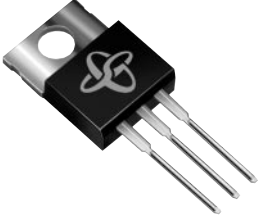

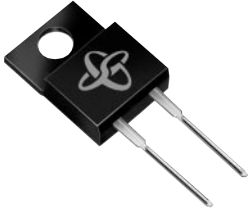
Notes:

 Shaded area indicates SUPERRECTIFIER®

Uses glass passivated chips

*Circuits are on page 95

FAST EFFICIENT RECTIFIERS (cont.)

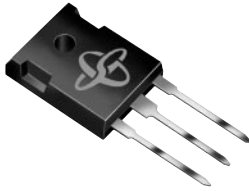
I _o (A)	6.0	10.0	16.0		18.0	
CASE TYPE	TO-220AB		TO-263AB "B" prefix ex. FEPBXX		ITO-220AC "F" prefix ex. FEPFXX	
V _{RRM} (VOLTS)						
50	FEP6AT#	UG10ACT#	FEP16AT#	GI2401#	BYV32-50#	UG18ACT#
100	FEP6BT#	UG10BCT#	FEP16BT#	GI2402#	BYV32-100#	UG18BCT#
150	FEP6CT#	UG10CCT#	FEP16CT#	GI2403#	BYV32-150#	UG18CCT#
200	FEP6DT#	UG10DCT#	FEP16DT#	GI2404#	BYV32-200#	UG18DCT#
300		UG10FCT#	FEP16FT#			
400		UG10GCT#	FEP16GT#			
500			FEP16HT#			
600			FEP16JT#			
MAX V _F (volts)	0.975	1.25 / 1.30	0.95 / 1.3 / 1.5	0.975	1.15	1.1
t _{rr} (ns)	35 (*ckt #1)	25 / 35 (*ckt #1)	35.0 / 50.0 (*ckt #1)	35.0 (*ckt #1)	25.0 (*ckt #2)	20.0 (*ckt #1)
I _R (μA) T _A =+25°C	5.0	10.0	10.0	5.0	10.0	10.0
I _R (μA) T _A =+100°C	50.0	200.0	500.0	150.0 / 500.0	600.0	300.0
SURGE (A)	100.0	60.0	125.0	125.0	150.0	175.0

Note:

Uses glass passivated chips

*Circuits are on page 95

FAST EFFICIENT RECTIFIERS (cont.)







I_o (A)	30.0	
CASE TYPE	TO-247AD	
V_{RRM} (VOLTS)		
50	FEP30AP#	UG30APT#
100	FEP30BP#	UG30BPT#
150	FEP30CP#	UG30CPT#
200	FEP30DP#	UG30DPT#
300	FEP30FP#	
400	FEP30GP#	
500	FEP30HP#	
600	FEP30JP#	
MAX V_F (volts)	0.95 / 1.3 / 1.5	1.0
t_{rr} (ns)	35.0 / 50.0 (ckt #1)	20.0 (ckt #2)
I_R (μA) T_A=+25°C	10.0	15.0
I_R (μA) T_A=+100°C	500.0	800.0
SURGE (A)	300.0	300.0

Note:

Uses glass passivated chips, except where noted

* Circuits are on page 95

SINGLE PHASE BRIDGE RECTIFIERS

I_o (A)	0.5		0.8		1.0			
CASE TYPE	MBS SURFACE MOUNT		DFM	WOG	DFM / DFS SURFACE MOUNT			WOG
V_{RRM} (VOLTS)								
50					EDF1AM / EDF1AS*	DF005M	DF005S*	
65			B40C800DM	B40C800G				B40C1000G
100					EDF1BM / EDF1BS*	DF01M	DF01S*	
125			B80C800DM	B80C800G				B80C1000G
150					EDF1CM / EDF1CS*			
200	MB2S*	RMB2S	B125C800DM	B125C800G	EDF1DM / EDF1DS*	DF02M	DF02S*	B125C1000G
300								
400	MB4S*	RMB4S	B250C800DM	B250C800G		DF04M	DF04S*	B250C1000G
500								
600	MB6S*	RMB6S	B380C800DM	B380C800G		DF06M	DF06S*	B380C1000G
800						DF08M	DF08S*	
1000						DF10M	DF10S*	
SURGE(A)	30.0	30.0	45.0	45.0	50.0	50.0	50.0	45.0
t_{rr} (ns)		150/250 (**ckt #1)			50.0 (**ckt #1)			


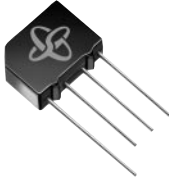
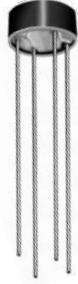
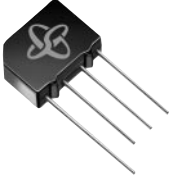
Notes:

* Surface mount bridge rectifiers

** Circuits are on page 95

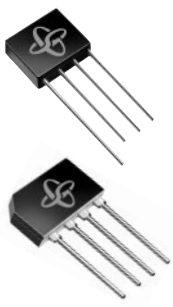
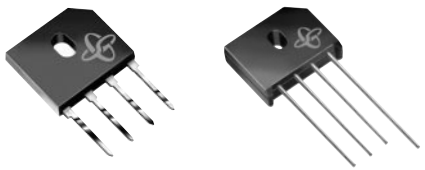
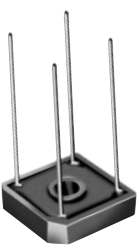
All bridges are glass passivated unless otherwise noted

SINGLE PHASE BRIDGE RECTIFIERS (cont.)

I _o (A)	1.5			2.0	
	WOG		KBPM	WOG	KBPM
CASE TYPE					
V _{RRM} (VOLTS)					
50	W005G		3N246 / KBP005M	2W005G	3N253 / 2KBP005M
65		B40C1500G			
100	W01G		3N247 / KBP01M	2W01G	3N254 / 2KBP01M
125		B80C1500G			
150					
200	W02G	B125C1500G	3N248 / KBP02M	2W02G	3N255 / 2KBP02M
300					
400	W04G	B250C1500G	3N249 / KBP04M	2W04G	3N256 / 2KP04M
500					
600	W06G	B380C1500G	3N250 / KBP06M	2W06G	3N257 / 2KP06M
800	W08G		3N251 / KBP08M	2W08G	3N258 / 2KP08M
1000	W10G		3N252 / KBP10M	2W10G	3N259 / 2KP10M
SURGE (A)	50.0	50.0	30.0	60.0	60.0

All bridges are glass passivated unless otherwise noted

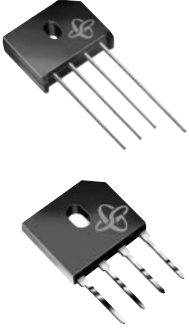

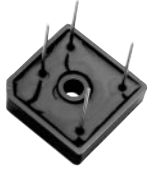
SINGLE PHASE BRIDGE RECTIFIERS (cont.)

I_o (A)	3.0	4.0		6.0	
CASE TYPE	GBPC1	GBL / KBL	GBU / KBU		GBPC6
V_{RRM} (VOLTS)					
50	GBPC1005	⁽¹⁾ GBL005 / KBL005	⁽¹⁾ GBU4A / KBU4A	⁽¹⁾ GBU6A / KBU6A	GBPC6005
65					
100	GBPC101	⁽¹⁾ GBL01 / KBL0	⁽¹⁾ GBU4B / KBU4B	⁽¹⁾ GBU6B / KBU6B	GBPC601
125					
150					
200	GBPC102	⁽¹⁾ GBL02 / KBL02	⁽¹⁾ GBU4D / KBU4D	⁽¹⁾ GBU6D / KBU6D	GBPC602
300					
400	GBPC104	⁽¹⁾ GBL04 / KBL04	⁽¹⁾ GBU4G / KBU4G	⁽¹⁾ GBU6G / KBU6G	GBPC604
500					
600	GBPC106	⁽¹⁾ GBL06 / KBL06	⁽¹⁾ GBU4J / KBU4J	⁽¹⁾ GBU6J / KBU6J	GBPC606
800	GBPC108	⁽¹⁾ GBL08 / KBL08	⁽¹⁾ GBU4K / KBU4K	⁽¹⁾ GBU6K / KBU6K	GBPC608
1000	GBPC110	⁽¹⁾ GBL10 / KBL10	⁽¹⁾ GBU4M / KBU4M	⁽¹⁾ GBU6M / KBU6M	GBPC610
SURGE (A)	60.0	150.0 / 200.0	150.0 / 200.0	175.0 / 250.0	175.0

Note:

(1) The KBL / KBU series are not made with glass passivated chips; all bridges are glass passivated unless otherwise noted

SINGLE PHASE BRIDGE RECTIFIERS (cont.)

I_o (A)	8.0	12.0	15.0	25.0	35.0
CASE TYPE	GBU / KBU	GBPC12-35 / GBPC12-35W			
V_{RRM} (VOLTS)					
50	⁽¹⁾ GBU8A / KBU8A	GBPC12005*	GBPC15005*	GBPC25005*	GBPC35005*
65					
100	⁽¹⁾ GBU8B / KBU8B	GBPC1201*	GBPC1501*	GBPC2501*	GBPC3501*
125					
150					
200	⁽¹⁾ GBU8D / KBU8D	GBPC1202*	GBPC1502*	GBPC2502*	GBPC3502*
300					
400	⁽¹⁾ GBU8G / KBU8G	GBPC1204*	GBPC1504*	GBPC2504*	GBPC3504*
500					
600	⁽¹⁾ GBU8J / KBU8J	GBPC1206*	GBPC1506*	GBPC2506*	GBPC3506*
800	⁽¹⁾ GBU8K / KBU8K	GBPC1208*	GBPC1508*	GBPC2508*	GBPC3508*
1000	⁽¹⁾ GBU8M / KBU8M	GBPC1210*	GBPC1510*	GBPC2510*	GBPC3510*
SURGE (A)	300.0	200.0	300.0	300.0	400.0

Notes:

(1) The KBU bridge series is not made with glass passivated chips; all bridges are glass passivated unless otherwise noted
 * Available with wire leads by adding "W" suffix to part number (GBPC2502W)

300 WATT SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-214AC



Operating Junction and Storage Temperature Range: -55° to +150°C

DEVICE TYPE (3)	DEVICE MARKING CODES		BREAKDOWN VOLTAGE (1)		REVERSE STANDOFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE at I _D (I _D) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMP VOLTAGE at I _{PPM} (V _C) VOLTS
			V _(BR) MIN. VOLTS	at I _T mA				
	UNI	BI						
SMAJ5.0	AD	WD	6.40	10.0	5.0	800.0	31.3	9.6
SMAJ6.0	AF	WF	6.67	10.0	6.0	800.0	26.3	11.4
SMAJ6.5	AH	WH	7.22	10.0	6.5	500.0	24.4	12.3
SMAJ7.0	AL	WL	7.78	10.0	7.0	400.0	22.6	13.3
SMAJ7.5	AN	WN	8.33	1.0	7.5	100.0	21.0	14.3
SMAJ8.0	AQ	WQ	8.89	1.0	8.0	50.0	20.0	15.0
SMAJ8.5	AS	WS	9.44	1.0	8.5	10.0	18.9	15.9
SMAJ9.0	AU	WU	10.0	1.0	9.0	5.0	17.8	16.9
SMAJ10	AW	WW	11.1	1.0	10.0	5.0	16.0	18.8
SMAJ11	AY	WY	12.2	1.0	11.0	5.0	14.9	20.1
SMAJ12	BD	XD	13.3	1.0	12.0	5.0	13.6	22.0
SMAJ13	BF	XF	14.4	1.0	13.0	5.0	12.6	23.8
SMAJ14	BH	XH	15.6	1.0	14.0	5.0	11.6	25.8
SMAJ15	BL	XL	16.7	1.0	15.0	5.0	11.2	26.9
SMAJ16	BN	XN	17.8	1.0	16.0	5.0	10.4	28.8
SMAJ17	BQ	XQ	18.9	1.0	17.0	5.0	9.8	30.5
SMAJ18	BS	XS	20.0	1.0	18.0	5.0	9.3	32.2
SMAJ20	BU	XU	22.2	1.0	20.0	5.0	8.4	35.8
SMAJ22	BW	XW	24.4	1.0	22.0	5.0	7.6	39.4
SMAJ24	BY	XY	26.7	1.0	24.0	5.0	7.0	43.0
SMAJ26	CD	YD	28.9	1.0	26.0	5.0	6.4	46.6
SMAJ28	CF	YF	31.1	1.0	28.0	5.0	6.0	50.0
SMAJ30	CH	YH	33.3	1.0	30.0	5.0	5.6	53.5
SMAJ33	CL	YL	36.7	1.0	33.0	5.0	5.1	59.0
SMAJ36	CN	YN	40.0	1.0	36.0	5.0	4.7	64.3
SMAJ40	CQ	YQ	44.4	1.0	40.0	5.0	4.2	71.4
SMAJ43	CS	YS	47.8	1.0	43.0	5.0	3.9	76.7
SMAJ45	CU	YU	50.0	1.0	45.0	5.0	3.7	80.3
SMAJ48	CW	YW	53.3	1.0	48.0	5.0	3.5	85.5
SMAJ51	CY	YY	56.7	1.0	54.0	5.0	3.3	91.1
SMAJ54	RD	ZD	60.0	1.0	54.0	5.0	3.1	96.3
SMAJ58	RF	ZF	64.4	1.0	58.0	5.0	2.9	103
SMAJ60	RH	ZH	66.7	1.0	60.0	5.0	2.8	107
SMAJ64	RL	ZL	71.1	1.0	64.0	5.0	2.6	114
SMAJ70	RN	ZN	77.8	1.0	70.0	5.0	2.4	125
SMAJ75	RQ	ZQ	83.0	1.0	75.0	5.0	2.2	134
SMAJ78	RS	ZS	86.7	1.0	78.0	5.0	2.2	139
SMAJ85	RU	ZU	94.9	1.0	85.0	5.0	2.0	151
SMAJ90	RW	ZW	100.0	1.0	90.0	5.0	1.9	160
SMAJ100	RY	ZY	111.0	1.0	100.0	5.0	1.7	179
SMAJ110	SD	VD	122.0	1.0	110.0	5.0	1.5	196
SMAJ120	SF	VF	133.0	1.0	120.0	5.0	1.4	214
SMAJ130	SH	VH	144.0	1.0	130.0	5.0	1.3	231
SMAJ150	SL	VL	167.0	1.0	150.0	5.0	1.1	268
SMAJ160	SN	VN	178.0	1.0	160.0	5.0	1.0	287
SMAJ170	SQ	VQ	189.0	1.0	170.0	5.0	0.99	304

Notes: (1) Standard device has ± 10% tolerance on nominal breakdown voltage For ± 5% tolerance, add "A" suffix to number
 (2) Peak impulse current waveform: 10/1000μs at T_A=25°C
 (3) Available in bi-directional by adding "C" suffix
 *For bi-directional types having V_R of 10 Volts and less I_D limit is doubled

300 WATT SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: / DO-213AB



Operating Junction and Storage Temperature Range: -55° to +150°C

DEVICE TYPE (3)	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE at V _{WM} (I _D) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
	V(BR) Volts NOM (1)	at I _r mA				
TGL41-6.8	6.8	10	5.5	1000*	37.0	10.8
TGL41-7.5	7.5	10	6.05	500*	34.2	11.7
TGL41-8.2	8.2	10	6.63	200*	32.0	12.5
TGL41-9.1	9.1	10	7.37	50*	29.0	13.8
TGL41-10	10	1.0	8.10	10*	26.7	15.0
TGL41-11	11	1.0	8.92	5.0	24.7	16.2
TGL41-12	12	1.0	9.72	5.0	23.1	17.3
TGL41-13	13	1.0	10.5	5.0	21.1	19.0
TGL41-15	15	1.0	12.1	5.0	18.2	22.0
TGL41-16	16	1.0	12.9	5.0	17.0	23.5
TGL41-18	18	1.0	14.5	5.0	15.1	26.5
TGL41-20	20	1.0	16.2	5.0	13.7	29.1
TGL41-22	22	1.0	17.8	5.0	12.5	31.9
TGL41-24	24	1.0	19.4	5.0	11.5	34.7
TGL41-27	27	1.0	21.8	5.0	10.2	39.1
TGL41-30	30	1.0	24.3	5.0	9.2	43.5
TGL41-33	33	1.0	26.8	5.0	8.4	47.7
TGL41-36	36	1.0	29.1	5.0	7.7	52.0
TGL41-39	39	1.0	31.6	5.0	7.1	56.4
TGL41-43	43	1.0	34.8	5.0	6.5	61.9
TGL41-47	47	1.0	38.1	5.0	5.9	67.8
TGL41-51	51	1.0	41.3	5.0	5.4	73.5
TGL41-56	56	1.0	45.4	5.0	5.0	80.5
TGL41-62	62	1.0	50.2	5.0	4.5	89.0
TGL41-68	68	1.0	55.1	5.0	4.1	98.0
TGL41-75	75	1.0	80.7	5.0	3.7	108
TGL41-82	82	1.0	66.4	5.0	3.4	118
TGL41-91	91	1.0	73.7	5.0	3.1	131
TGL41-100	100	1.0	81.0	5.0	1.39	144
TGL41-110	110	1.0	89.2	5.0	1.27	158
TGL41-120	120	1.0	97.2	5.0	1.16	173
TGL41-130	130	1.0	105.0	5.0	1.07	187
TGL41-150	150	1.0	121.0	5.0	0.93	215
TGL41-160	160	1.0	130.0	5.0	0.87	230
TGL41-170	170	1.0	138.0	5.0	0.82	244
TGL41-180	180	1.0	146.0	5.0	0.78	258
TGL41-200	200	1.0	162.0	5.0	0.70	287

Notes:

- (1) Standard device had ± 10% tolerance on nominal breakdown voltage. For ± 5% tolerance, add "A" suffix to part number
- (2) Peak Impulse Current wave form: 10/1000μs at TA=25°C
- (3) Available only as unidirectional

400 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AL



DEVICE TYPE (1)	BREAKDOWN VOLTAGE $V_{(BR)}$ REVERSE			STAND-OFF VOLTAGE (V_{WM}) VOLTS	MAX. PEAK MAX. REVERSE LEAKAGE, (I_D), at V_{WM} μA	MAX. CLAMPING IMPULSE CURRENT (I_{PPM}) AMPS	VOLTAGE at I_{PPM} (V_C) VOLTS
	MIN	MAX	at I_T mA				
*BZW04P5V8	6.45	7.48	10.0	5.80	1000.0	38.0	10.5
*BZW04-5V8	6.45	7.14	10.0	5.90	1000.0	38.0	10.5
BZW04P6V4	7.13	7.88	10.0	6.40	500.0	35.4	11.3
BZW04-6V4	7.13	7.88	10.0	6.40	500.0	35.4	11.3
BZW04P7V0	7.79	9.02	10.0	7.02	200.0	33.0	12.1
BZW04-7V0	7.79	8.61	10.0	7.02	200.0	33.0	12.1
BZW04P7V8	8.65	10.0	1.0	7.78	50.0	30.0	13.4
BZW04-7V8	8.65	9.55	1.0	7.78	50.0	30.0	13.4
BZW04P8V5	9.5	11.0	1.0	8.55	10.0	27.6	14.5
BZW04-8V5	9.5	10.5	1.0	8.55	10.0	27.6	14.5
BZW04P9V4	10.5	12.1	1.0	9.4	5.0	25.7	15.6
BZW04P10	11.4	13.2	1.0	10.2	5.0	24.0	16.7
BZW04-10	11.4	12.6	1.0	10.2	5.0	24.0	16.7
BZW04P11	12.4	14.3	1.0	10.2	5.0	22.0	18.2
BZW04-11	12.4	13.7	1.0	11.1	5.0	22.0	18.2
BZW04P13	14.3	16.5	1.0	12.8	5.0	19.0	21.2
BZW04-13	14.3	15.8	1.0	12.8	5.0	19.0	21.2
BZW04P14	15.2	17.6	1.0	13.6	5.0	17.8	22.5
BZW04-14	15.2	16.8	1.0	13.6	5.0	17.8	22.5
BZW04P15	17.1	19.8	1.0	15.3	5.0	16.0	25.2
BZW04-15	17.1	18.9	1.0	15.3	5.0	16.0	25.2
BZW04P17	19.0	22.0	1.0	17.1	5.0	14.5	27.7
BZW04-17	19.0	21.0	1.0	17.1	5.0	14.5	27.7
BZW04P19	20.9	24.2	1.0	18.8	5.0	13.0	30.6
BZW04-19	20.9	23.1	1.0	18.8	5.0	13.0	30.6
BZW04P20	22.8	26.4	1.0	20.5	5.0	12.0	33.2
BZW04-20	22.8	25.2	1.0	20.5	5.0	12.0	33.2
BZW04P23	25.7	29.7	1.0	23.1	5.0	10.7	37.5
BZW04-23	25.7	28.4	1.0	23.1	5.0	10.7	37.5
BZW04P26	28.5	33.0	1.0	25.6	5.0	9.60	41.5
BZW04-26	28.5	31.5	1.0	25.6	5.0	9.60	41.5
BZW04P28	31.4	36.3	1.0	28.2	5.0	8.80	45.7
BZW04-28	31.4	34.7	1.0	28.2	5.0	8.80	45.7
BZW04P31	34.2	39.6	1.0	30.8	5.0	8.00	49.9
BZW04-31	34.2	37.8	1.0	30.8	5.0	8.00	49.9
BZW04P33	37.1	42.9	1.0	33.3	5.0	7.4	53.9
BZW04-33	37.1	41.0	1.0	33.3	5.0	7.4	53.9
BZW04P37	40.9	41.0	1.0	36.8	5.0	6.70	59.3
BZW04-37	40.9	45.2	1.0	36.8	5.0	6.70	59.3
BZW04P40	44.7	51.7	1.0	40.2	5.0	6.20	64.8

Notes: (1) For bi-directional device, add "B" suffix
 For bi-directional types having V_R of 10 volts and less, I_D limit is doubled
 *Not available as bi-directional devices

400 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AL



DEVICE TYPE	BREAKDOWN VOLTAGE $V_{(BR)}$ REVERSE			STAND-OFF VOLTAGE (V_{WM}) VOLTS	MAX. PEAK MAX. REVERSE LEAKAGE, (I_{0}), at V_{WM} μA	MAX. CLAMPING IMPULSE CURRENT (I_{PPM}) AMPS	VOLTAGE at I_{PPM} (V_c) VOLTS
	MIN	MAX	at I_r mA				
BZW04-40	44.7	49.4	1.0	40.2	5.0	6.20	64.8
BZW04P44	48.5	56.1	1.0	43.6	5.0	5.70	70.1
BZW04-44	48.5	53.6	1.0	43.6	5.0	5.70	70.1
BZW04P48	53.2	61.6	1.0	47.8	5.0	5.20	77.0
BZW04-48	53.2	58.8	1.0	47.8	5.0	5.20	77.0
BZW04P53	58.9	68.2	1.0	53.0	5.0	4.70	85.0
BZW04-53	58.9	65.1	1.0	53.0	5.0	4.70	85.0
BZW04P58	64.6	74.8	1.0	58.1	5.0	4.30	92.0
BZW04-58	64.6	71.4	1.0	58.1	5.0	4.30	92.0
BZW04P64	71.3	82.5	1.0	64.1	5.0	3.90	103.0
BZW04-64	71.3	78.8	1.0	64.1	5.0	3.90	103.0
BZW04P70	77.9	90.2	1.0	70.1	5.0	3.50	113.0
BZW04-70	77.9	86.1	1.0	70.1	5.0	3.50	113.0
BZW04P78	86.5	100.0	1.0	77.8	5.0	3.20	125.0
BZW04-78	86.5	95.5	1.0	77.8	5.0	3.20	125.0
BZW04P85	95.0	110.0	1.0	85.5	5.0	2.90	137.0
BZW05-85	95.0	105.0	1.0	85.5	5.0	2.90	137.0
BZW04P94	105.0	121.0	1.0	94.0	5.0	2.60	152.0
BZW04-94	105.0	116.0	1.0	94.0	5.0	2.60	152.0
BZW04P102	114.0	132.0	1.0	102.0	5.0	2.40	165.0
BZW04-102	114.0	126.0	1.0	102.0	5.0	2.40	165.0
BZW04P110	124.0	143.0	1.0	110.0	5.0	2.20	179.0
BZW04-110	124.0	137.0	1.0	110.0	5.0	2.20	179.0
BZW04P128	143.0	165.0	1.0	128.0	5.0	2.00	207.0
BZW04-128	143.0	158.0	1.0	128.0	5.0	2.00	207.0
BZW04P136	152.0	176.0	1.0	136.0	5.0	1.80	219.0
BZW04-136	152.0	168.0	1.0	136.0	5.0	1.80	219.0
BZW04P145	161.0	187.0	1.0	145.0	5.0	1.70	234.0
BZW04-145	161.0	179.0	1.0	145.0	5.0	1.70	234.0
BZW04P154	171.0	198.0	1.0	154.0	5.0	1.60	246.0
BZW04-154	171.0	189.0	1.0	154.0	5.0	1.60	246.0
BZW04P171	109.0	220.0	1.0	171.0	5.0	1.50	274.0
BZW04-171	109.0	210.0	1.0	171.0	5.0	1.50	274.0
BZW04P188	209.0	242.0	1.0	188.0	5.0	1.40	301.0
BZW04-188	209.0	231.0	1.0	188.0	5.0	1.40	301.0
BZW04P213	237.0	275.0	1.0	213.0	5.0	1.50	344.0
BZW04-213	237.0	263.0	1.0	213.0	5.0	1.50	344.0
BZW04P239	266.0	308.0	1.0	239.0	5.0	1.50	384.0
BZW04-239	266.0	294.0	1.0	239.0	5.0	1.50	384.0
BZW04P256	285.0	330.0	1.0	256.0	5.0	1.20	414.0

Note: For bi-directional device add "B" suffix

400 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AL



DEVICE TYPE	BREAKDOWN VOLTAGE $V_{(BR)}$ REVERSE			STAND-OFF VOLTAGE (V_{WM}) VOLTS	MAX. PEAK MAX. REVERSE LEAKAGE, (I_D), at V_{WM} μA	MAX. CLAMPING IMPULSE CURRENT (I_{PPM}) AMPS	VOLTAGE at I_{PPM} (V_C) VOLTS
	MIN	MAX	at I_r mA				
BZW04-256	285.0	315.0	1.0	256.0	5.0	1.20	414.0
BZW04P273	304.0	352.0	1.0	273.0	5.0	1.20	438.0
BZW04-273	304.0	336.0	1.0	273.0	5.0	1.20	438.0
BZW04P299	332.0	385.0	1.0	299.0	5.0	0.90	482.0
BZW04-299	332.0	368.0	1.0	299.0	5.0	0.90	482.0
BZW04P342	380.0	440.0	1.0	342.0	5.0	0.90	548.0
BZW04-342	380.0	420.0	1.0	342.0	5.0	0.90	548.0
BZW04P376	418.0	484.0	1.0	376.0	5.0	0.90	603.0
BZW04-376	418.0	462.0	1.0	376.0	5.0	0.90	603.0

Note: For bi-directional device add "B" suffix

400 WATT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: MPG06

DEVICE TYPE	BREAKDOWN VOLTAGE $V_{(BR)}$ Volts NOM. (1)	at I_T mA	REVERSE STAND-OFF VOLTAGE (V_{WM}) VOLTS	$T_J=+150^{\circ}C$ MAX. REVERSE LEAKAGE, (I_D), at V_{WM} μA	MAX. PEAK IMPULSE CURRENT (I_{PPM}) AMPS (Note 2)	MAX. CLAMPING VOLTAGE at I_{PPM} (V_C) VOLTS (Note 2)
TMPG06-6.8	6.8	10.0	5.5	1000.0	27.8	10.8
TMPG06-7.5	7.5	10.0	6.05	500.0	25.6	11.7
TMPG06-8.2	8.2	10.0	6.63	200.0	24.0	12.5
TMPG06-9.1	9.1	10.0	7.37	50.0	21.7	13.8
TMPG06-10	10.0	1.0	8.1	20.0	26.7	15.0
TMPG06-11	11.0	1.0	8.92	5.0	24.7	16.2
TMPG06-12	12.0	1.0	9.72	5.0	23.1	17.3
TMPG06-13	13.0	1.0	10.5	5.0	21.1	19.0
TMPG06-15	15.0	1.0	12.1	5.0	18.2	22.0
TMPG06-16	16.0	1.0	12.9	5.0	17.0	23.5
TMPG06-18	18.0	1.0	14.5	5.0	15.1	26.5
TMPG06-20	20.0	1.0	16.2	5.0	13.7	29.1
TMPG06-22	22.0	1.0	17.8	5.0	12.5	31.9
TMPG06-24	24.0	1.0	19.4	5.0	11.5	34.7
TMPG06-27	27.0	1.0	21.8	5.0	10.2	39.1
TMPG06-30	30.0	1.0	24.3	5.0	9.2	43.5
TMPG06-33	33.0	1.0	26.8	5.0	8.4	47.7
TMPG06-36	36.0	1.0	29.1	5.0	7.7	52.0
TMPG06-39	39.0	1.0	31.6	5.0	7.1	56.4
TMPG06-43	43.0	1.0	34.8	5.0	6.5	61.9

Notes: (1) Standard device has $\pm 10\%$ tolerance on nominal Breakdown voltage. Add " A " suffix to part number for $\pm 5\%$ tolerance. Example: for a 5% tolerance, with $V_{(BR)}$ of 6.8 volts, specify part number TMPG06-6.8A
 (2) Peak impulse current waveform: 10/1000 μs at $T_A=25^{\circ}C$

400 WATT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AL

DEVICE TYPE	BREAKDOWN VOLTAGE $V_{(BR)}$ Volts NOM. (1)	at I_T mA	REVERSE STAND-OFF VOLTAGE (V_{WM}) VOLTS	$T_J=+150^{\circ}C$ MAX. REVERSE LEAKAGE, (I_D), at V_{WM} μA	MAX. PEAK IMPULSE CURRENT (I_{PPM}) AMPS (Note 2)	MAX. CLAMPING VOLTAGE at I_{PPM} (V_C) VOLTS (Note 2)
P4KA6.8	6.8	10.0	5.5	1000.0	37.0	10.8
P4KA7.5	7.5	10.0	6.1	500.0	34.2	11.7
P4KA8.2	8.2	10.0	6.6	200.0	32.0	12.5
P4KA9.1	9.1	10.0	7.4	50.0	29.0	13.8
P4KA10	10.0	1.0	8.1	2.0	26.7	15.0
P4KA11	11.0	1.0	8.9	5.0	24.7	16.2
P4KA12	12.0	1.0	9.7	5.0	23.1	17.3
P4KA13	13.0	1.0	10.5	5.0	21.1	19.0
P4KA15	15.0	1.0	12.1	5.0	18.2	22.0
P4KA16	16.0	1.0	12.9	5.0	17.0	23.5
P4KA18	18.0	1.0	14.5	5.0	15.1	26.5
P4KA20	20.0	1.0	16.2	5.0	13.7	29.1
P4KA22	22.0	1.0	17.8	5.0	12.5	31.9
P4KA24	24.0	1.0	19.4	5.0	11.5	34.7
P4KA27	27.0	1.0	21.8	5.0	10.2	39.1
P4KA30	30.0	1.0	24.3	5.0	9.2	43.5
P4KA33	33.0	1.0	26.8	5.0	8.4	47.7
P4KA36	36.0	1.0	29.1	5.0	7.7	52.0
P4KA39	39.0	1.0	31.6	5.0	7.1	56.4
P4KA43	43.0	1.0	34.8	5.0	6.5	61.9

Notes: (1) Standard device is $\pm 10\%$ tolerance, add " A " suffix to part number for $\pm 5\%$ tolerance
 (2) Peak impulse surge current waveform: 10/1000 μs at $T_A=25^{\circ}C$

400 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AL



DEVICE TYPE	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE, (I _b), at V _{WM} μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS	MAX. CLAMPING VOLTAGE at I _{PPM} (V _c) VOLTS
	V(BR) VOLTS NOM.	at I _r mA				
P4KE6.8	6.8	10.0	5.5	1000.0	37.0	10.8
P4KE7.5	7.5	10.0	6.1	500.0	34.2	11.7
P4KE8.2	8.2	10.0	6.6	200.0	32.0	12.5
P4KE9.1	9.1	10.0	7.4	50.0	29.0	13.8
P4KE10	10.0	1.0	8.1	10.0	26.7	15.0
P4KE11	11.0	1.0	8.9	5.0	24.7	16.2
P4KE12	12.0	1.0	9.7	5.0	23.1	17.3
P4KE13	13.0	1.0	10.5	5.0	21.1	19.0
P4KE15	15.0	1.0	12.1	5.0	18.2	22.0
P4KE16	16.0	1.0	12.9	5.0	17.0	23.5
P4KE18	18.0	1.0	14.5	5.0	15.1	26.5
P4KE20	20.0	1.0	16.2	5.0	13.7	29.1
P4KE22	22.0	1.0	17.8	5.0	12.5	31.9
P4KE24	24.0	1.0	19.4	5.0	11.5	34.7
P4KE27	27.0	1.0	21.8	5.0	10.2	39.1
P4KE30	30.0	1.0	24.3	5.0	9.2	43.5
P4KE33	33.0	1.0	26.8	5.0	8.4	47.7
P4KE36	36.0	1.0	29.1	5.0	7.7	52.0
P4KE39	39.0	1.0	31.6	5.0	7.1	56.4
P4KE43	43.0	1.0	34.8	5.0	6.5	61.9
P4KE47	47.0	1.0	38.1	5.0	5.9	67.8
P4KE51	51.0	1.0	41.3	5.0	5.4	73.5
P4KE56	56.0	1.0	45.4	5.0	5.0	80.5
P4KE62	62.0	1.0	50.2	5.0	4.5	89.0
P4KE68	68.0	1.0	55.1	5.0	4.1	98.0
P4KE75	75.0	1.0	60.7	5.0	3.7	108.0
P4KE82	82.0	1.0	66.4	5.0	3.4	118.0
P4KE92	91.0	1.0	73.7	5.0	3.1	131.0
P4KE100	100.0	1.0	81.0	5.0	2.8	144.0
P4KE110	110.0	1.0	89.2	5.0	2.5	158.0
P4KE120	120.0	1.0	97.2	5.0	2.3	173.0
P4KE130	130.0	1.0	105.0	5.0	2.1	187.0
P4KE150	150.0	1.0	121.0	5.0	1.9	215.0
P4KE160	160.0	1.0	130.0	5.0	1.7	230.0
P4KE170	170.0	1.0	138.0	5.0	1.6	244.0
P4KE180	180.0	1.0	146.0	5.0	1.6	258.0
P4KE200	200.0	1.0	162.0	5.0	1.4	287.0
P4KE220	220.0	1.0	175.0	5.0	1.2	344.0
P4KE250	250.0	1.0	202.0	5.0	1.1	360.0
P4KE300	300.0	1.0	243.0	5.0	0.93	430.0
P4KE350	350.0	1.0	284.0	5.0	0.79	504.0
P4KE400	400.0	1.0	324.0	5.0	0.70	574.0
P4KE440	440.0	1.0	356.0	5.0	0.63	631.0

Notes: (1) Standard device has ±10% tolerance on nominal breakdown voltage, add "A" suffix to part number for ± 5% tolerance
 (2) For bi-directional types having V_R of 10 Volts and less, I_D limit is doubled, for bi-directional device add "C" suffix to part number

400 WATT AUTOMOTIVE SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: SMA / DO-214AC



Operating Junction and Storage Temperature Range: -65° to +185°C

DEVICE TYPE	DEVICE MARKING CODES	BREAKDOWN VOLTAGE (1)		REVERSE STANDOFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE at V _{WM} T _J =150°C (I _D) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMPING VOLTAGE (V _C) VOLTS
		V _(BR) NOM. VOLTS	at I _r mA				
TPSMA6.8	ADP	6.8	10	5.5	1000	37.0	10.8
TPSMA7.5	AFP	7.5	10	6.1	500	34.2	11.7
TPSMA8.2	AHP	8.2	10	6.6	200	32.0	12.5
TPSMA9.1	ALP	9.1	10	7.4	50.0	29.0	13.8
TPSMA10	ANP	10	1.0	8.1	20.0	26.7	15.0
TPSMA11	AQP	11	1.0	8.9	10.0	24.7	16.2
TPSMA12	ASP	12	1.0	9.7	5.0	23.1	17.3
TPSMA13	AUP	13	1.0	10.5	5.0	21.1	19.0
TPSMA15	AWP	15	1.0	12.1	5.0	18.2	22.0
TPSMA16	AYP	16	1.0	12.9	5.0	17.0	23.5
TPSMA18	BDP	18	1.0	14.5	5.0	15.1	26.5
TPSMA20	BFP	20	1.0	16.2	5.0	13.7	29.1
TPSMA22	BHP	22	1.0	17.8	5.0	12.5	31.9
TPSMA24	BLP	24	1.0	19.4	5.0	11.5	34.7
TPSMA27	BNP	27	1.0	21.8	5.0	10.2	39.1
TPSMA30	BQP	30	1.0	24.3	5.0	9.2	43.5
TPSMA33	BSP	33	1.0	26.8	5.0	8.4	47.7
TPSMA36	BUP	36	1.0	29.1	5.0	7.7	52.0
TPSMA39	BWP	39	1.0	31.6	5.0	7.1	56.4
TPSMA43	BYP	43	1.0	34.8	5.0	6.5	61.9

Notes:

- (1) Standard device has ± 10% tolerance on nominal breakdown voltage
For ± 5% tolerance, add "A" suffix to part number
- (2) Peak impulse current wave form: 10/1000μs at T_A=25°C

500W GLASS PASSIVATED TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AC



DEVICE TYPE (2)	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF VOLTAGE (V _{WM}) VOLTS	MAX. REV. LEAKAGE, (I _D), at V _{WM} μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
	V _(BR) VOLTS NOM.	at I _T mA				
SA5.0	6.85	10.0	5.0	600.0	52.1	9.6
SA6.0	7.41	10.0	6.0	600.0	43.9	11.4
SA6.5	8.02	10.0	6.5	400.0	40.7	12.3
SA7.0	8.65	10.0	7.0	150.0	37.8	13.3
SA7.5	9.27	1.0	7.5	50.0	35.0	14.3
SA8.0	9.90	1.0	8.0	25.0	33.3	15.0
SA8.5	10.47	1.0	8.5	10.0	31.4	15.9
SA9.0	11.10	1.0	9.0	5.0	29.5	16.9
SA10	12.35	1.0	10.0	3.0	26.6	18.8
SA11	13.55	1.0	11.0	3.0	24.9	20.1
SA12	14.80	1.0	12.0	3.0	22.7	22.0
SA13	16.00	1.0	13.0	3.0	21.0	23.8
SA14	17.35	1.0	14.0	3.0	19.4	25.8
SA15	18.55	1.0	15.0	3.0	18.8	26.9
SA16	19.80	1.0	16.0	3.0	17.6	28.8
SA17	21.00	1.0	17.0	3.0	16.4	30.5
SA18	22.20	1.0	18.0	3.0	15.5	32.2
SA20	24.65	1.0	20.0	3.0	13.9	35.8
SA22	27.10	1.0	22.0	3.0	12.7	39.4
SA24	29.65	1.0	24.0	3.0	11.6	43.0
SA26	32.10	1.0	26.0	3.0	10.7	46.6
SA28	34.55	1.0	28.0	3.0	9.9	50.1
SA30	37.00	1.0	30	3.0	9.3	53.5
SA33	40.80	1.0	33	3.0	8.5	59.0
SA36	44.45	1.0	36	3.0	7.8	64.3
SA40	49.35	1.0	40	3.0	7.0	71.4
SA43	53.10	1.0	43	3.0	6.5	76.7
SA45	55.55	1.0	45	3.0	6.2	80.3
SA48	59.20	1.0	48	3.0	5.8	85.5
SA51	63.00	1.0	51	3.0	5.5	91.1
SA54	66.65	1.0	54	3.0	5.2	96.3
SA58	71.55	1.0	58	3.0	4.9	103.0
SA60	74.10	1.0	60	3.0	4.7	107.0
SA64	79.00	1.0	64	3.0	4.4	114.0
SA70	86.45	1.0	70	3.0	4.0	125.0
SA75	92.65	1.0	75	3.0	3.7	134.0
SA78	96.35	1.0	78	3.0	3.6	139.0
SA85	104.7	1.0	85	3.0	3.3	151.0
SA90	111.0	1.0	90	3.0	3.1	160.0
SA100	123.5	1.0	100	3.0	2.8	179.0
SA110	135.5	1.0	110	3.0	2.6	196.0
SA120	148.0	1.0	120	3.0	2.3	214.0
SA130	160.0	1.0	130	3.0	2.2	231.0
SA150	185.5	1.0	150	3.0	1.9	268.0
SA160	198.0	1.0	160	3.0	1.7	287.0
SA170	210.0	1.0	170	3.0	1.6	304.0

Notes: (1) Standard device has ±10% tolerance on nominal breakdown voltage, add "A" suffix to part number for ±5% tolerance
 (2) For bi-directional types having V_R of 10 Volts and less, the I_D limit is doubled, for bi-directional device, add "C" suffix to part number

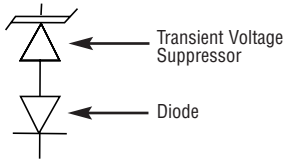
500 WATT LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSORS

PKG TYPE: DO-204AC



DEVICE TYPE	BREAKDOWN VOLTAGE		REVERSE STAND-OFF VOLTAGE (V _{wm}) VOLTS	MAX. REVERSE LEAKAGE, (I _d), at V _{wm} μA	MAX. PEAK IMPULSE CURRENT (I _{ppm}) AMPS	MAX. CLAMPING VOLTAGE at I _{ppm} = 5.0A (V _c) VOLTS	MAX. JUNCTION CAPACITANCE at 0 VOLTS 1.0 MHz (C _J) pF
	V _(BR) VOLTS MIN	at I _r MA					
SAC5.0	7.60	1.0	5.0	300.0	44	10.0	50.0
SAC6.0	7.90	1.0	6.0	300.0	41	11.2	50.0
SAC7.0	8.33	1.0	7.0	300.0	38	12.6	50.0
SAC8.0	8.89	1.0	8.0	100.0	36	13.4	50.0
SAC8.5	9.44	1.0	8.5	50.0	34	14.0	50.0
SAC10	11.10	1.0	10.0	5.0	29	16.3	50.0
SAC12	13.30	1.0	12.0	5.0	25	19.0	50.0
SAC15	16.70	1.0	15.0	5.0	20	23.6	50.0
SAC18	20.00	1.0	18.0	5.0	15	28.8	50.0
SAC22	24.40	1.0	22.0	5.0	14	35.4	50.0
SAC26	28.90	1.0	26.0	5.0	11.1	42.3	50.0
SAC30	33.30	1.0	30.0	5.0	10.0	48.6	50.0
SAC36	40.00	1.0	36.0	5.0	8.6	60.0	50.0
SAC45	50.00	1.0	45.0	5.0	6.8	77.0	50.0
SAC50	55.50	1.0	50.0	5.0	5.8	88.0	50.0

SCHEMATIC:



600 WATT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AC



DEVICE TYPE	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF VOLTAGE (V _{WM}) VOLTS	MAX. PEAK MAX. REVERSE LEAKAGE (I _D) at V _{WM} μA	MAX. CLAMP IMPULSE CURRENT (I _{PPM}) AMP (NOTE 2)	VOLTAGE at I _{PPM} (V _C) VOLTS (NOTE 2)
	V _(BR) VOLTS NOM.	at I _T mA				
P6KA6.8	6.8	10.0	5.5	1000.0	55.6	10.8
P6KA7.5	7.5	10.0	6.1	500.0	51.3	11.7
P6KA8.2	8.2	10.0	6.6	200.0	48.0	12.5
P6KA9.1	9.1	10.0	7.4	50.0	43.5	13.8
P6KA10	10.0	1.0	8.1	10.0	40.0	15.0
P6KA11	11.0	1.0	8.9	5.0	37.0	16.2
P6KA12	12.0	1.0	9.7	5.0	34.7	17.3
P6KA13	13.0	1.0	10.5	5.0	31.6	19.0
P6KA15	15.0	1.0	12.1	5.0	27.3	22.0
P6KA16	16.0	1.0	12.9	5.0	25.5	23.5
P6KA18	18.0	1.0	14.5	5.0	22.6	26.5
P6KA20	20.0	1.0	16.2	5.0	20.6	29.1
P6KA22	22.0	1.0	17.8	5.0	18.8	31.9
P6KA24	24.0	1.0	19.4	5.0	17.3	34.7
P6KA27	27.0	1.0	21.8	5.0	15.3	39.1
P6KA30	30.0	1.0	24.3	5.0	13.8	43.5
P6KA33	33.0	1.0	26.8	5.0	12.6	47.7
P6KA36	36.0	1.0	29.1	5.0	11.5	52.0
P6KA39	39.0	1.0	31.6	5.0	10.6	56.4
P6KA43	43.0	1.0	34.8	5.0	9.7	61.9

Notes:

- (1) Standard breakdown voltage is ± 10% tolerance
Add "A" suffix to part number for ± 5% tolerance
- (2) Peak impulse surge current waveform: 10/1000μs at T_A=25°C

600 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-204AC



DEVICE TYPE	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE, (I _D), at V _{WM} μA (2)	MAX. REVERSE IMPULSE CURRENT (I _{PPM}) AMPS (3)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
	V _(BR) VOLTS NOM.	at I _T mA				
P6KE6.8	6.8	10.0	5.5	1000.0	55.6	10.8
P6KE7.5	7.5	10.0	6.1	500.0	51.3	11.7
P6KE8.2	8.2	10.0	6.6	200.0	48.0	12.5
P6KE9.1	9.1	10.0	7.4	50.0	43.5	13.8
P6KE10	10.0	1.0	8.1	10.0	40.0	15.0
P6KE11	11.0	1.0	8.9	5.0	37.0	16.2
P6KE12	12.0	1.0	9.7	5.0	35.0	17.3
P6KE13	13.0	1.0	10.5	5.0	31.6	19.0
P6KE15	15.0	1.0	12.1	5.0	27.3	22.0
P6KE16	16.0	1.0	12.9	5.0	25.5	23.5
P6KE18	18.0	1.0	14.5	5.0	22.6	26.5
P6KE20	20.0	1.0	16.2	5.0	20.6	29.1
P6KE22	22.0	1.0	17.8	5.0	18.8	31.9
P6KE24	24.0	1.0	19.4	5.0	17.3	34.7
P6KE27	27.0	1.0	21.8	5.0	15.3	39.1
P6KE30	30.0	1.0	24.3	5.0	13.8	43.5
P6KE33	33.0	1.0	26.8	5.0	12.6	47.7
P6KE36	36.0	1.0	29.1	5.0	11.5	52.0
P6KE39	39.0	1.0	31.6	5.0	10.6	56.4
P6KE43	43.0	1.0	34.8	5.0	9.7	61.9
P6KE47	47.0	1.0	38.1	5.0	8.8	67.8
P6KE51	51.0	1.0	41.3	5.0	8.2	73.5
P6KE56	56.0	1.0	45.4	5.0	7.5	80.5
P6KE62	62.0	1.0	50.2	5.0	6.7	89.0
P6KE68	68.0	1.0	55.1	5.0	6.1	98.0
P6KE75	75.0	1.0	60.7	5.0	5.6	108.0
P6KE82	82.0	1.0	66.4	5.0	5.1	118.0
P6KE91	91.0	1.0	73.7	5.0	4.6	131.0
P6KE100	100.0	1.0	81.0	5.0	4.2	144.0
P6KE110	110.0	1.0	89.2	5.0	3.8	158.0
P6KE120	120.0	1.0	97.2	5.0	3.5	173.0
P6KE130	130.0	1.0	105.0	5.0	3.2	187.0
P6KE150	150.0	1.0	121.0	5.0	2.8	215.0
P6KE160	160.0	1.0	130.0	5.0	2.6	230.0
P6KE170	170.0	1.0	138.0	5.0	2.5	244.0
P6KE180	180.0	1.0	146.0	5.0	2.3	258.0
P6KE200	200.0	1.0	162.0	5.0	2.1	287.0
P6KE220	220.0	1.0	175.0	5.0	1.7	344.0
P6KE250	250.0	1.0	202.0	5.0	1.7	360.0
P6KE300	300.0	1.0	243.0	5.0	1.4	430.0
P6KE350	350.0	1.0	284.0	5.0	1.2	504.0
P6KE400	400.0	1.0	324.0	5.0	1.0	574.0
P6KE440	440.0	1.0	356.0	5.0	0.95	631.0

Notes:

- (1) Standard device has ± 10% tolerance on nominal breakdown voltage, add "A" suffix to part for ± 5% tolerance, add "C" suffix to indicate bi-directional
- (2) For bi-directional types having V_R of 10 Volts and less, the I_D limit is doubled
- (3) Peak impulse current waveform: 10/1000μs at T_A=25°C

600 WATT SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

C-Bend- SMBJ Prefix
CASE TYPE: DO-214AA



Operating Junction and Storage
Temperature Range: -55° to +150°C

“Gull-Wing”
SMBG Prefix
CASE TYPE: DO215AA



DEVICE TYPE (3)	DEVICE MARKING CODES		BREAKDOWN VOLTAGE (1)		REVERSE STANDOFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE CURRENT at V _{WM} (I ₀) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
			V _(BR) MIN. VOLTS	at I _T mA				
	UNI	BI						
SMBJ5.0	KD	KD	6.40	10.0	5.0	800.0*	62.5	9.6
SMBJ6.0	KF	KF	6.67	10.0	6.0	800.0*	52.6	11.4
SMBJ6.5	KH	AH	7.22	10.0	6.5	500.0*	48.8	12.3
SMBJ7.0	KL	KL	7.78	10.0	7.0	400.0*	45.1	13.3
SMBJ7.5	KN	AN	8.33	1.0	7.5	100.0*	42.0	14.3
SMBJ8.0	KQ	AQ	8.89	1.0	8.0	50.0*	40.0	15.0
SMBJ8.5	KS	AS	9.44	1.0	8.5	10.0*	37.7	15.9
SMBJ9.0	KU	AU	10.0	1.0	9.0	5.0*	35.5	16.9
SMBJ10	KW	AW	11.1	1.0	10.0	5.0	31.9	18.8
SMBJ11	KY	KY	12.2	1.0	11.0	5.0	29.9	20.1
SMBJ12	LD	BD	13.3	1.0	12.0	5.0	27.3	22.0
SMBJ13	LF	LF	14.4	1.0	13.0	5.0	25.2	23.8
SMBJ14	LH	BH	15.6	1.0	14.0	5.0	23.3	25.8
SMBJ15	LL	BL	16.7	1.0	15.0	5.0	22.3	26.9
SMBJ16	LN	LN	17.8	1.0	16.0	5.0	20.8	28.8
SMBJ17	LQ	LQ	18.9	1.0	17.0	5.0	19.7	30.5
SMBJ18	LS	BS	20.0	1.0	18.0	5.0	18.6	32.2
SMBJ20	LU	LU	22.2	1.0	20.0	5.0	16.8	35.8
SMBJ22	LW	BW	24.4	1.0	22.0	5.0	15.2	39.4
SMBJ24	LY	BY	26.7	1.0	24.0	5.0	14.0	43.0
SMBJ26	MD	CD	28.9	1.0	26.0	5.0	12.9	46.6
SMBJ28	MF	MF	31.1	1.0	28.0	5.0	12.0	50.0
SMBJ30	MH	CH	33.3	1.0	30.0	5.0	11.2	53.5
SMBJ33	ML	CL	36.7	1.0	33.0	5.0	10.2	59.0
SMBJ36	MN	CN	40.0	1.0	36.0	5.0	9.3	64.3
SMBJ40	MQ	CQ	44.4	1.0	40.0	5.0	8.4	71.4
SMBJ43	MS	CS	47.8	1.0	43.0	5.0	7.8	76.7
SMBJ45	MU	MU	50.0	1.0	45.0	5.0	7.5	80.3
SMBJ48	MW	MW	53.3	1.0	48.0	5.0	7.0	85.5
SMBJ51	MY	MY	56.7	1.0	51.0	5.0	6.6	91.1
SMBJ54	ND	ND	60.0	1.0	54.0	5.0	6.2	96.3
SMBJ58	NF	NF	64.4	1.0	58.0	5.0	5.8	103
SMBJ60	NH	NH	66.7	1.0	60.0	5.0	5.6	107
SMBJ64	NL	NL	71.1	1.0	64.0	5.0	5.3	114
SMBJ70	NN	NN	77.6	1.0	70.0	5.0	4.8	125
SMBJ75	NQ	NQ	83.3	1.0	75.0	5.0	4.5	134
SMBJ78	NS	NS	86.7	1.0	78.0	5.0	4.3	139
SMBJ85	NU	NU	94.9	1.0	85.0	5.0	4.0	151
SMBJ90	NW	NW	100.0	1.0	90.0	5.0	3.8	160
SMBJ100	NY	NY	111.0	1.0	100.0	5.0	3.4	179
SMBJ110	PD	PD	122.0	1.0	110.0	5.0	3.1	196
SMBJ120	PF	PF	133.0	1.0	120.0	5.0	2.8	214
SMBJ130	PH	PH	144.0	1.0	130.0	5.0	2.6	231
SMBJ150	PL	PL	167.0	1.0	150.0	5.0	2.2	268
SMBJ160	PN	PN	178.0	1.0	160.0	5.0	2.1	287
SMBJ170	PQ	PQ	189.0	1.0	170.0	5.0	2.0	304

Notes:

(1) Standard device is 10% tolerance for 5% tolerance add "A" suffix to part number or bi-directional types these I₀ limits are doubled

(2) Peak impulse current waveform: 10/1000μs at T_A=25°C

(3) Available in bi-directional by adding suffix "C"

*For bi-directional components having V_{WM} of 100 Volts and less, the I₀ limit is doubled

600 WATT AUTOMOTIVE SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-214AA



Operating Junction and Storage Temperature Range: -65° to +185°C

DEVICE TYPE	DEVICE MARKING CODES	BREAKDOWN VOLTAGE (1)		REVERSE STAND OFF VOLTAGE (V _{WM}) VOLTS	MAX.REVERSE LEAKAGE at V _{WM} T _J =150°C (I _D) μA	PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS (2)
		V _(BR) VOLTS NOM.	at I _r mA				
TPSMB6.8	KDP	6.8	10.0	5.5	1000.0	55.6	10.8
TPSMB7.5	KFP	7.5	10.0	6.1	500.0	51.3	11.7
TPSMB8.2	KHP	8.2	10.0	6.6	200.0	48.0	12.5
TPSMB9.1	KLP	9.1	10.0	7.4	50.0	43.5	13.8
TPSMB10	KNP	10	1.0	8.1	20.0	40.0	15.0
TPSMB11	KQP	11	1.0	8.9	10.0	37.0	16.2
TPSMB12	KSP	12	1.0	9.7	5.0	34.7	17.3
TPSMB13	KUP	13	1.0	10.5	5.0	31.6	19.0
TPSMB15	KWP	15	1.0	12.1	5.0	27.3	22.0
TPSMB16	KYP	16	1.0	12.9	5.0	25.5	23.5
TPSMB18	LDP	18	1.0	14.5	5.0	22.6	26.5
TPSMB20	LFP	20	1.0	16.2	5.0	20.6	29.1
TPSMB22	LHP	22	1.0	17.8	5.0	18.8	31.9
TPSMB24	LLP	24	1.0	19.4	5.0	17.3	34.7
TPSMB27	LNP	27	1.0	21.8	5.0	15.3	39.1
TPSMB30	LQP	30	1.0	24.3	5.0	13.8	43.5
TPSMB33	LSP	33	1.0	26.8	5.0	12.6	47.7
TPSMB36	LUP	36	1.0	29.1	5.0	11.5	52.0
TPSMB39	LWP	39	1.0	31.6	5.0	10.6	56.4
TPSMB43	LYP	43	1.0	34.8	5.0	9.7	61.9

Notes:

(1) Standard device has ± 10% tolerance on nominal breakdown voltage

For ± 5% tolerance, and 'A' suffix to part number

(2) Peak impulse current waveform: 10/1000μs at T_A=25°C

1500 WATT AUTOMOTIVE TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: 1.5KA



DEVICE TYPE	BREAKDOWN VOLTAGE (1)		MAX. REVERSE STAND-OFF (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE at V _{WM} (I _D) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
	V _(BR) VOLTS NOM.	at I _T mA				
1.5KA6.8	6.8	10.0	5.5	2000.0	139	10.8
1.5KA7.5	7.5	10.0	6.1	1000.0	128	11.7
1.5KA8.2	8.2	10.0	6.6	400.0	120	12.5
1.5KA9.1	9.1	10.0	7.4	100.0	109	13.8
1.5KA10	10.0	1.0	8.1	20.0	100	15.0
1.5KA11	11.0	1.0	8.9	10.0	92.6	16.2
1.5KA12	12.0	1.0	9.7	10.0	86.7	17.3
1.5KA13	13.0	1.0	10.5	10.0	78.9	19.0
1.5KA15	15.0	1.0	12.1	10.0	68.2	22.0
1.5KA16	16.0	1.0	12.9	10.0	63.8	23.5
1.5KA18	18.0	1.0	14.5	10.0	56.6	26.5
1.5KA20	20.0	1.0	16.2	10.0	51.5	29.1
1.5KA22	22.0	1.0	17.8	10.0	47.0	31.9
1.5KA24	24.0	1.0	19.4	10.0	43.2	34.7
1.5KA27	27.0	1.0	21.8	10.0	38.4	39.1
1.5KA30	30.0	1.0	24.3	10.0	34.5	43.5
1.5KA33	33.0	1.0	26.8	10.0	31.4	47.7
1.5KA36	36.0	1.0	29.1	10.0	28.8	52.0
1.5KA39	39.0	1.0	31.6	10.0	26.6	56.4
1.5KA43	43.0	1.0	34.8	10.0	24.2	61.9

Notes:

- (1) Standard device has ± 10% tolerance on nominal breakdown voltage
Add "A" suffix to part number for ± 5% tolerance
- (2) Peak impulse current waveform: 10/1000μs at T_A=25°C

1500 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: 1.5KE



DEVICE TYPE (2)	JEDEC TYPE NUMBER	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE at V _{WM} (I _D) mA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (3)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS (3)
		V _(BR) VOLTS NOM. (1)	at I _T mA				
1.5KE6.8	1N6267	6.8	10.0	5.5	1000.0	139.0	10.8
1.5KE7.5	1N6268	7.5	10.0	6.1	500.0	128.0	11.7
1.5KE8.2	1N6269	8.2	10.0	6.6	200.0	120.0	12.5
1.5KE9.1	1N6270	9.1	10.0	7.4	50.0	109.0	13.8
1.5KE10	1N6271	10	1.0	8.1	10.0	100.0	15.0
1.5KE11	1N6272	11	1.0	8.9	5.0	92.6	16.2
1.5KE12	1N6273	12	1.0	9.7	5.0	86.7	17.3
1.5KE13	1N6274	13	1.0	10.5	5.0	78.9	19.0
1.5KE15	1N6275	15	1.0	12.1	5.0	68.2	22.0
1.5KE16	1N6276	16	1.0	12.9	5.0	63.8	23.5
1.5KE18	1N6277	18	1.0	14.5	5.0	56.6	26.5
1.5KE20	1N6278	20	1.0	16.2	5.0	51.5	29.1
1.5KE22	1N6279	22	1.0	17.8	5.0	47.0	31.9
1.5KE24	1N6280	24	1.0	19.4	5.0	43.2	34.7
1.5KE27	1N6281	27	1.0	21.8	5.0	38.4	39.1
1.5KE30	1N6282	30	1.0	24.3	5.0	34.5	43.5
1.5KE33	1N6283	33	1.0	26.8	5.0	31.4	47.7
1.5KE36	1N6284	36	1.0	29.1	5.0	28.8	52.0
1.5KE39	1N6285	39	1.0	31.6	5.0	26.6	56.4
1.5KE43	1N6286	43	1.0	34.8	5.0	24.2	61.9
1.5KE47	1N6287	47	1.0	38.1	5.0	22.1	67.8
1.5KE51	1N6288	51	1.0	41.3	5.0	20.4	73.5
1.5KE56	1N6289	56	1.0	45.4	5.0	18.6	80.5
1.5KE62	1N6290	62	1.0	50.2	5.0	16.9	89.0
1.5KE68	1N6291	68	1.0	55.1	5.0	15.3	98.0
1.5KE75	1N6292	75	1.0	80.7	5.0	13.9	108.0
1.5KE82	1N6293	82	1.0	66.4	5.0	12.7	118.0
1.5KE91	1N6294	91	1.0	73.7	5.0	11.5	131.0
1.5KE100	1N6295	100	1.0	81.0	5.0	10.4	144.0
1.5KE110	1N6296	110	1.0	89.2	5.0	9.5	158.0
1.5KE120	1N6297	120	1.0	97.2	5.0	8.7	173.0
1.5KE130	1N6298	130	1.0	105.0	5.0	8.0	187.0
1.5KE150	1N6299	150	1.0	121.0	5.0	7.0	215.0
1.5KE160	1N6300	160	1.0	130.0	5.0	6.5	230.0
1.5KE170	1N6301	170	1.0	138.0	5.0	6.1	244.0
1.5KE180	1N6302	180	1.0	146.0	5.0	5.8	258.0
1.5KE200	1N6303	200	1.0	62.0	5.0	5.2	344.0
1.5KE250	-	250	1.0	202.0	5.0	4.2	360.0
1.5KE300	-	300	1.0	243.0	5.0	3.5	430.0
1.5KE350	-	350	1.0	284.0	5.0	3.0	504.0
1.5KE400	-	400	1.0	324.0	5.0	2.6	574.0
1.5KE440	-	440	1.0	356.0	5.0	2.4	631.0

- Notes:**
- (1) Standard device has 10% tolerance on nominal breakdown voltage, for ± 5% tolerance, add "A" suffix to part number
 - (2) For bi-directional device add "C" suffix to number, the "C" suffix will precede the "A" suffix when used, 1N62XX parts not available as bi-directional
For bi-directional types having V_R of 10 volts and less, I_D limit is doubled
 - (3) Peak impulse current waveform: 10/1000μs at T_A=25°C

1500 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: 1.5KE



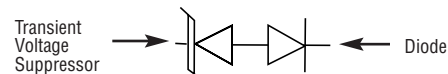
DEVICE TYPE (2)	JEDEC TYPE	BREAKDOWN VOLTAGE (1)		REVERSE STAND-OFF (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE at V _{WM} (I _D) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (3)	MAX. CLAMPING VOLTAGE at I _A (V _C) VOLTS (3)
		V _(BR) VOLTS MIN.	at I _T mA				
ICTE-5*	1N6373	6.0	1.0	5.0	300.0	160	7.1
ICTE-8	1N6374	9.4	1.0	8.0	25.0	100	11.3
ICTE-8C	1N6382	9.4	1.0	8.0	50.0	100	11.4
ICTE-10	1N6375	11.7	1.0	10.0	5.0	90	13.7
ICTE-10C	1N6383	11.7	1.0	10.0	2.0	90	14.1
ICTE-12	1N6376	14.1	1.0	12.0	2.0	70	16.1
ICTE-12C	1N6384	14.1	1.0	12.0	2.0	70	16.7
ICTE-15	1N6377	17.6	1.0	15.0	2.0	60	20.1
ICTE-15C	1N6385	17.6	1.0	15.0	2.0	60	20.8

Notes:

- (1) The minimum breakdown voltage as shown takes into consideration the ± 1 volt tolerance normally specified for power supply regulation on most integrated circuit manufacturers data sheets
- (2) "C" suffix indicates bi-directional device
*ICTE-5 is not available in bi-directional
- (3) Peak impulse current waveform: 10/1000μs at T_A=25°C

1500 WATT LOW CAPACITANCE TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: 1.5KE



DEVICE TYPE (2)	BREAKDOWN VOLTAGE		REVERSE STAND-OFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE, (I _D), at V _{WM} μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (3)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS	MAX. CAPACITANCE JUNCTION at 0 VOLTS 1.0 MHz (C _J) pF
	V _(BR) VOLTS MIN./MAX.	at I _T mA					
LCE6.5	7.22/8.82	10.0	6.5	1000	100	12.3	100
LCE7.0	7.78/9.51	10.0	7.0	500	100	13.3	100
LCE7.5	8.33/10.2	10.0	7.5	250	100	14.3	100
LCE8.0	8.89/10.9	1.0	8.0	100.0	100	15.0	100
LCE8.5	9.44/11.5	1.0	8.5	50.0	94	15.9	100
LCE9.0	10.0/12.2	1.0	9.0	10.0	89	16.9	100
LCE10	11.1/13.6	1.0	10.0	5.0	80	18.8	100
LCE11	12.2/14.9	1.0	11.0	5.0	74	20.1	100
LCE12	13.3/16.3	1.0	12.0	5.0	68	22.0	100
LCE13	14.4/17.6	1.0	13.0	5.0	63	23.8	100
LCE14	15.6/19.1	1.0	14.0	5.0	58	25.8	100
LCE15	16.7/20.4	1.0	15.0	5.0	56	26.9	100
LCE16	17.8/21.8	1.0	16.0	5.0	52	28.8	100
LCE17	18.9/23.1	1.0	17.0	5.0	49	30.5	100
LCE18	20.0/24.4	1.0	18.0	5.0	46	32.2	100
LCE20	22.2/27.1	1.0	20.0	5.0	42	35.8	100
LCE22	24.4/29.8	1.0	22.0	5.0	38	39.4	100
LCE24	26.7/32.6	1.0	24.0	5.0	35	43.0	100
LCE26	28.9/35.3	1.0	26.0	5.0	32	46.6	100
LCE28	31.1/38.0	1.0	28.0	5.0	30	50.1	100

Notes:

- (1) Entire Series is UL listed for Telcom application protection 497B, file number is 136766
- (2) Also available for 5% tolerance by adding suffix letter "A" to part number
- (3) Peak impulse current waveform: 10/1000μs at T_A=25°C

1500 WATT SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

C-Bend- SMBJ Prefix
CASE TYPE: DO-214AA



Operating Junction and Storage
Temperature Range: -55° to +150°C

“Gull-Wing”
SMBG Prefix
CASE TYPE: DO215AA



DEVICE TYPE (3)	DEVICE MARKING CODES		BREAKDOWN VOLTAGE (1)		REVERSE STANDOFF VOLTAGE (V _{WM}) VOLTS	MAX. REVERSE LEAKAGE CURRENT at V _{WM} (I _D) μA	MAX. PEAK IMPULSE CURRENT (I _{PPM}) AMPS (2)	MAX. CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
			V _(BR) MIN. VOLTS	at I _T mA				
	UNI	BI						
SMCJ5.0	GDD	GDD	6.40	10	5.0	1000*	156.0	9.6
SMCJ6.0	GDF	GDF	6.67	10	6.0	1000*	132.0	11.4
SMCJ6.5	GDH	BDH	7.22	10	6.5	500*	122.0	12.3
SMCJ7.0	GDL	GDL	7.78	10	7.0	200*	113.0	13.3
SMCJ7.5	GDN	BDN	8.33	1.0	7.5	100*	105.0	14.3
SMCJ8.0	GDQ	BDQ	8.89	1.0	8.0	50*	100.0	15.0
SMCJ8.5	GDS	DBS	9.44	1.0	8.5	25*	94.3	15.9
SMCJ9.0	GDU	BDU	10.0	1.0	9.0	10*	88.8	16.9
SMCJ10	GDW	BDW	11.1	1.0	10.0	5.0	79.8	18.8
SMCJ11	GDY	GDY	12.2	1.0	11.0	5.0	74.6	20.1
SMCJ12	GED	BED	13.3	1.0	12.0	5.0	68.2	22.0
SMCJ13	GEF	GEF	14.4	1.0	13.0	5.0	63.0	23.8
SMCJ14	GEH	BEH	15.6	1.0	14.0	5.0	58.1	25.8
SMCJ15	GEL	BEL	16.7	1.0	15.0	5.0	55.8	26.9
SMCJ16	GEN	GEN	17.8	1.0	16.0	5.0	52.1	28.8
SMCJ17	GEQ	GEQ	18.9	1.0	17.0	5.0	49.2	30.5
SMCJ18	GES	BES	20.0	1.0	18.0	5.0	46.6	32.2
SMCJ20	GEU	BEU	22.2	1.0	20.0	5.0	41.9	35.8
SMCJ22	GEW	BEW	24.4	1.0	22.0	5.0	38.1	39.4
SMCJ24	GEY	BEY	26.7	1.0	24.0	5.0	34.9	43.0
SMCJ26	GFD	BFD	28.9	1.0	26.0	5.0	32.2	46.6
SMCJ28	GFF	BFF	31.1	1.0	28.0	5.0	30.0	50.0
SMCJ30	GFH	BFH	33.3	1.0	30.0	5.0	28.0	53.5
SMCJ33	GFL	BFL	36.7	1.0	33.0	5.0	25.4	59.0
SMCJ36	GFN	BFN	40.0	1.0	36.0	5.0	23.3	64.3
SMCJ40	GFQ	BFQ	44.4	1.0	40.0	5.0	21.0	71.4
SMCJ43	GFS	BFS	47.8	1.0	43.0	5.0	19.6	76.7
SMCJ45	GFU	GFU	50.0	1.0	45.0	5.0	18.7	80.3
SMCJ48	GFV	GFV	53.3	1.0	48.0	5.0	17.5	85.5
SMCJ51	GFY	GFY	56.1	1.0	51.0	5.0	16.5	91.1
SMCJ54	GGD	GDD	60.0	1.0	54.0	5.0	15.6	96.3
SMCJ58	GGF	GGF	64.4	1.0	58.0	5.0	14.6	103
SMCJ60	GGH	GGH	66.7	1.0	60.0	5.0	14.0	107
SMCJ64	GGL	GGL	71.1	1.0	64.0	5.0	13.2	114
SMCJ70	GGN	GGN	77.6	1.0	70.0	5.0	12.0	125
SMCJ75	GGQ	GGQ	83.3	1.0	75.0	5.0	11.2	134
SMCJ78	GGS	GGS	86.7	1.0	78.0	5.0	10.8	139
SMCJ85	GGU	GGU	94.9	1.0	85.0	5.0	9.9	151
SMCJ90	GGW	GGW	100	1.0	90.0	5.0	9.4	160
SMCJ100	GGY	GGY	111	1.0	100.0	5.0	8.4	179
SMCJ110	GHD	GHD	122	1.0	110.0	5.0	7.7	196
SMCJ120	GHF	GHF	133	1.0	120.0	5.0	7.0	214
SMCJ130	GHH	GHH	144	1.0	130.0	5.0	6.5	231
SMCJ150	GHL	GHL	167	1.0	150.0	5.0	5.6	268
SMCJ160	GHN	GHN	178	1.0	160.0	5.0	5.2	287
SMCJ170	GHQ	GHQ	189	1.0	170.0	5.0	4.9	304

Notes:

- (1) Standard device is 10% tolerance, for 5% tolerance, add "A" suffix to part number
- (2) Peak impulse current waveform: 10/1000μs at TA=25°C
- (3) Available in bi-directional by adding suffix "C"
- *For bi-directional types having V_{WM} of 10 Volts and less, the I_D limits are doubled

1500 WATT AUTOMOTIVE SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: DO-214AB



Operating Junction and Storage Temperature Range: -65° to +185°C

DEVICE TYPE	DEVICE MARKINGS	BREAKDOWN VOLTAGE (1)		REVERSE STANDOFF VOLTAGE (V _{WM}) VOLTS	MAX. REV. LEAKAGE at V _{WM} at T _J =150°C (I _D) μA	MAX. PEAK REV. SURGE CURRENT (I _{PPM}) AMPS	CLAMPING VOLTAGE at I _{PPM} (V _C) VOLTS
		V _(BR) Volts NOM.	at I _r mA				
TPSMC6.8	DDP	6.8	10.0	5.5	1000.0	139.0	10.8
TPSMC7.5	DFP	7.5	10.0	6.1	500.0	128.0	11.7
TPSMC8.2	DHP	8.2	10.0	6.6	200.0	120.0	12.5
TPSMC9.1	DLP	9.1	10.0	7.4	50.0	109.0	13.8
TPSMC10	DNP	10	10.0	8.1	20.0	100.0	15.0
TPSMC11	DQP	11	10.0	8.9	10.0	93.0	16.2
TPSMC12	DSP	12	10.0	9.7	10.0	87.0	17.3
TPSMC13	DUP	13	10.0	10.5	10.0	79.0	19.0
TPSMC15	DWP	15	10.0	12.1	10.0	68.0	22.0
TPSMC16	DYP	16	10.0	12.9	10.0	64.0	23.5
TPSMC18	EDP	18	10.0	14.5	10.0	56.5	26.5
TPSMC20	EFP	20	10.0	16.2	10.0	51.5	29.1
TPSMC22	EHP	22	10.0	17.8	10.0	47.0	31.9
TPSMC24	ELP	24	10.0	19.4	10.0	43.0	34.7
TPSMC27	ENP	27	10.0	21.8	10.0	38.5	39.1
TPSMC30	EQP	30	10.0	24.3	10.0	34.5	43.5
TPSMC33	ESP	33	10.0	26.8	10.0	31.5	47.7
TPSMC36	EUP	36	10.0	29.1	10.0	29.0	52.0
TPSMC39	EWP	39	10.0	31.6	10.0	26.5	56.4
TPSMC43	EYP	43	10.0	34.8	10.0	24.0	61.9

Note: (1) Standard device

5000 WATT TRANSIENT VOLTAGE SUPPRESSORS

CASE TYPE: P600



DEVICE TYPE	BREAKDOWN VOLTAGE $V_{(BR)}$ (1)		REVERSE STAND-OFF VOLTAGE (V_{WM}) VOLTS	MAX. REVERSE LEAKAGE (I_D), at V_{WM} μ A	MAX. PEAK IMPULSE CURRENT (I_{PPM}) AMPS (2)	CLAMPING VOLTAGE at I_{PPM} (V_C) VOLTS (2)
	VOLTS MIN	at I_T mA				
5KP5.0	6.85	50.0	5.0	2000.0	521.0	9.6
5KP6.0	7.41	50.0	6.0	2000.0	439.0	11.4
5KP6.5	8.02	50.0	6.5	2000.0	407.0	12.3
5KP7.0	8.65	50.0	7.0	1000.0	376.0	13.3
5KP7.5	9.27	50.0	7.5	250.0	350.0	14.3
5KP8.0	9.90	5.0	8.0	150.0	333.0	15.0
5KP8.5	10.47	5.0	8.5	50.0	314.0	15.9
5KP9.0	11.10	5.0	9.0	20.0	296.0	16.9
5KP10	12.35	5.0	10.0	15.0	266.0	18.8
5KP11	13.55	5.0	11.0	10.0	249.0	20.1
5KP12	14.80	5.0	12.0	10.0	227.0	22.0
5KP13	16.00	5.0	13.0	10.0	210.0	23.8
5KP14	17.35	5.0	14.0	10.0	194.0	25.8
5KP15	18.55	5.0	15.0	10.0	186.0	26.9
5KP16	19.80	5.0	16.0	10.0	174.0	28.8
5KP17	21.00	5.0	17.0	10.0	164.0	30.5
5KP18	22.20	5.0	18.0	10.0	155.0	32.2
5KP20	24.65	5.0	20.0	10.0	140.0	35.8
5KP22	27.10	5.0	22.0	10.0	127.0	39.4
5KP24	29.65	5.0	24.0	10.0	116.0	43.0
5KP26	32.10	5.0	26.0	10.0	107.0	46.6
5KP28	34.55	5.0	28.0	10.0	100.0	50.0
5KP30	37.00	5.0	30	10.0	93.5	53.5
5KP33	40.80	5.0	33	10.0	84.7	59.0
5KP36	44.45	5.0	36	10.0	77.8	64.3
5KP40	49.35	5.0	40	10.0	70.0	71.4
5KP43	53.10	5.0	43	10.0	65.2	76.7
5KP45	55.55	5.0	45	10.0	62.3	80.3
5KP48	59.20	5.0	48	10.0	58.5	85.5
5KP51	63.00	5.0	51	10.0	54.9	91.1
5KP54	66.65	5.0	54	10.0	51.9	96.3
5KP58	71.55	5.0	58	10.0	48.5	103
5KP60	74.10	5.0	60	10.0	46.7	107
5KP64	79.00	5.0	64	10.0	43.9	114
5KP70	86.45	5.0	70	10.0	40.0	125
5KP75	92.65	5.0	75	10.0	37.3	134
5KP78	96.35	5.0	78	10.0	36.0	139
5KP85	104.7	5.0	85	10.0	33.1	151
5KP90	111.0	5.0	90	10.0	31.3	160
5KP100	123.5	5.0	100	10.0	27.9	179
5KP110	135.5	5.0	110	10.0	25.5	196

Notes:

- (1) Standard device has $\pm 10\%$ tolerance on nominal breakdown voltage
For $\pm 5\%$ tolerance add "A" suffix to part number
- (2) Peak impulse current waveform: 10/1000 μ s at $T_A=25^\circ\text{C}$

SURFACE MOUNT AUTOMOTIVE TRANSIENT SUPPRESSORS

CASE TYPE: DO-218AA



DEVICE TYPE	BREAKDOWN VOLTAGE $V_{(BR)}$		REVERSE STAND-OFF VOLTAGE (V_{WM}) VOLTS	MAX. REVERSE LEAKAGE, (I_r), at V_{WM} μA	MAX. PEAK IMPULSE CURRENT (I_{RSM}) AMPS	MAX. PEAK VOLTAGE (V_c) at I_{PSM} VOLTS
	VOLTS MIN	at I_r mA				
SM5A27	24	10	22.0	0.20	50.0	40.0
SM6A27	24	10	22.0	0.50	60.0	40.0
SM8A27	24	10	22.0	1.0	75.0	40.0

6500 WATT AUTOMOTIVE LOAD DUMP TRANSIENT VOLTAGE SUPPRESSOR

CASE TYPE: P600



Operating Junction and Storage Temperature Range: -65°C to +185°C

DEVICE TYPE - 6KA24	VALUES
MIN - MAX BREAKDOWN VOLTAGE $V_{(BR)}$ at $I_T=100mA$ $T_A=25^\circ C$ Volts $T_A=150^\circ C$ Volts	26.7 - 32.6 29.7 - 36.7
REVERSE STAND-OFF VOLTAGE (V_{WM}) VOLTS	24.0
MAX. REVERSE LEAKAGE (I_D) AT V_{WM} $T_A=25^\circ C$ μA $T_A=150^\circ C$ μA	1.0 50.0
MAX. INSTANTANEOUS FORWARD VOLTAGE (V_F) at 100 AMPS VOLTS, $T_A=25^\circ C$ (Note 2)	1.75
MAX. CLAMPING VOLTAGE (V_c) at $I_{PPM} = 90$ AMPS $T_A=25^\circ C$ Volts $T_A=125^\circ C$ Volts (Note 1)	38.0 40.0

Notes:

- (1) Non-repetitive peak impulse current pulse width is 10/1000 μs waveform
- (2) Measured on a 300 μs pulse width single square or equivalent sine wave form

ZENER DIODE SERIES SUMMARY

P _{max} (mW)	Device	Package	Zener Voltage Range (Volts)	Zener Voltage Tolerances				Page
				10%	5%	3%	2%	
200	BZX384-yxx⁺⁺	SOD-323	2.4 - 75		C		B	
300	AZ23-yxx*	SOT-23	2.4 - 51		C			64
	DZ23-yxx**	SOT-23	2.4 - 51		C			72
	MMBZ46xx⁺⁺	SOT-23	2.4 - 43		std			
	MMBZ52xy	SOT-23	3.0 - 75		B		C	74
350	BZX84-yxx	SOT-23	2.4 - 75		C		B	69
410	BZT52-yxx	SOD-123	2.4 - 75		C		B	65
500	IN46xx⁺⁺	DO-35 Glass	2.4 - 43		std			
	1N52xy	DO-35 Glass	3.0 - 75		B		C	61
	1N7xy	DO-35 Glass	3.3 - 12		A			62
	1n9xy	DO-35 Glass	6.8 - 91		B			63
	BZV55-yxx	MiniMELF	2.4 - 75		C	F	B	66
	BZX55-yxx	DO-35 Glass	0.8, 2.4 - 75		C		B	67
	BZX79-yxx	DO-35 Glass	2.4 - 75		C	F	B	68
	MMSZ46xx⁺⁺	SOD-123	2.4 - 43		std			
	MMSZ52xy⁺⁺	SOD -123	3.0 - 75		B		C	
	ZMM1 - ZMM75	MiniMELF Glass	1.0, 2.4 - 75		std.		***	80
	ZMM52xy	MiniMELF Glass	3.0 - 75		B			81
ZPDxx	DO-35 Glass	1.0, 2.4 - 75		std.		***	84	
1000	1N47xy	DO-41 Glass	3.3 - 100	std.	A			60
	GLL47xy	MELF Plastic	6.2 - 91	std.	A			73
	ZGL41-xy	MELF Plastic	100 - 200	std.	A			73
	SML47xy	SMA	6.2 - 91	std.	A			76
	ZM47xy	MELF Glass	3.3 - 100	std.	A			79
	ZMUxxx	MELF Glass	100 - 180	std.				82
	ZMYxx	MELF Glass	1.0, 3.3 - 100		std.		***	83
1300	BZX85-yxx	DO-41	3.6 - 62		C		B	70
	ZPUxxx	DO-41	100 - 180	std.				85
	ZPYxx	DO-41	1.0, 3.9 - 100		std.		***	86
1500	BZY97-yxx	DO-41 Plastic	11 - 68		C			71
	SMZG37xy	SMB - Gullwing	10 - 68	A+	B			77
	SMZJ37xy	SMB	10 - 68	A+	B			77
	Z4KExxxxy	DO-41 Plastic	100 - 200	std.	A			78
2000	ZYxx	DO-41 Plastic	11 - 68		std.			87

* = Dual Common Anode
 ** = Dual-Common Cathode
 *** = 2% tolerance available as a special at or below 62 V
 y = Zener voltage tolerance designator
 + = 20% tolerance standard (no suffix)
 std.= standard tolerance, where there is no letter for the designator.
 ++ = Available Q4 '98.
Blue Text = New Products

ZENER DIODES (1 WATT) 1N4728 / 1N4764

CASE TYPE: 204AL (Glass DO-41)



Type	Nominal Zener voltage ⁽³⁾ at I _{ZT} V _Z V	Test current I _{ZT} mA	Maximum Zener impedance ⁽¹⁾			Maximum reverse leakage current		Surge current at T _A = 25 °C I _R mA	Maximum regulator current ⁽²⁾ I _{ZM} mA
			at I _{ZT} Z _{ZT} Ω	Z _{ZK} Ω	at I _{ZK} mA	I _R μA	at V _R V		
1N4728	3.3	76	10	400	1.0	100	1	1380	276
1N4729	3.6	69	10	400	1.0	100	1	1260	252
1N4730	3.9	64	9	400	1.0	50	1	1190	234
1N4731	4.3	58	9	400	1.0	10	1	1070	217
1N4732	4.7	53	8	500	1.0	10	1	970	193
1N4733	5.1	49	7	550	1.0	10	1	890	178
1N4734	5.6	45	5	600	1.0	10	2	810	162
1N4735	6.2	41	2	700	1.0	10	3	730	146
1N4736	6.8	37	3.5	700	1.0	10	4	660	133
1N4737	7.5	34	4.0	700	0.5	10	5	605	121
1N4738	8.2	31	4.5	700	0.5	10	6	550	110
1N4739	9.1	28	5.0	700	0.5	10	7	500	100
1N4740	10	25	7	700	0.25	10	7.6	454	91
1N4741	11	23	8	700	0.25	5	8.4	414	83
1N4742	12	21	9	700	0.25	5	9.1	380	76
1N4743	13	19	10	700	0.25	5	9.9	344	69
1N4744	15	17	14	700	0.25	5	11.4	304	61
1N4745	16	15.5	16	700	0.25	5	12.2	285	57
1N4746	18	14	20	750	0.25	5	13.7	250	50
1N4747	20	12.5	22	750	0.25	5	15.2	225	45
1N4748	22	11.5	23	750	0.25	5	16.7	205	41
1N4749	24	10.5	25	750	0.25	5	18.2	190	38
1N4750	27	9.5	35	750	0.25	5	20.6	170	34
1N4751	30	8.5	40	1000	0.25	5	22.8	150	30
1N4752	33	7.5	45	1000	0.25	5	25.1	135	27
1N4753	36	7.0	50	1000	0.25	5	27.4	125	25
1N4754	39	6.5	60	1000	0.25	5	29.7	115	23
1N4755	43	6.0	70	1500	0.25	5	32.7	110	22
1N4756	47	5.5	80	1500	0.25	5	35.8	95	19
1N4757	51	5.0	95	1500	0.25	5	38.8	90	18
1N4758	56	4.5	110	2000	0.25	5	42.6	80	16
1N4759	62	4.0	125	2000	0.25	5	47.1	70	14
1N4760	68	3.7	150	2000	0.25	5	51.7	65	13
1N4761	75	3.3	175	2000	0.25	5	56.0	60	12
1N4762	82	3.0	200	3000	0.25	5	62.2	55	11
1N4763	91	2.8	250	3000	0.25	5	69.2	50	10
1N4764	100	2.5	350	3000	0.25	5	76.0	45	9

Notes:

- (1) The Zener impedance is derived from the 1kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions

ZENER DIODES (500mW) 1N5225 / 1N5267

CASE TYPE: DO-204AH (Glass DO-35)



Type	Nominal Zener voltage ⁽³⁾ at I_{ZT} V_Z V	Test current I_{ZT} mA	Maximum Zener impedance ⁽¹⁾		Typical temperature coefficient α_{VZ} % / K	Maximum reverse leakage current		Maximum regulator current ⁽²⁾ I_{ZM} mA
			at I_{ZT} Z_{ZT} Ω	at $I_{ZK}=0.25$ mA Z_{ZK} Ω		I_R (μ A)	Test Voltage V_R (V)	
1N5225	3.0	20	29	1600	-0.075	50	1.0	152
1N5226	3.3	20	28	1600	-0.070	25	1.0	138
1N5227	3.6	20	24	1700	-0.065	15	1.0	126
1N5228	3.9	20	23	1900	-0.060	10	1.0	115
1N5229	4.3	20	22	2000	-0.055	5	1.0	106
1N5230	4.7	20	19	1900	± 0.030	5	2.0	97
1N5231	5.1	20	17	1600	± 0.030	5	2.0	89
1N5232	5.6	20	11	1600	+0.038	5	3.0	81
1N5233	6.0	20	7	1600	+0.038	5	3.5	76
1N5234	6.2	20	7	1000	+0.045	5	4.0	73
1N5235	6.8	20	5	750	+0.050	3	5.0	67
1N5236	7.5	20	6	500	+0.058	3	6.0	61
1N5237	8.2	20	8	500	+0.062	3	6.5	55
1N5238	8.7	20	8	600	+0.065	3	6.5	52
1N5239	9.1	20	10	600	+0.068	3	7.0	50
1N5240	10	20	17	600	+0.075	3	8.0	45
1N5241	11	20	22	600	+0.076	2	8.4	41
1N5242	12	20	30	600	+0.077	1	9.1	38
1N5243	13	9.5	13	600	+0.079	0.5	9.9	35
1N5244	14	9.0	15	600	+0.082	0.1	10	32
1N5245	15	8.5	16	600	+0.082	0.1	11	30
1N5246	16	7.8	17	600	+0.083	0.1	12	28
1N5247	17	7.4	19	600	+0.084	0.1	13	27
1N5248	18	7.0	21	600	+0.085	0.1	14	25
1N5249	19	6.6	23	600	+0.086	0.1	14	24
1N5250	20	6.2	25	600	+0.086	0.1	15	23
1N5251	22	5.6	29	600	+0.087	0.1	17	21
1N5252	24	5.2	33	600	+0.087	0.1	18	19.1
1N5253	25	5.0	35	600	+0.089	0.1	19	18.2
1N5254	27	4.6	41	600	+0.090	0.1	21	16.8
1N5255	28	4.5	44	600	+0.091	0.1	21	16.2
1N5256	30	4.2	49	600	+0.091	0.1	23	15.1
1N5257	33	3.8	58	700	+0.092	0.1	25	13.8
1N5258	36	3.4	70	700	+0.093	0.1	27	12.6
1N5259	39	3.2	80	800	+0.094	0.1	30	11.6
1N5260	43	3.0	93	900	+0.095	0.1	33	10.6
1N5261	47	2.7	105	1000	+0.095	0.1	36	9.7
1N5262	51	2.5	125	1100	+0.096	0.1	39	8.9
1N5263	56	2.2	150	1300	+0.096	0.1	43	-
1N5264	60	2.1	170	1400	+0.097	0.1	46	-
1N5265	62	2.0	185	1400	+0.097	0.1	47	-
1N5266	68	1.8	230	1600	+0.097	0.1	52	-
1N5267	75	1.7	270	1700	+0.098	0.1	56	-

Notes:

- (1) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} . Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions

ZENER DIODES (500mW) 1N746A / 1N759A

CASE TYPE: DO-204AH (Glass DO-35)



Type	Nominal Zener Voltage $V_Z @ I_{ZT}$ Volts	Test Current I_{ZT} mA	Maximum Zener Impedance $Z_{ZT} @ I_{ZT}$ Ohms	Maximum DC Zener Current I_{ZM} mA	Maximum Reverse Leakage Current	
					$T_A = 25^\circ\text{C}$ $I_R @ V_R = 1V$ μA	$T_A = 150^\circ\text{C}$ $I_R @ V_R = 1V$ μA
1N746A	3.3	20	28	110	10	30
1N747A	3.6	20	24	100	10	30
1N748A	3.9	20	23	95	10	30
1N749A	4.3	20	22	85	2	30
1N750A	4.7	20	19	75	2	30
1N751A	5.1	20	17	70	1	20
1N752A	5.6	20	11	65	1	20
1N753A	6.2	20	7	60	0.1	20
1N754A	6.8	20	5	55	0.1	20
1N755A	7.5	20	6	50	0.1	20
1N756A	8.2	20	8	45	0.1	20
1N757A	9.1	20	10	40	0.1	20
1N758A	10	20	17	35	0.1	20
1N759A	12	20	30	30	0.1	20

ZENER DIODES (500mW) 1N957B / 1N984B

CASE TYPE: DO-204AH (Glass DO-35)



Type	Nominal Zener Voltage V _Z Volts	Test Current I _{ZT} mA	Maximum Zener Impedance			Maximum DC Zener Current I _{ZM} mA	Maximum Reverse Leakage Current	
			Z _{ZT} @ I _{ZT} Ohms	Z _{ZK} @ I _{ZK} Ohms	Z _{ZK} mA		T _A = 25°C I _R @ V _R = 1V μA	T _A = 150°C I _R @ V _R = 1V μA
1N957B	6.8	18.5	4.5	700	1	47	150	5.2
1N958B	7.5	16.5	5.5	700	0.5	42	75	5.7
1N959B	8.2	15	6.5	700	0.5	38	50	6.2
1N960B	9.1	14	7.5	700	0.5	35	25	6.9
1N961B	10	12.5	8.5	700	0.25	32	10	7.6
1N962B	11	11.5	9.5	700	0.25	28	5	8.4
1N963B	12	10.5	11.5	700	0.25	26	5	9.1
1N964B	13	9.5	13	700	0.25	24	5	9.9
1N965B	15	8.5	16	700	0.25	21	5	11.4
1N966B	16	7.8	17	700	0.25	19	5	12.2
1N967B	18	7	21	750	0.25	17	5	13.7
1N968B	20	6.2	25	750	0.25	15	5	15.2
1N969B	22	5.6	29	750	0.25	14	5	16.7
1N970B	24	5.2	33	750	0.25	13	5	18.2
1N971B	27	4.6	41	750	0.25	11	5	20.6
1N972B	30	4.2	49	1000	0.25	10	5	22.8
1N973B	33	3.8	58	1000	0.25	9.2	5	25.1
1N974B	36	3.4	70	1000	0.25	8.5	5	27.4
1N975B	39	3.2	80	1000	0.25	7.8	5	29.7
1N976B	43	3	93	1500	0.25	7	5	32.7
1N977B	47	2.7	105	1500	0.25	6.4	5	35.8
1N978B	51	2.5	125	1500	0.25	5.9	5	38.8
1N979B	56	2.2	150	2000	0.25	5.4	5	42.6
1N980B	62	2	185	2000	0.25	4.9	5	47.1
1N981B	68	1.8	230	2000	0.25	4.5	5	51.7
1N982B	75	1.7	270	2000	0.25	4.1	5	56
1N983B	82	1.5	330	3000	0.25	3.7	5	62.2
1N984B	91	1.4	400	3000	0.25	3.3	5	69.2

DUAL ZENER DIODES (COMMON ANODE, 300mW) AZ23 SERIES

CASE TYPE: T0-236AB (SOT-23)



Type	Marking	Zener Voltage ⁽¹⁾ at I _Z = 5 mA V _Z V	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I _Z = 5 mA °V/Z 10–4/K	Reverse Voltage at I _R = 100 nA V _R V
			at I _Z = 5 mA f = 1 kHz r _{Zj} Ω	at I _Z = 1 mA f = 1 kHz r _{Zj} Ω		
AZ23-C2V7	D1	2.5 ... 2.9	75 (<83)	<500	-9 ... -4	-
AZ23-C3	D2	2.8 ... 3.2	80 (<95)	<500	-9 ... -3	-
AZ23-C3V3	D3	3.1 ... 3.5	80 (<95)	<500	-8 ... -3	-
AZ23-C3V6	D4	3.4 ... 3.8	80 (<95)	<500	-8 ... -3	-
AZ23-C3V9	D5	3.7 ... 4.1	80 (<95)	<500	-7 ... -3	-
AZ23-C4V3	D6	4.0 ... 4.6	80 (<95)	<500	-6 ... -1	-
AZ23-C4V7	D7	4.4 ... 5.0	70 (<78)	<500	-5 ... +2	-
AZ23-C5V1	D8	4.8 ... 5.4	30 (<60)	<480	-3 ... +4	>0.8
AZ23-C5V6	D9	5.2 ... 6.0	10 (<40)	<400	-2 ... +6	>1
AZ23-C6V2	D10	5.8 ... 6.6	4.8 (<10)	<200	-1 ... +7	>2
AZ23-C6V8	D11	6.4 ... 7.2	4.5 (<8)	<150	+2 ... +7	>3
AZ23-C7V5	D12	7.0 ... 7.9	4 (<7)	<50	-3 ... +7	>5
AZ23-C8V2	D13	7.7 ... 8.7	4.5 (<7)	<50	+4 ... +7	>6
AZ23-C9V1	D14	8.5 ... 9.6	4.8 (<10)	<50	+5 ... +8	>7
AZ23-C10	D15	9.4 ... 10.6	5.2 (<15)	<70	+5 ... +8	>7.5
AZ23-C11	D16	10.4 ... 11.6	6 (<20)	<70	+5 ... +9	>8.5
AZ23-C12	D17	11.4 ... 12.7	7 (<20)	<90	+6 ... +9	>9
AZ23-C13	D18	12.4 ... 14.1	9 (<25)	<110	+7 ... +9	>10
AZ23-C15	D19	13.8 ... 15.6	11 (<30)	<110	+7 ... +9	>11
AZ23-C16	D20	15.3 ... 17.1	13 (<40)	<170	+8 ... +9.5	>12
AZ23-C18	D21	16.8 ... 19.1	18 (<50)	<170	+8 ... +9.5	>14
AZ23-C20	D22	18.8 ... 21.2	20 (<50)	<220	+8 ... +10	>15
AZ23-C22	D23	20.8 ... 23.3	25 (<55)	<220	+8 ... +10	>17
AZ23-C24	D24	22.8 ... 25.6	28 (<80)	<220	+8 ... +10	>18
AZ23-C27	D25	25.1 ... 28.9	30 (<80)	<250	+8 ... +10	>20
AZ23-C30	D26	28 ... 32	35 (<80)	<250	+8 ... +10	>22.5
AZ23-C33	D27	31 ... 35	40 (<80)	<250	+8 ... +10	>25
AZ23-C36	D28	34 ... 38	40 (<90)	<250	+8 ... +10	>27
AZ23-C39	D29	37 ... 41	50 (<90)	<300	+10 ... +12	>29
AZ23-C43	D30	40 ... 46	60 (<100)	<700	+10 ... +12	>32
AZ23-C47	D31	44 ... 50	70 (<100)	<750	+10 ... +12	>35
AZ23-C51	D32	48 ... 54	70 (<100)	<750	+10 ... +12	>38

Notes:

(1) Tested with pulses t_p = 3 ms

ZENER DIODES (410mW) BZT52 SERIES

CASE TYPE: SOD-123



Type	Zener Voltage ⁽¹⁾ at I _Z = 5 mA V _Z V	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I _Z = 5 mA $\alpha_{VZ} -4/K$	Reverse Voltage at I _R = 100 nA V _R V	Admissible Zener current ⁽⁴⁾	
		at I _Z = 5 mA f = 1 kHz r _{Zj} Ω	at I _Z = 1 mA f = 1 kHz r _{Zj} Ω			at T _{amb} = 45 °C I _Z mA	T _{amb} = 25 °C I _Z mA
BZT52-C2V4	2.28 ... 2.56	85	600	typ. -1.8	-	-	-
BZT52-C2V7	2.5 ... 2.9	75 (< 83)	< 500	-9 ... -4	-	113	134
BZT52-C3	2.8 ... 3.2	80 (< 95)	< 500	-9 ... -3	-	98	118
BZT52-C3V3	3.1 ... 3.5	80 (< 95)	< 500	-8 ... -3	-	92	109
BZT52-C3V6	3.4 ... 3.8	80 (< 95)	< 500	-8 ... -3	-	85	100
BZT52-C3V9	3.7 ... 4.1	80 (< 95)	< 500	-7 ... -3	-	77	92
BZT52-C4V3	4.0 ... 4.6	80 (< 95)	< 500	-6 ... -1	-	71	84
BZT52-C4V7	4.4 ... 5.0	70 (< 78)	< 500	-5 ... +2	-	64	76
BZT52-C5V1	4.8 ... 5.4	30 (< 60)	< 480	-3 ... +4	> 0.8	56	67
BZT52-C5V6	5.2 ... 6.0	10 (< 40)	< 400	-2 ... +6	> 1	50	59
BZT52-C6V2	5.8 ... 6.6	4.8 (< 10)	< 200	-1 ... +7	> 2	45	54
BZT52-C6V8	6.4 ... 7.2	4.5 (< 8)	< 150	+2 ... +7	> 3	41	49
BZT52-C7V5	7.0 ... 7.9	4 (< 7)	< 50	+3 ... +7	> 5	37	44
BZT52-C8V2	7.7 ... 8.7	4.5 (< 7)	< 50	+4 ... +7	> 6	34	40
BZT52-C9V1	8.5 ... 9.6	4.8 (< 10)	< 50	+5 ... +8	> 7	30	36
BZT52-C10	9.4 ... 10.6	5.2 (< 15)	< 70	+5 ... +8	> 7.5	28	33
BZT52-C11	10.4 ... 11.6	6 (< 20)	< 70	+5 ... +9	> 8.5	25	30
BZT52-C12	11.4 ... 12.7	7 (< 20)	< 90	+6 ... +9	> 9	23	28
BZT52-C13	12.4 ... 14.1	9 (< 25)	< 110	+7 ... +9	> 10	21	25
BZT52-C15	13.8 ... 15.6	11 (< 30)	< 110	+7 ... +9	> 11	19	23
BZT52-C16	15.3 ... 17.1	13 (< 40)	< 170	+8 ... +9.5	> 12	17	20
BZT52-C18	16.8 ... 19.1	18 (< 50)	< 170	+8 ... +9.5	> 14	15	18
BZT52-C20	18.8 ... 21.2	20 (< 50)	< 220	+8 ... +10	> 15	14	17
BZT52-C22	20.8 ... 23.3	25 (< 55)	< 220	+8 ... +10	> 17	13	16
BZT52-C24	22.8 ... 25.6	28 (< 80)	< 220	+8 ... +10	> 18	11	13
BZT52-C27	25.1 ... 28.9	30 (< 80)	< 250	+8 ... +10	> 20	10	12
BZT52-C30	28 ... 32	35 (< 80)	< 250	+8 ... +10	> 22.5	9	10
BZT52-C33	31 ... 35	40 (< 80)	< 250	+8 ... +10	> 25	8	9
BZT52-C36	34 ... 38	40 (< 90)	< 250	+8 ... +10	> 27	8	9
BZT52-C39	37 ... 41	50 (< 90)	< 300	+10 ... +12	> 29	7	8
BZT52-C43	40 ... 46	60 (< 100)	< 700	+10 ... +12	> 32	6	7
BZT52-C47	44 ... 50	70 (< 100)	< 750	+10 ... +12	> 35	5	6
BZT52-C51	48 ... 54	70 (< 100)	< 750	+10 ... +12	> 38	5	6
BZT52-C56	52.0 ... 60.0 ⁽²⁾	< 135 ⁽²⁾	< 1000 ⁽³⁾	typ. +10 ⁽²⁾	-	-	-
BZT52-C62	58.0 ... 66.0 ⁽²⁾	< 150 ⁽²⁾	< 1000 ⁽³⁾	typ. +10 ⁽²⁾	-	-	-
BZT52-C68	64.0 ... 72.0 ⁽²⁾	< 200 ⁽²⁾	< 1000 ⁽³⁾	typ. +10 ⁽²⁾	-	-	-
BZT52-C75	70.0 ... 79.0 ⁽²⁾	< 250 ⁽²⁾	< 1500 ⁽³⁾	typ. +10 ⁽²⁾	-	-	-

Notes:

(1) Tested with pulses t_p = 5 ms

(2) at I_Z = 2.5 mA

(3) at I_Z = 0.5 mA

(4) Valid provided that electrodes are kept at ambient temperature

ZENER DIODES (500mW) BZV55 SERIES

CASE TYPE: SOD-80C (Mini-MELF Glass)



Type(1)	Dynamic resistance		Temp. coefficient of Zener Voltage at $I_z = 5 \text{ mA}$ $av_z \text{ %/K}$		Reverse leakage current		Admissible Zener current (2) $I_z \text{ (mA)}$	Capacitance $V_R = 0$ $f = 1 \text{ MHz}$ (pF) max.	Non-Repetitive Peak Reverse Current at $t_p = 100 \text{ ms}$ $I_{zsm} \text{ (A)}$
	at $I_z = 5 \text{ mA}$ $f = 1 \text{ kHz}$ $r_{zj} \Omega$ max.	at $I_z = 1 \text{ mA}$ $f = 1 \text{ kHz}$ $r_{zj} \Omega$ max.			at $I_{zK} \text{ (nA)}$	at $V_R \text{ (V)}$			
			min	max					
BZV55 – y2V4	100	600	–0.08	–0.06	50,000	1	167	450	6.0
BZV55 – y2V7	100	600	–0.08	–0.06	20,000	1	135	450	6.0
BZV55 – y3V0	95	600	–0.08	–0.06	10,000	1	125	450	6.0
BZV55 – y3V3	95	600	–0.08	–0.05	5,000	1	115	450	6.0
BZV55 – y3V6	90	600	–0.08	–0.04	5,000	1	105	450	6.0
BZV55 – y3V9	90	600	–0.07	–0.03	3,000	1	95	450	6.0
BZV55 – y4V3	90	600	–0.04	–0.01	3,000	1	90	450	6.0
BZV55 – y4V7	80	500	–0.03	+0.01	3,000	1	85	300	6.0
BZV55 – y5V1	60	480	–0.02	+0.05	2,000	1	80	300	6.0
BZV55 – y5V6	40	400	–0.01	+0.06	1,000	1	70	300	6.0
BZV55 – y6V2	10	150	0	+0.07	3,000	2	64	200	6.0
BZV55 – y6V8	15	80	+0.01	+0.08	2,000	3	58	200	6.0
BZV55 – y7V5	15	80	+0.01	+0.09	1,000	5	53	150	4.0
BZV55 – y8V2	15	80	+0.01	+0.09	700	6	47	150	4.0
BZV55 – y9V1	15	100	+0.02	+0.10	500	7	43	150	3.0
BZV55 – y10	20	150	+0.03	+0.11	200	7.5	40	90	3.0
BZV55 – y11	20	150	+0.03	+0.11	100	8.5	36	85	2.5
BZV55 – y12	25	150	+0.03	+0.11	100	9	32	85	2.5
BZV55 – y13	30	170	+0.03	+0.11	100	10	29	80	2.5
BZV55 – y15	30	200	+0.03	+0.11	50	11	27	75	2.0
BZV55 – y16	40	200	+0.03	+0.11	50	12	24	75	1.5
BZV55 – y18	45	225	+0.03	+0.11	50	14	21	70	1.5
BZV55 – y20	55	225	+0.03	+0.11	50	15	20	60	1.5
BZV55 – y22	55	250	+0.03	+0.11	50	17	18	60	1.3
BZV55 – y24	70	250	+0.04	+0.12	50	18	16	55	1.3
BZV55 – y27	80 ⁽³⁾	300 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	20	14	50	1.0
BZV55 – y30	80 ⁽³⁾	300 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	22	13	50	1.0
BZV55 – y33	80 ⁽³⁾	325 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	24	12	45	0.9
BZV55 – y36	90 ⁽³⁾	350 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	27	11	45	0.8
BZV55 – y39	130 ⁽³⁾	350 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	28	10	45	0.7
BZV55 – y43	150 ⁽³⁾	375 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	32	9.2	40	0.6
BZV55 – y47	170 ⁽³⁾	375 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	35	8.5	40	0.5
BZV55 – y51	180 ⁽³⁾	400 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	38	7.8	40	0.4
BZV55 – y56	200 ⁽³⁾	425 ⁽⁴⁾	typ. +0.1 ⁽³⁾		50	–	7.1	40	0.3
BZV55 – y62	215 ⁽³⁾	450 ⁽⁴⁾	typ. +0.1 ⁽³⁾		50	–	6.4	35	0.3
BZV55 – y68	240 ⁽³⁾	475 ⁽⁴⁾	typ. +0.1 ⁽³⁾		50	–	5.8	35	0.3
BZV55 – y75	255 ⁽³⁾	500 ⁽⁴⁾	typ. +0.1 ⁽³⁾		50	–	5.3	35	0.2

Notes:

- 1) Tested with pulses $t_p = 5 \text{ ms}$.
- 2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case.
- 3) at $I_z = 2.0 \text{ mA}$
- 4) at $I_z = 0.5 \text{ mA}$

y = Zener Voltage tolerance designator

ZENER DIODES (500mW) BZX55 SERIES

CASE TYPE: DO-204AH (Glass DO-35)



Type	Zener Voltage range ⁽¹⁾ at $I_Z = 5 \text{ mA}$ $V_Z \text{ V}$	Dynamic resistance		Temp. coefficient of Zener Voltage at $I_Z = 5 \text{ mA}$ $\alpha V_Z \text{ \% / K}$		Reverse leakage current at $T_{amb} = 150 \text{ }^\circ\text{C}$			Admissible Zener current ⁽²⁾ $I_{ZM} \text{ mA}$
		at $I_Z = 5 \text{ mA}$ $f = 1 \text{ kHz}$	at $I_Z = 1 \text{ mA}$ $f = 1 \text{ kHz}$	min	max	$I_{Rn} \text{ A}$	$I_{Rp} \text{ }\mu\text{A}$	at $V_R \text{ V}$	
		$r_{Zj} \text{ }\Omega$	$r_{Zj} \text{ }\Omega$						
BZX55 – C0V8 ⁽³⁾	0.73 ... 0.83	< 8	< 600	– 0.25	–	–	–	–	–
BZX55 – C2V7	2.5 ... 2.9	< 85	< 600	– 0.08	– 0.06	< 10000	< 50	1	135
BZX55 – C3V0	2.8 ... 3.2	< 85	< 600	– 0.08	– 0.06	< 4000	< 40	1	125
BZX55 – C3V3	3.1 ... 3.5	< 85	< 600	– 0.08	– 0.05	< 2000	< 40	1	115
BZX55 – C3V6	3.4 ... 3.9	< 85	< 600	– 0.08	– 0.04	< 2000	< 40	1	105
BZX55 – C3V9	3.7 ... 4.1	< 85	< 600	– 0.07	– 0.03	< 2000	< 40	1	95
BZX55 – C4V3	4.0 ... 4.6	< 75	< 600	– 0.04	– 0.01	< 1000	< 20	1	90
BZX55 – C4V7	4.4 ... 5.0	< 60	< 600	– 0.03	+0.01	< 500	< 10	1	85
BZX55 – C5V1	4.8 ... 5.4	< 35	< 550	– 0.02	+0.05	< 100	< 2	1	80
BZX55 – C5V6	5.2 ... 6.0	< 25	< 450	– 0.01	+0.06	< 100	< 2	1	70
BZX55 – C6V2	5.8 ... 6.6	< 10	< 200	0	+0.07	< 100	< 2	2	64
BZX55 – C6V8	6.4 ... 7.2	< 8	< 150	+0.01	+0.08	< 100	< 2	3	58
BZX55 – C7V5	7.0 ... 7.9	< 7	< 50	+0.01	+0.09	< 100	< 2	5	53
BZX55 – C8V2	7.7 ... 8.7	< 7	< 50	+0.01	+0.09	< 100	< 2	6	47
BZX55 – C9V1	8.5 ... 9.6	< 10	< 50	+0.02	+0.10	< 100	< 2	7	43
BZX55 – C10	9.4 ... 10.6	< 15	< 70	+0.03	+0.11	< 100	< 2	7.5	40
BZX55 – C11	10.4 ... 11.6	< 20	< 70	+0.03	+0.11	< 100	< 2	8.5	36
BZX55 – C12	11.4 ... 12.7	< 20	< 90	+0.03	+0.11	< 100	< 2	9	32
BZX55 – C13	12.4 ... 14.1	< 26	< 110	+0.03	+0.11	< 100	< 2	10	29
BZX55 – C15	13.8 ... 15.6	< 30	< 110	+0.03	+0.11	< 100	< 2	11	27
BZX55 – C16	15.3 ... 17.1	< 40	< 170	+0.03	+0.11	< 100	< 2	12	24
BZX55 – C18	16.8 ... 19.1	< 50	< 170	+0.03	+0.11	< 100	< 2	14	21
BZX55 – C20	18.8 ... 21.2	< 55	< 220	+0.03	+0.11	< 100	< 2	15	20
BZX55 – C22	20.8 ... 23.3	< 55	< 220	+0.03	+0.11	< 100	< 2	17	18
BZX55 – C24	22.8 ... 25.6	< 80	< 220	+0.04	+0.12	< 100	< 2	18	16
BZX55 – C27	25.1 ... 28.9	< 80	< 220	+0.04	+0.12	< 100	< 2	20	14
BZX55 – C30	28 ... 32	< 80	< 220	+0.04	+0.12	< 100	< 2	22	13
BZX55 – C33	31 ... 35	< 80	< 220	+0.04	+0.12	< 100	< 2	24	12
BZX55 – C36	34 ... 38	< 80	< 220	+0.04	+0.12	< 100	< 2	27	11
BZX55 – C39	37 ... 41 ⁽⁴⁾	< 90 ⁽⁴⁾	< 500 ⁽⁵⁾	+0.04	+0.12	< 100	< 5	28	10
BZX55 – C43	40 ... 46 ⁽⁴⁾	< 90 ⁽⁴⁾	< 600 ⁽⁵⁾	+0.04	+0.12	< 100	< 5	32	9.2
BZX55 – C47	44 ... 50 ⁽⁴⁾	< 110 ⁽⁴⁾	< 700 ⁽⁵⁾	+0.04	+0.12	< 100	< 5	35	8.5
BZX55 – C51	48 ... 54 ⁽⁴⁾	< 125 ⁽⁴⁾	< 700 ⁽⁵⁾	+0.04	+0.12	< 100	< 10	38	7.8
BZX55-C56	52.0 ... 60.0 ⁽⁴⁾	< 135 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +0.1 ⁽⁴⁾		–	–	–	–
BZX55-C62	58.0 ... 66.0 ⁽⁴⁾	< 150 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +0.1 ⁽⁴⁾		–	–	–	–
BZX55-C68	64.0 ... 72.0 ⁽⁴⁾	< 200 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +0.1 ⁽⁴⁾		–	–	–	–
BZX55-C75	70.0 ... 79.0 ⁽⁴⁾	< 250 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +0.1 ⁽⁴⁾		–	–	–	–

Notes:

(1) Tested with pulses $t_p = 5 \text{ ms}$

(2) Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case

(3) The BZX55–C0V8 is a silicon diode with operation in forward direction. Hence, the index of all parameters should be “F” instead of “Z”. Connect the cathode lead to the negative pole

(4) at $I_Z = 2.5 \text{ mA}$

(5) at $I_Z = 0.5 \text{ mA}$

ZENER DIODES (500mW) BZX79 SERIES

CASE TYPE: DO-204AH (Glass DO-41)



Type ⁽¹⁾ y = B ± 2%Vz y = F ± 3%Vz y = C ± 5%Vz	Dynamic resistance		Temp. coefficient of Zener Voltage at Iz = 5 mA avz %/K		Reverse leakage current		Admissible Zener current ⁽²⁾ Iz (mA)	Capacitance VR = 0 f = 1 MHz (pF) max.	Non-Repeti- tive Peak Reverse Current at tp = 100ms Izsm (A)
	at Iz = 5 mA f = 1 kHz rzj Ω max.	at Iz = 1mA f = 1 kHz rzj Ω max.			at Izk (nA)	at VR (V)			
	min	max							
BZX79 – y2V4	100	< 600	-0.08	-0.06	50,000	1	167	450	6.0
BZX79 – y2V7	100	< 600	-0.08	-0.06	20,000	1	135	450	6.0
BZX79 – y3V0	95	< 600	-0.08	-0.06	10,000	1	125	450	6.0
BZX79 – y3V3	95	< 600	-0.08	-0.05	5,000	1	115	450	6.0
BZX79 – y3V6	90	< 600	-0.08	-0.04	5,000	1	105	450	6.0
BZX79 – y3V9	90	< 600	-0.07	-0.03	3,000	1	95	450	6.0
BZX79 – y4V3	90	< 600	-0.04	-0.01	3,000	1	90	450	6.0
BZX79 – y4V7	80	500	-0.03	+0.01	3,000	1	85	300	6.0
BZX79 – y5V1	60	480	-0.02	+0.05	2,000	1	80	300	6.0
BZX79 – y5V6	40	400	-0.01	+0.06	1,000	1	70	300	6.0
BZX79 – y6V2	10	150	0	+0.07	3,000	2	64	200	6.0
BZX79 – y6V8	15	80	+0.01	+0.08	2,000	3	58	200	6.0
BZX79 – y7V5	15	80	+0.01	+0.09	1,000	5	53	150	4.0
BZX79 – y8V2	15	80	+0.01	+0.09	700	6	47	150	4.0
BZX79 – y9V1	15	100	+0.02	+0.10	500	7	43	150	3.0
BZX79 – y10	20	150	+0.03	+0.11	200	7.5	40	90	3.0
BZX79 – y11	20	150	+0.03	+0.11	100	8.5	36	85	2.5
BZX79 – y12	25	150	+0.03	+0.11	100	9	32	85	2.5
BZX79 – y13	30	170	+0.03	+0.11	100	10	29	80	2.5
BZX79 – y15	30	200	+0.03	+0.11	50	11	27	75	2.0
BZX79 – y16	40	200	+0.03	+0.11	50	12	24	75	1.5
BZX79 – y18	45	225	+0.03	+0.11	50	14	21	70	1.5
BZX79 – y20	55	225	+0.03	+0.11	50	15	20	60	1.5
BZX79 – y22	55	250	+0.03	+0.11	50	17	18	60	1.3
BZX79 – y24	70	250	+0.04	+0.12	50	18	16	55	1.3
BZX79 – y27	80 ⁽³⁾	300 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	20	14	50	1.0
BZX79 – y30	80 ⁽³⁾	300 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	22	13	50	1.0
BZX79 – y33	80 ⁽³⁾	325 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	24	12	45	0.9
BZX79 – y36	90 ⁽³⁾	350 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	27	11	45	0.8
BZX79 – y39	130 ⁽³⁾	350 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	28	10	45	0.7
BZX79 – y43	150 ⁽³⁾	375 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	32	9.2	40	0.6
BZX79 – y47	170 ⁽³⁾	375 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	35	8.5	40	0.5
BZX79 – y51	180 ⁽³⁾	400 ⁽⁴⁾	+0.04 ⁽³⁾	+0.12	50	38	7.8	40	0.4
BZX79 – y56	200 ⁽³⁾	425 ⁽⁴⁾	typ. +0.1 ⁽³⁾	50	–	7.1	40	0.3	
BZX79 – y62	215 ⁽³⁾	450 ⁽⁴⁾	typ. +0.1 ⁽³⁾	50	–	6.4	35	0.3	
BZX79 – y68	240 ⁽³⁾	475 ⁽⁴⁾	typ. +0.1 ⁽³⁾	50	–	5.8	35	0.3	
BZX79 – y75	255 ⁽³⁾	500 ⁽⁴⁾	typ. +0.1 ⁽³⁾	50	–	5.3	35	0.2	

Notes:

- (1) Zener voltage is measured at Iz=5mA, tp=5ms, the part number suffix gives the nominal voltage
- (2) Valid provided that leads are kept at ambient temperature at a distance of 8mm from case
- (3) at Iz=2.0mA
- (4) at Iz=0.5mA

y = Zener Voltage tolerance designator

ZENER DIODES (350mW) BZX84 SERIES

CASE TYPE: T0-236AB (SOT-23)



Type	Marking	Zener Voltage ⁽¹⁾ at I _{ZT} V _Z V	Dynamic resistance at I _{ZT} r _{Zj} Ω	Temp. coefficient of Zener Voltage at I _{ZT} av _Z 10 ⁻⁴ /K	Test current I _{ZT} mA	Dynamic resistance at I _{ZT} r _{Zj} Ω	Test current I _{ZT} mA	Reverse leakage current	
								I _R μA	at V _R V
BZX84-C2V4	Z	2.20 ... 2.60	70 (≤100)	-3.5 ... 0	5	275	1	50	1
BZX84-C2V7	Z12	2.5 ... 2.9	75 (≤100)	-9 ... -4	5	300 (≤600)	1	20	1
BZX84-C3	Z13	2.8 ... 3.2	80 (≤95)	-9 ... -3	5	325 (≤600)	1	20	1
BZX84-C3V3	Z14	3.1 ... 3.5	85 (≤95)	-8 ... -3	5	350 (≤600)	1	5	1
BZX84-C3V6	Z15	3.4 ... 3.8	85 (≤90)	-8 ... -3	5	375 (≤600)	1	5	1
BZX84-C3V9	Z16	3.7 ... 4.1	85 (≤90)	-7 ... -3	5	400 (≤600)	1	3	1
BZX84-C4V3	Z17	4.0 ... 4.6	80 (≤90)	-6 ... -1	5	410 (≤600)	1	3	1
BZX84-C4V7	Z1	4.4 ... 5.0	50 (≤80)	-5 ... +2	5	425 (≤500)	1	3	2
BZX84-C5V1	Z2	4.8 ... 5.4	40 (≤60)	-3 ... +4	5	400 (≤480)	1	2	2
BZX84-C5V6	Z3	5.2 ... 6.0	15 (≤40)	-2 ... +6	5	80 (≤400)	1	1	2
BZX84-C6V2	Z4	5.8 ... 6.6	6 (≤10)	-1 ... +7	5	40 (≤150)	1	3	4
BZX84-C6V8	Z5	6.4 ... 7.2	6 (≤15)	+2 ... +7	5	30 (≤80)	1	2	4
BZX84-C7V5	Z6	7.0 ... 7.9	6 (≤15)	+3 ... +7	5	30 (≤80)	1	1	5
BZX84-C8V2	Z7	7.7 ... 8.7	6 (≤15)	+4 ... +7	5	40 (≤80)	1	0.7	5
BZX84-C9V1	Z8	8.5 ... 9.6	6 (≤15)	+5 ... +8	5	40 (≤100)	1	0.5	6
BZX84-C10	Z9	9.4 ... 10.6	8 (≤20)	+5 ... +8	5	50 (≤150)	1	0.2	7
BZX84-C11	Y1	10.4 ... 11.6	10 (≤20)	+5 ... +9	5	50 (≤150)	1	0.1	8
BZX84-C12	Y2	11.4 ... 12.7	10 (≤25)	+6 ... +9	5	50 (≤150)	1	0.1	8
BZX84-C13	Y3	12.4 ... 14.1	10 (≤30)	+7 ... +9	5	50 (≤170)	1	0.1	8
BZX84-C15	Y4	13.8 ... 15.6	10 (≤30)	+7 ... +9	5	50 (≤200)	1	0.05	0.7 V _{Znom.}
BZX84-C16	Y5	15.3 ... 17.1	10 (≤40)	+8 ... +9.5	5	50 (≤200)	1	0.05	0.7 V _{Znom.}
BZX84-C18	Y6	16.8 ... 19.1	10 (≤45)	+8 ... +9.5	5	50 (≤225)	1	0.05	0.7 V _{Znom.}
BZX84-C20	Y7	18.8 ... 21.2	15 (≤55)	+8 ... +10	5	60 (≤225)	1	0.05	0.7 V _{Znom.}
BZX84-C22	Y8	20.8 ... 23.3	20 (≤55)	+8 ... +10	5	60 (≤250)	1	0.05	0.7 V _{Znom.}
BZX84-C24	Y9	22.8 ... 25.6	25 (≤70)	+8 ... +10	5	60 (≤250)	1	0.05	0.7 V _{Znom.}
BZX84-C27	Y10	25.1 ... 28.9	25 (≤80)	+8 ... +10	2	65 (≤300)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C30	Y11	28 ... 32	30 (≤80)	+8 ... +10	2	70 (≤300)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C33	Y12	31 ... 35	35 (≤80)	+8 ... +10	2	75 (≤325)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C36	Y13	34 ... 38	35 (≤90)	+8 ... +10	2	80 (≤350)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C39	Y14	37 ... 41	40 (≤130)	+10 ... +12	2	80 (≤350)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C43	Y15	40 ... 46	45 (≤150)	+10 ... +12	2	85 (≤375)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C47	Y16	44 ... 50	50 (≤170)	+10 ... +12	2	85 (≤375)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C51	Y17	48 ... 54	60 (≤180)	+10 ... +12	2	85 (≤400)2	0.5	0.05	0.7 V _{Znom.}
BZX84-C56	Y	52.0 ... 60.0	70 (≤200)	+9 ... +11	2	100 (≤425)	0.5	0.05	0.7 V _{Znom.}
BZX84-C62	Y	58.0 ... 66.0	80 (≤215)	+9 ... +12	2	100 (≤450)	0.5	0.05	0.7 V _{Znom.}
BZX84-C68	Y	64.0 ... 72.0	90 (≤240)	+10 ... +12	2	150 (≤475)	0.5	0.05	0.7 V _{Znom.}
BZX84-C75	Y	70.0 ... 79.0	95 (≤255)	+10 ... +12	2	170 (≤500)	0.5	0.05	0.7 V _{Znom.}

Notes:

(1) Measured with pulses t_p = 5 ms

ZENER DIODES (1.3 WATTS) BZX85 SERIES

CASE TYPE: DO-41 Glass



Type	Zener Voltage range ⁽¹⁾ at $I_Z = I_{ZT}$ V_Z V	Dynamic resistance				Temp. coefficient of Zener Voltage at $I_Z = I_{ZT}$ α_{VZ} %/K		Reverse leakage current		Admissible Zener current ⁽²⁾	
		r_{zj} Ω	at $f = 1$ kHz I_{ZT} mA	r_{zj} Ω	at $f = 1$ kHz I_{ZT} mA	min.	max.	at I_R μ A	at V_R V	I_Z mA	at $t_p = 10$ ms I_{ZSM} mA
BZX85 – C3V6	3.4 ... 3.8	< 15	60	< 500	1	– 0.08	– 0.05	< 20	1	290	2660
BZX85 – C3V9	3.7 ... 4.1	< 15	60	< 500	1	– 0.07	– 0.02	< 10	1	280	2540
BZX85 – C4V3	4.0 ... 4.6	< 13	50	< 500	1	– 0.05	+0.01	< 3	1	250	2440
BZX85 – C4V7	4.4 ... 5.0	< 13	45	< 600	1	– 0.03	+0.04	< 3	1	215	2320
BZX85 – C5V1	4.8 ... 5.4	< 10	45	< 500	1	– 0.01	+0.04	< 1	1.5	200	2200
BZX85 – C5V6	5.2 ... 6.0	< 7	45	< 400	1	0	+0.045	< 1	2	190	2080
BZX85 – C6V2	5.8 ... 6.6	< 4	35	< 300	1	+0.01	+0.055	< 1	3	170	1960
BZX85 – C6V8	6.4 ... 7.2	< 3.5	35	< 300	1	+0.015	+0.06	< 1	4	155	1800
BZX85 – C7V5	7.0 ... 7.9	< 3	35	< 200	0.5	+0.02	+0.065	< 1	4.5	140	1620
BZX85 – C8V2	7.7 ... 8.7	< 5	25	< 200	0.5	+0.03	+0.07	< 1	6.2	130	1520
BZX85 – C9V1	8.5 ... 9.6	< 5	25	< 200	0.5	+0.035	+0.075	< 1	6.8	120	1340
BZX85 – C10	9.4 ... 10.6	< 7	25	< 200	0.5	+0.04	+0.08	< 0.5	7.5	105	1200
BZX85 – C11	10.4 ... 11.6	< 8	20	< 300	0.5	+0.045	+0.08	< 0.5	8.2	97	1100
BZX85 – C12	11.4 ... 12.7	< 9	20	< 350	0.5	+0.045	+0.085	< 0.5	9.1	88	1000
BZX85 – C13	12.4 ... 14.1	< 10	20	< 400	0.5	+0.05	+0.085	< 0.5	10	79	900
BZX85 – C15	13.8 ... 15.6	< 10	15	< 500	0.5	+0.055	+0.09	< 0.5	11	71	760
BZX85 – C16	15.3 ... 17.1	< 15	15	< 500	0.5	+0.055	+0.09	< 0.5	12	66	700
BZX85 – C18	16.8 ... 19.1	< 20	15	< 500	0.5	+0.06	+0.09	< 0.5	13	62	600
BZX85 – C20	18.8 ... 21.2	< 24	10	< 600	0.5	+0.06	+0.09	< 0.5	15	56	540
BZX85 – C22	20.8 ... 23.3	< 25	10	< 600	0.5	+0.06	+0.095	< 0.5	16	52	500
BZX85 – C24	22.8 ... 25.6	< 25	10	< 600	0.5	+0.06	+0.095	< 0.5	18	47	450
BZX85 – C27	25.1 ... 28.9	< 30	8	< 750	0.25	+0.06	+0.095	< 0.5	20	41	400
BZX85 – C30	28 ... 32	< 30	8	< 1000	0.25	+0.06	+0.095	< 0.5	22	36	380
BZX85 – C33	31 ... 35	< 35	8	< 1000	0.25	+0.06	+0.095	< 0.5	24	33	350
BZX85 – C36	34 ... 38	< 40	8	< 1000	0.25	+0.06	+0.095	< 0.5	27	30	320
BZX85 – C39	37 ... 41	< 50	6	< 1000	0.25	+0.06	+0.095	< 0.5	30	28	296
BZX85 – C43	40 ... 46	< 50	6	< 1000	0.25	+0.06	+0.095	< 0.5	33	26	270
BZX85 – C47	44 ... 50	< 90	4	< 1500	0.25	+0.06	+0.095	< 0.5	36	23	246
BZX85 – C51	48 ... 54	< 115	4	< 1500	0.25	+0.06	+0.095	< 0.5	39	21	226
BZX85 – C56	52 ... 60	< 120	4	< 2000	0.25	+0.06	+0.095	< 0.5	43	19	208
BZX85 – C62	58 ... 66	< 125	4	< 2000	0.25	+0.06	+0.095	< 0.5	47	16	186

Notes:

(1) Tested with pulses $t_p = 5$ ms

(2) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case

ZENER DIODES (1.5 WATTS) BZY97 SERIES

CASE TYPE: DO-41 Plastic



Type	Zener voltage at I_{ZT}		Dynamic resistance at $-I_{ZT}$ $f = 1 \text{ kHz}$ max $r_{zj} \text{ Ohm}$	Temp. coeff. of Zener volt. at I_{ZT} $@V_Z 10^{-4}/K$	Test current $I_{ZT} \text{ mA}$	Leakage current $I_{R1} \mu\text{A}$	Reverse voltage $V_R \text{ V}$	Admissible Zener current at $T_{amb} = 60^\circ\text{C}$ $I_Z \text{ mA}$	$I_{ZSM} \text{ mA}$ $t_p = 10 \text{ ms}$ A
	min. V_Z	max. $-V$							
BZY97 - C11	10.4 ...	11.6	7	+5 ... +10	50	0.5	5	129	1.3
BZY97 - C12	11.4 ...	12.7	7	+5 ... +10	50	0.5	7	118	1.2
BZY97 - C13	12.4 ...	14.1	10	+5 ... +10	50	0.5	7	106	1.1
BZY97 - C15	13.8 ...	15.6	10	+5 ... +10	50	0.5	10	96	1.0
BZY97 - C16	15.3 ...	17.1	15	+6 ... +11	25	0.5	10	88	0.90
BZY97 - C18	16.8 ...	19.1	15	+6 ... +11	25	0.5	10	79	0.81
BZY97 - C20	18.8 ...	21.2	15	+6 ... +11	25	0.5	10	71	0.73
BZY97 - C22	20.8 ...	23.3	15	+6 ... +11	25	0.5	12	64	0.66
BZY97 - C24	22.8 ...	25.6	15	+6 ... +11	25	0.5	12	59	0.60
BZY97 - C27	25.1 ...	28.9	15	+6 ... +11	25	0.5	14	52	0.53
BZY97 - C30	28 ...	32	15	+6 ... +11	25	0.5	14	47	0.48
BZY97 - C33	31 ...	35	15	+6 ... +11	25	0.5	17	43	0.44
BZY97 - C36	34 ...	38	40	+6 ... +11	10	0.5	17	40	0.40
BZY97 - C39	37 ...	41	40	+6 ... +11	10	0.5	20	37	0.38
BZY97 - C43	40 ...	46	45	+7 ... +12	10	0.5	20	33	0.33
BZY97 - C47	44 ...	50	45	+7 ... +12	10	0.5	24	30	0.31
BZY97 - C51	48 ...	54	60	+7 ... +12	10	0.5	24	28	0.28
BZY97 - C56	52 ...	60	60	+7 ... +12	10	0.5	28	25	0.26
BZY97 - C62	58 ...	66	80	+7 ... +12	10	0.5	28	23	0.23
BZY97 - C68	64 ...	72	80	+7 ... +12	10	0.5	34	21	0.21

Notes:

- (1) Tested with pulses $t_p = 5 \text{ ms}$
- (2) Consult factory for voltages above 68V

DUAL ZENER DIODES (COMMON CATHODE, 300mW) DZ23 SERIES

CASE TYPE: T0-236AB (SOT-23)



Type	Marking	Zener Voltage ⁽¹⁾ at I _Z = 5 mA V _Z V	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I _Z = 5 mA αV _Z 10 ⁻⁴ /K	Reverse Voltage at I _R = 100 nA V _R V
			at I _Z = 5 mA f = 1 kHz r _{Zj} Ω	at I _Z = 1 mA f = 1 kHz r _{Zj} Ω		
DZ23-C2V7	V1	2.5 ... 2.9	75 (<83)	<500	-9 ... -4	-
DZ23-C3	V2	2.8 ... 3.2	80 (<95)	<500	-9 ... -3	-
DZ23-C3V3	V3	3.1 ... 3.5	80 (<95)	<500	-8 ... -3	-
DZ23-C3V6	V4	3.4 ... 3.8	80 (<95)	<500	-8 ... -3	-
DZ23-C3V9	V5	3.7 ... 4.1	80 (<95)	<500	-7 ... -3	-
DZ23-C4V3	V6	4.0 ... 4.6	80 (<95)	<500	-6 ... -1	-
DZ23-C4V7	V7	4.4 ... 5.0	70 (<78)	<500	-5 ... +2	-
DZ23-C5V1	V8	4.8 ... 5.4	30 (<60)	<480	-3 ... +4	>0.8
DZ23-C5V6	V9	5.2 ... 6.0	10 (<40)	<400	-2 ... +6	>1
DZ23-C6V2	V10	5.8 ... 6.6	4.8 (<10)	<200	-1 ... +7	>2
DZ23-C6V8	V11	6.4 ... 7.2	4.5 (<8)	<150	+2 ... +7	>3
DZ23-C7V5	V12	7.0 ... 7.9	4 (<7)	<50	-3 ... +7	>5
DZ23-C8V2	V13	7.7 ... 8.7	4.5 (<7)	<50	+4 ... +7	>6
DZ23-C9V1	V14	8.5 ... 9.6	4.8 (<10)	<50	+5 ... +8	>7
DZ23-C10	V15	9.4 ... 10.6	5.2 (<15)	<70	+5 ... +8	>7.5
DZ23-C11	V16	10.4 ... 11.6	6 (<20)	<70	+5 ... +9	>8.5
DZ23-C12	V17	11.4 ... 12.7	7 (<20)	<90	+6 ... +9	>9
DZ23-C13	V18	12.4 ... 14.1	9 (<25)	<110	+7 ... +9	>10
DZ23-C15	V19	13.8 ... 15.6	11 (<30)	<110	+7 ... +9	>11
DZ23-C16	V20	15.3 ... 17.1	13 (<40)	<170	+8 ... +9.5	>12
DZ23-C18	V21	16.8 ... 19.1	18 (<50)	<170	+8 ... +9.5	>14
DZ23-C20	V22	18.8 ... 21.2	20 (<50)	<220	+8 ... +10	>15
DZ23-C22	V23	20.8 ... 23.3	25 (<55)	<220	+8 ... +10	>17
DZ23-C24	V24	22.8 ... 25.6	28 (<80)	<220	+8 ... +10	>18
DZ23-C27	V25	25.1 ... 28.9	30 (<80)	<250	+8 ... +10	>20
DZ23-C30	V26	28 ... 32	35 (<80)	<250	+8 ... +10	>22.5
DZ23-C33	V27	31 ... 35	40 (<80)	<250	+8 ... +10	>25
DZ23-C36	V28	34 ... 38	40 (<90)	<250	+8 ... +10	>27
DZ23-C39	V29	37 ... 41	50 (<90)	<300	+10 ... +12	>29
DZ23-C43	V30	40 ... 46	60 (<100)	<700	+10 ... +12	>32
DZ23-C47	V31	44 ... 50	70 (<100)	<750	+10 ... +12	>35
DZ23-C51	V32	48 ... 54	70 (<100)	<750	+10 ... +12	>38

Notes:

(1) Tested with pulses t_p = 3 ms

ZENER DIODES (1.0 WATT) GLL4735 / GLL4763 AND ZGL41 SERIES

CASE TYPE: DO-213AB



	POWER (W)	1.0		
DEVICE TYPE	NOMINAL ZENER VOLTAGE ⁽¹⁾ (V _Z) at I _{ZT} (volts)	TEST CURRENT (I _{ZT}) mA	KNEE TEST CURRENT (I _{ZK}) mA	REVERSE VOLTAGE (V _R) Volts
*GLL4735	6.2	41.0	1.0	3.0
GLL4736	6.8	37.0	1.0	4.0
GLL4737	7.5	34.0	0.5	5.0
GLL4738	8.2	31.0	0.25	6.0
GLL4739	9.1	28.0	0.25	7.0
GLL4740	10	25.0	0.25	7.6
GLL4741	11	23.0	0.25	8.4
GLL4742	12	21.0	0.25	9.1
GLL4743	13	19.0	0.25	9.9
GLL4744	15	17.0	0.25	11.4
GLL4745	16	15.5	0.25	12.2
GLL4746	18	14.0	0.25	13.7
GLL4747	20	12.5	0.25	15.2
GLL4748	22	11.5	0.25	16.7
GLL4749	24	10.5	0.25	18.2
GLL4750	27	9.5	0.25	20.6
GLL4751	30	8.5	0.25	22.8
GLL4752	33	7.5	0.25	25.1
GLL4753	36	7.0	0.25	27.4
GLL4754	39	6.5	0.25	29.7
GLL4755	43	6.0	0.25	32.7
GLL4756	47	5.5	0.25	35.8
GLL4757	51	5.0	0.25	38.8
GLL4758	56	4.5	0.25	42.6
GLL4759	62	4.0	0.25	47.1
GLL4760	68	3.7	0.25	51.7
GLL4761	75	3.3	0.25	56.0
GLL4762	82	3.0	0.25	62.2
GLL4763	91	2.0	0.25	69.2
ZGL41-100	100	3.7	0.25	76.0
ZGL41-110	110	3.4	0.25	83.6
ZGL41-120	120	3.1	0.25	91.2
ZGL41-130	130	2.9	0.25	98.8
ZGL41-140	140	2.7	0.25	106.4
ZGL41-150	150	2.5	0.25	114.0
ZGL41-160	160	2.3	0.25	121.6
ZGL41-170	170	2.2	0.25	129.2
ZGL41-180	180	2.1	0.25	137.0
ZGL41-190	190	2.0	0.25	144.4
ZGL41-200	200	1.9	0.25	152.0

Notes:

- (1) Standard device has ± 10% tolerance on nominal zener voltage
- Add "A" suffix to part number for ± 5% tolerance
- * Maximum reverse leakage (I_R) is 50.0µA

MAX. DYNAMIC IMPEDANCE Z _T at I _{ZT}	2.0-1200 ohms
MAX. DYNAMIC IMPEDANCE Z _K at I _{ZK}	700-8000 ohms
MAX. REVERSE (I _R) µA at V _R	10.0-1.0

ZENER DIODES (300mW) MMBZ5225 THRU MMBZ5267

CASE TYPE: T0-236AB (SOT-23)



Type	Marking	Nominal Zener voltage ⁽³⁾ at I _{ZT} V _Z	Test current I _{ZT} mA	Maximum Zener impedance ⁽¹⁾		Typical temperature coefficient α _{VZ} %/K	Maximum reverse leakage current		Maximum regulator current ⁽²⁾ I _{ZM} mA
				at I _{ZT} Z _{KT} Ω	at I _{ZK} = 0.25 mA Z _{ZK} Ω		I _R (μA)	Test Voltage V _R (V)	
MMBZ5225	18E	3.0	20	29	1600	-0.075	50	1.0	152
MMBZ5226	8A	3.3	20	28	1600	-0.070	25	1.0	138
MMBZ5227	8B	3.6	20	24	1700	-0.065	15	1.0	126
MMBZ5228	8C	3.9	20	23	1900	-0.060	10	1.0	115
MMBZ5229	8D	4.3	20	22	2000	-0.055	5	1.0	106
MMBZ5230	8E	4.7	20	19	1900	±0.030	5	2.0	97
MMBZ5231	8F	5.1	20	17	1600	±0.030	5	2.0	89
MMBZ5232	8G	5.6	20	11	1600	+0.038	5	3.0	81
MMBZ5233	8H	6.0	20	7	1600	+0.038	5	3.5	76
MMBZ5234	8J	6.2	20	7	1000	+0.045	5	4.0	73
MMBZ5235	8K	6.8	20	5	750	+0.050	3	5.0	67
MMBZ5236	8L	7.5	20	6	500	+0.058	3	6.0	61
MMBZ5237	8M	8.2	20	8	500	+0.062	3	6.5	55
MMBZ5238	8N	8.7	20	8	600	+0.065	3	6.5	52
MMBZ5239	8P	9.1	20	10	600	+0.068	3	7.0	50
MMBZ5240	8Q	10	20	17	600	+0.075	3	8.0	45
MMBZ5241	8R	11	20	22	600	+0.076	2	8.4	41
MMBZ5242	8S	12	20	30	600	+0.077	1	9.1	38
MMBZ5243	8T	13	9.5	13	600	+0.079	0.5	9.9	35
MMBZ5244	8U	14	9.0	15	600	+0.082	0.1	10	32
MMBZ5245	8V	15	8.5	16	600	+0.082	0.1	11	30
MMBZ5246	8W	16	7.8	17	600	+0.083	0.1	12	28
MMBZ5247	8X	17	7.4	19	600	+0.084	0.1	13	27
MMBZ5248	8Y	18	7.0	21	600	+0.085	0.1	14	25
MMBZ5249	8Z	19	6.6	23	600	+0.086	0.1	14	24
MMBZ5250	81A	20	6.2	25	600	+0.086	0.1	15	23
MMBZ5251	81B	22	5.6	29	600	+0.087	0.1	17	21
MMBZ5252	81C	24	5.2	33	600	+0.087	0.1	18	19.1
MMBZ5253	81D	25	5.0	35	600	+0.089	0.1	19	18.2
MMBZ5254	81E	27	4.6	41	600	+0.090	0.1	21	16.8
MMBZ5255	81F	28	4.5	44	600	+0.091	0.1	21	16.2
MMBZ5256	81G	30	4.2	49	600	+0.091	0.1	23	15.1
MMBZ5257	81H	33	3.8	58	700	+0.092	0.1	25	13.8
MMBZ5258	81J	36	3.4	70	700	+0.093	0.1	27	12.6
MMBZ5259	81K	39	3.2	80	800	+0.094	0.1	30	11.6
MMBZ5260	18F	43	3.0	93	900	+0.095	0.1	33	10.6
MMBZ5261	81M	47	2.7	105	1000	+0.095	0.1	36	9.7
MMBZ5262	81N	51	2.5	125	1100	+0.096	0.1	39	8.9
MMBZ5263	81P	56	2.2	150	1300	+0.096	0.1	43	-
MMBZ5264	81Q	60	2.1	170	1400	+0.097	0.1	46	-
MMBZ5265	81R	62	2.0	185	1400	+0.097	0.1	47	-
MMBZ5266	81S	68	1.8	230	1600	+0.097	0.1	52	-
MMBZ5267	81T	75	1.7	270	1700	+0.098	0.1	56	-

Notes:

- (1) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions

ZENER DIODES (500mW) MMSZ5225 THRU MMSZ5267

CASE TYPE: SOD-123



Type	Marking	Nominal Zener voltage ⁽³⁾ at I _{ZT} Vz V	Test current I _{ZT} mA	Maximum Zener impedance ⁽¹⁾		Typical temperature coefficient αVz %/K	Maximum reverse leakage current		Maximum regulator current ⁽²⁾ I _{ZM} mA
				at I _{ZT} Z _{ZT} Ω	at I _{ZK} = 0.25 mA Z _{ZK} Ω		I _R (μA)	Test Voltage V _R (V)	
MMSZ5225	C5	3.0	20	29	1600	-0.075	50	1.0	152
MMSZ5226	D1	3.3	20	28	1600	-0.070	25	1.0	138
MMSZ5227	D2	3.6	20	24	1700	-0.065	15	1.0	126
MMSZ5228	D3	3.9	20	23	1900	-0.060	10	1.0	115
MMSZ5229	D4	4.3	20	22	2000	-0.055	5	1.0	106
MMSZ5230	D5	4.7	20	19	1900	±0.030	5	2.0	97
MMSZ5231	E1	5.1	20	17	1600	±0.030	5	2.0	89
MMSZ5232	E2	5.6	20	11	1600	+0.038	5	3.0	81
MMSZ5233	E3	6.0	20	7	1600	+0.038	5	3.5	76
MMSZ5234	E4	6.2	20	7	1000	+0.045	5	4.0	73
MMSZ5235	E5	6.8	20	5	750	+0.050	3	5.0	67
MMSZ5236	F1	7.5	20	6	500	+0.058	3	6.0	61
MMSZ5237	F2	8.2	20	8	500	+0.062	3	6.5	55
MMSZ5238	F3	8.7	20	8	600	+0.065	3	6.5	52
MMSZ5239	F4	9.1	20	10	600	+0.068	3	7.0	50
MMSZ5240	F5	10	20	17	600	+0.075	3	8.0	45
MMSZ5241	H1	11	20	22	600	+0.076	2	8.4	41
MMSZ5242	H2	12	20	30	600	+0.077	1	9.1	38
MMSZ5243	H3	13	9.5	13	600	+0.079	0.5	9.9	35
MMSZ5244	H4	14	9.0	15	600	+0.082	0.1	10	32
MMSZ5245	H5	15	8.5	16	600	+0.082	0.1	11	30
MMSZ5246	J1	16	7.8	17	600	+0.083	0.1	12	28
MMSZ5247	J2	17	7.4	19	600	+0.084	0.1	13	27
MMSZ5248	J3	18	7.0	21	600	+0.085	0.1	14	25
MMSZ5249	J4	19	6.6	23	600	+0.086	0.1	14	24
MMSZ5250	J5	20	6.2	25	600	+0.086	0.1	15	23
MMSZ5251	K1	22	5.6	29	600	+0.087	0.1	17	21
MMSZ5252	K2	24	5.2	33	600	+0.087	0.1	18	19.1
MMSZ5253	K3	25	5.0	35	600	+0.089	0.1	19	18.2
MMSZ5254	K4	27	4.6	41	600	+0.090	0.1	21	16.8
MMSZ5255	K5	28	4.5	44	600	+0.091	0.1	21	16.2
MMSZ5256	M1	30	4.2	49	600	+0.091	0.1	23	15.1
MMSZ5257	M2	33	3.8	58	700	+0.092	0.1	25	13.8
MMSZ5258	M3	36	3.4	70	700	+0.093	0.1	27	12.6
MMSZ5259	M4	39	3.2	80	800	+0.094	0.1	30	11.6
MMSZ5260	M5	43	3.0	93	900	+0.095	0.1	33	10.6
MMSZ5261	N1	47	2.7	105	1000	+0.095	0.1	36	9.7
MMSZ5262	N2	51	2.5	125	1100	+0.096	0.1	39	8.9
MMSZ5263	N3	56	2.2	150	1300	+0.096	0.1	43	-
MMSZ5264	N4	60	2.1	170	1400	+0.097	0.1	46	-
MMSZ5265	N5	62	2.0	185	1400	+0.097	0.1	47	-
MMSZ5266	P1	68	1.8	230	1600	+0.097	0.1	52	-
MMSZ5267	P2	75	1.7	270	1700	+0.098	0.1	56	-

Notes:

- (1) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that leads at a distance of 10 mm from case are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions

ZENER DIODES (1.0 WATT) SML4735 / SML4763

CASE TYPE: DO-214AC



DEVICE TYPE	POWER (W)		1.0	
	NOMINAL ZENER VOLTAGE ⁽¹⁾ (V _Z) at I _{ZT} (volts)	TEST CURRENT (I _{ZT}) mA	KNEE TEST CURRENT (I _{ZK}) mA	REVERSE VOLTAGE (V _R) Volts
*SML4735	6.2	41.0	1.0	3.0
SML4736	6.8	37.0	1.0	4.0
SML4737	7.5	34.0	0.5	5.0
SML4738	8.2	31.0	0.25	6.0
SML4739	9.1	28.0	0.25	7.0
SML4740	10	25.0	0.25	7.6
SML4741	11	23.0	0.25	8.4
SML4742	12	21.0	0.25	9.1
SML4743	13	19.0	0.25	9.9
SML4744	15	17.0	0.25	11.4
SML4745	16	15.5	0.25	12.2
SML4746	18	14.0	0.25	13.7
SML4747	20	12.5	0.25	15.2
SML4748	22	11.5	0.25	16.7
SML4749	24	10.5	0.25	18.2
SML4750	27	9.5	0.25	20.6
SML4751	30	8.5	0.25	22.8
SML4752	33	7.5	0.25	25.1
SML4753	36	7.0	0.25	27.4
SML4754	39	6.5	0.25	29.7
SML4755	43	6.0	0.25	32.7
SML4756	47	5.5	0.25	35.8
SML4757	51	5.0	0.25	38.8
SML4758	56	4.5	0.25	42.6
SML4759	62	4.0	0.25	47.1
SML4760	68	3.7	0.25	51.7
SML4761	75	3.3	0.25	56.0
SML4762	82	3.0	0.25	62.2
SML4763	91	2.0	0.25	69.2

Notes:

- (1) Standard device has ± 10% tolerance on nominal Zener voltage
- Add "A" suffix to part number for ± 5% tolerance
- * Maximum reverse leakage (I_R) is 50.0µA

MAX. DYNAMIC IMPEDANCE Z _{DT} at I _{ZT}	2.0-1200 ohms
MAX. DYNAMIC IMPEDANCE Z _{DK} at I _{ZK}	700-8000 ohms
MAX. REVERSE (I _R) µA at V _R	10.0-1.0

1.5 WATT SURFACE MOUNT ZENER DIODES SMZG AND SMZJ SERIES

Modified J-Bend Leads
CASE TYPE: SMB / DO-214AA



"Gull Wing"
CASE TYPE: SMB / DO-215AA




DEVICE TYPE		DEVICE MARKING CODES	NOMINAL ZENER VOLTAGE ⁽¹⁾	TEST CURRENT	MAX. ZENER IMPEDANCE <i>I_{ZK}</i> =0.25mA		MAX. REVERSE LEAKAGE CURRENT			MAX. ZENER CURRENT
GULL-WING	MODIFIED J-BEND		(V _Z) at <i>I_{ZT}</i>	(<i>I_{ZT}</i>)	(Z _{ZT}) at <i>I_{ZT}</i>	(Z _{ZK}) at <i>I_{ZK}</i>	(<i>I_R</i>)	at (V _R) Volts		(<i>I_{ZM}</i>)
			VOLTS	mA	Ohms	Ohms	μA	A-Suffix	B-Suffix	mA dc
SMZG3789A, B	SMZJ3789A, B	789A, B	10.0	37.5	5.0	1000	50.0	7.2	7.6	125
SMZG3790A, B	SMZJ3790A, B	790A, B	11.0	34.1	6.0	650	10.0	8.0	8.4	115
SMZG3791A, B	SMZJ3791A, B	791A, B	12.0	31.2	7.0	550	5.0	8.6	9.1	105
SMZG3792A, B	SMZJ3792A, B	792A, B	13.0	28.8	7.5	550	5.0	9.4	9.9	98
SMZG3793A, B	SMZJ3793A, B	793A, B	15.0	25.0	9.0	600	5.0	10.8	11.5	85
SMZG3794A, B	SMZJ3794A, B	794A, B	16.0	23.4	10.0	600	5.0	11.5	12.2	80
SMZG3795A, B	SMZJ3795A, B	795A, B	18.0	20.8	12.0	650	5.0	13.0	13.7	70
SMZG3796A, B	SMZJ3796A, B	796A, B	20.0	18.7	14.0	650	5.0	14.4	15.2	62
SMZG3797A, B	SMZJ3797A, B	797A, B	22.0	17.0	17.5	650	5.0	15.8	16.7	56
SMZG3798A, B	SMZJ3798A, B	798A, B	24.0	15.6	19.0	650	5.0	17.3	18.2	51
SMZG3799A, B	SMZJ3799A, B	799A, B	27.0	13.9	23.0	700	5.0	19.4	20.6	46
SMZG3800A, B	SMZJ3800A, B	800A, B	30.0	12.5	26.0	750	5.0	21.6	22.8	41
SMZG3801A, B	SMZJ3801A, B	801A, B	33.0	11.4	33.0	800	5.0	23.8	25.1	38
SMZG3802A, B	SMZJ3802A, B	802A, B	36.0	10.4	38.0	850	5.0	25.9	27.4	35
SMZG3803A, B	SMZJ3803A, B	803A, B	39.0	9.6	45.0	900	5.0	28.1	29.7	31
SMZG3804A, B	SMZJ3804A, B	804A, B	43.0	8.7	53.0	950	5.0	31.1	32.7	28
SMZG3805A, B	SMZJ3805A, B	805A, B	47.0	8.0	67.0	1000	5.0	33.8	35.8	26
SMZG3806A, B	SMZJ3806A, B	806A, B	51.0	7.3	70	1100	5.0	36.7	38.8	24
SMZG3807A, B	SMZJ3807A, B	807A, B	56.0	6.7	86	1300	5.0	40.3	42.6	22
SMZG3808A, B	SMZJ3808A, B	808A, B	62.0	6.0	100	1500	5.0	44.6	47.1	20
SMZG3809A, B	SMZJ3809A, B	809A, B	68.0	5.5	120.0	1700	5.0	49.0	51.7	18

Note:

(1) Standard device has an "A" suffix which denotes ± 10% tolerance on nominal zener voltage
Add "B" suffix to denote ± 5% tolerance

ZENER DIODES (1.5 WATT) Z4KE100 / Z4KE200

POWER (W)	1.5 (2)	
NOMINAL ZENER VOLTAGE ⁽¹⁾ (Volts)	REVERSE VOLTAGE V _R (Volts)	CASE TYPE: DO-204AL 
100.0	76.0	Z4KE100
110.0	83.6	Z4KE110
120.0	91.2	Z4KE120
130.0	98.8	Z4KE130
140.0	106.4	Z4KE140
150.0	114.0	Z4KE150
160.0	121.6	Z4KE160
170.0	129.2	Z4KE170
180.0	137.0	Z4KE180
190.0	144.0	Z4KE190
200.0	152.0	Z4KE200
Max Dynamic Impedance (Z _{ZT}) at 5.0mA		50-1500 ohms
Max Dynamic Impedance (Z _{ZK}) at 0.25mA		5000 ohms
Max Reverse Current, I _R (μA) at rated V _R		0.5

Notes:

- (1) Standard voltage type is ± 10% voltage tolerance on nominal zener voltage
Add "A" suffix to part number to indicate ± 5% voltage tolerance
- (2) 1.5W DC power dissipation at T_L=75°C with lead length of .375" (9.5mm)

ZENER DIODES (1 WATT) ZM4728 / ZM4764

CASE TYPE: MELF Glass



Type	Nominal Zener voltage ⁽³⁾ at I _{ZT} V _Z V	Test current I _{ZT} mA	Maximum Zener impedance ⁽¹⁾			Maximum reverse leakage current		Surge current at T _A = 25 °C I _R mA	Maximum regulator current ⁽²⁾ I _{ZM} mA
			at I _{ZT} Z _{ZT} Ω	Z _{ZK} Ω	at I _{ZK} mA	I _R μA	at V _R V		
ZM4728	3.3	76	10	400	1.0	100	1	1380	276
ZM4729	3.6	69	10	400	1.0	100	1	1260	252
ZM4730	3.9	64	9	400	1.0	50	1	1190	234
ZM4731	4.3	58	9	400	1.0	10	1	1070	217
ZM4732	4.7	53	8	500	1.0	10	1	970	193
ZM4733	5.1	49	7	550	1.0	10	1	890	178
ZM4734	5.6	45	5	600	1.0	10	2	810	162
ZM4735	6.2	41	2	700	1.0	10	3	730	146
ZM4736	6.8	37	3.5	700	1.0	10	4	660	133
ZM4737	7.5	34	4.0	700	0.5	10	5	605	121
ZM4738	8.2	31	4.5	700	0.5	10	6	550	110
ZM4739	9.1	28	5.0	700	0.5	10	7	500	100
ZM4740	10	25	7	700	0.25	10	7.6	454	91
ZM4741	11	23	8	700	0.25	5	8.4	414	83
ZM4742	12	21	9	700	0.25	5	9.1	380	76
ZM4743	13	19	10	700	0.25	5	9.9	344	69
ZM4744	15	17	14	700	0.25	5	11.4	304	61
ZM4745	16	15.5	16	700	0.25	5	12.2	285	57
ZM4746	18	14	20	750	0.25	5	13.7	250	50
ZM4747	20	12.5	22	750	0.25	5	15.2	225	45
ZM4748	22	11.5	23	750	0.25	5	16.7	205	41
ZM4749	24	10.5	25	750	0.25	5	18.2	190	38
ZM4750	27	9.5	35	750	0.25	5	20.6	170	34
ZM4751	30	8.5	40	1000	0.25	5	22.8	150	30
ZM4752	33	7.5	45	1000	0.25	5	25.1	135	27
ZM4753	36	7.0	50	1000	0.25	5	27.4	125	25
ZM4754	39	6.5	60	1000	0.25	5	29.7	115	23
ZM4755	43	6.0	70	1500	0.25	5	32.7	110	22
ZM4756	47	5.5	80	1500	0.25	5	35.8	95	19
ZM4757	51	5.0	95	1500	0.25	5	38.8	90	18
ZM4758	56	4.5	110	2000	0.25	5	42.6	80	16
ZM4759	62	4.0	125	2000	0.25	5	47.1	70	14
ZM4760	68	3.7	150	2000	0.25	5	51.7	65	13
ZM4761	75	3.3	175	2000	0.25	5	56.0	60	12
ZM4762	82	3.0	200	3000	0.25	5	62.2	55	11
ZM4763	91	2.8	250	3000	0.25	5	69.2	50	10
ZM4764	100	2.5	350	3000	0.25	5	76.0	45	9

Notes:

- (1) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZR} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that electrodes are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions

ZENER DIODES (500mW) ZMM1 / ZMM75

CASE TYPE: SOD-80C (Mini-MELF Glass)



Type	Zener Voltage ⁽¹⁾ at I _Z = 5 mA V _Z V	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I _Z = 5 mA $\alpha_{VZ} 10^{-4}/K$	Reverse Voltage at I _R = 100 nA V _R V	Admissible Zener current ⁽²⁾	
		at I _Z = 5 mA f = 1 kHz r _{Zj} Ω	at I _Z = 1 mA f = 1 kHz r _{Zj} Ω			at T _{amb} = 45 °C I _Z = mA	at T _{amb} = 25 °C I _Z = mA
ZMM1 ⁽³⁾	0.7 ... 0.8	6.5 (< 8)	< 50	- 26 ... - 23	-	280	340
ZMM2.7	2.5 ... 2.9	75 (< 8 ⁽³⁾)	< 500	- 9 ... - 4	-	135	160
ZMM3	2.8 ... 3.2	80 (< 95)	< 500	- 9 ... - 3	-	117	140
ZMM3.3	3.1 ... 3.5	80 (< 95)	< 500	- 8 ... - 3	-	109	130
ZMM3.6	3.4 ... 3.8	80 (< 95)	< 500	- 8 ... - 3	-	101	120
ZMM3.9	3.7 ... 4.1	80 (< 95)	< 500	- 7 ... - 3	-	92	110
ZMM4.3	4.0 ... 4.6	80 (< 95)	< 500	- 6 ... - 1	-	85	100
ZMM4.7	4.4 ... 5.0	70 (< 78)	< 500	- 5 ... +2	-	76	90
ZMM5.1	4.8 ... 5.4	30 (< 60)	< 480	- 3 ... +4	> 0.8	67	80
ZMM5.6	5.2 ... 6.0	10 (< 40)	< 400	- 2 ... +6	> 1	59	70
ZMM6.2	5.8 ... 6.6	4.8 (< 10)	< 200	- 1 ... +7	> 2	54	64
ZMM6.8	6.4 ... 7.2	4.5 (< 8)	< 150	+2 ... +7	> 3	49	58
ZMM7.5	7.0 ... 7.9	4 (< 7)	< 50	+3 ... +7	> 5	44	53
ZMM8.2	7.7 ... 8.7	4.5 (< 7)	< 50	+4 ... +7	> 6	40	47
ZMM9.1	8.5 ... 9.6	4.8 (< 10)	< 50	+5 ... +8	> 7	36	43
ZMM10	9.4 ... 10.6	5.2 (< 15)	< 70	+5 ... +8	> 7.5	33	40
ZMM11	10.4 ... 11.6	6 (< 20)	< 70	+5 ... +9	> 8.5	30	36
ZMM12	11.4 ... 12.7	7 (< 20)	< 90	+6 ... +9	> 9	28	32
ZMM13	12.4 ... 14.1	9 (< 25)	< 110	+7 ... +9	> 10	25	29
ZMM15	13.8 ... 15.6	11 (< 30)	< 110	+7 ... +9	> 11	23	27
ZMM16	15.3 ... 17.1	13 (< 40)	< 170	+8 ... +9.5	> 12	20	24
ZMM18	16.8 ... 19.1	18 (< 50)	< 170	+8 ... +9.5	> 14	18	21
ZMM20	18.8 ... 21.2	20 (< 50)	< 220	+8 ... +10	> 15	17	20
ZMM22	20.8 ... 23.3	25 (< 55)	< 220	+8 ... +10	> 17	16	18
ZMM24	22.8 ... 25.6	28 (< 80)	< 220	+8 ... +10	> 18	13	16
ZMM27	25.1 ... 28.9	30 (< 80)	< 250	+8 ... +10	> 20	12	14
ZMM30	28 ... 32	35 (< 80)	< 250	+8 ... +10	> 22.5	10	13
ZMM33	31 ... 35	40 (< 80)	< 250	+8 ... +10	> 25	9	12
ZMM36	34 ... 38	40 (< 90)	< 250	+8 ... +10	> 27	9	11
ZMM39	37 ... 41	50 (< 90)	< 300	+10 ... +12	> 29	8	10
ZMM43	40 ... 46	60 (< 100)	< 700	+10 ... +12	> 32	7	9.2
ZMM47	44 ... 50	70 (< 100)	< 750	+10 ... +12	> 35	6	8.5
ZMM51	48 ... 54	70 (< 100)	< 750	+10 ... +12	> 38	6	7.8
ZMM56	52.0 ... 60.0 ⁽⁴⁾	<135 ⁽⁴⁾	<1000 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-
ZMM62	58.0 ... 66.0 ⁽⁴⁾	<150 ⁽⁴⁾	<1000 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-
ZMM68	64.0 ... 72.0 ⁽⁴⁾	<200 ⁽⁴⁾	<1000 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-
ZMM75	70.0 ... 79.0 ⁽⁴⁾	<250 ⁽⁴⁾	<1500 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-

Notes:

(1) Tested with pulses t_p = 5 ms

(2) Valid provided that electrodes are kept at ambient temperature

(3) The ZMM1 is a silicon diode operated in forward direction. Hence, the index of all parameters should be "F" instead of "Z"

Connect the cathode electrode to the negative pole

(4) at I_Z = 2.5 mA

(5) at I_Z = 0.5 mA

ZENER DIODES (500mW) ZMM5225 / ZMM5267

CASE TYPE: SOD-80C (Mini-MELF Glass)



Type	Nominal Zener voltage ⁽³⁾ at I _{ZT} V _Z V	Test current I _{ZT} mA	Maximum Zener impedance ⁽¹⁾		Typical temperature coefficient α _{VZ} 10 ⁻⁴ /K	Maximum reverse leakage current		Maximum regulator current ⁽²⁾ I _{ZM} mA
			at I _{ZT} Z _{ZT} Ω	at I _{ZK} =0.25mA Z _{ZK} Ω		I _R (μA)	Test Voltage V _R (V)	
ZMM5225	3.0	20	29	1600	-0.075	50	1.0	152
ZMM5226	3.3	20	28	1600	-0.070	25	1.0	138
ZMM5227	3.6	20	24	1700	-0.065	15	1.0	126
ZMM5228	3.9	20	23	1900	-0.060	10	1.0	115
ZMM5229	4.3	20	22	2000	-0.055	5	1.0	106
ZMM5230	4.7	20	19	1900	±0.030	5	2.0	97
ZMM5231	5.1	20	17	1600	±0.030	5	2.0	89
ZMM5232	5.6	20	11	1600	+0.038	5	3.0	81
ZMM5233	6.0	20	7	1600	+0.038	5	3.5	76
ZMM5234	6.2	20	7	1000	+0.045	5	4.0	73
ZMM5235	6.8	20	5	750	+0.050	3	5.0	67
ZMM5236	7.5	20	6	500	+0.058	3	6.0	61
ZMM5237	8.2	20	8	500	+0.062	3	6.5	55
ZMM5238	8.7	20	8	600	+0.065	3	6.5	52
ZMM5239	9.1	20	10	600	+0.068	3	7.0	50
ZMM5240	10	20	17	600	+0.075	3	8.0	45
ZMM5241	11	20	22	600	+0.076	2	8.4	41
ZMM5242	12	20	30	600	+0.077	1	9.1	38
ZMM5243	13	9.5	13	600	+0.079	0.5	9.9	35
ZMM5244	14	9.0	15	600	+0.082	0.1	10	32
ZMM5245	15	8.5	16	600	+0.082	0.1	11	30
ZMM5246	16	7.8	17	600	+0.083	0.1	12	28
ZMM5247	17	7.4	19	600	+0.084	0.1	13	27
ZMM5248	18	7.0	21	600	+0.085	0.1	14	25
ZMM5249	19	6.6	23	600	+0.086	0.1	14	24
ZMM5250	20	6.2	25	600	+0.086	0.1	15	23
ZMM5251	22	5.6	29	600	+0.087	0.1	17	21
ZMM5252	24	5.2	33	600	+0.087	0.1	18	19.1
ZMM5253	25	5.0	35	600	+0.089	0.1	19	18.2
ZMM5254	27	4.6	41	600	+0.090	0.1	21	16.8
ZMM5255	28	4.5	44	600	+0.091	0.1	21	16.2
ZMM5256	30	4.2	49	600	+0.091	0.1	23	15.1
ZMM5257	33	3.8	58	700	+0.092	0.1	25	13.8
ZMM5258	36	3.4	70	700	+0.093	0.1	27	12.6
ZMM5259	39	3.2	80	800	+0.094	0.1	30	11.6
ZMM5260	43	3.0	93	900	+0.095	0.1	33	10.6
ZMM5261	47	2.7	105	1000	+0.095	0.1	36	9.7
ZMM5262	51	2.5	125	1100	+0.096	0.1	39	8.9
ZMM5263	56	2.5	150	1300 ⁽⁴⁾	+0.096	-	-	-
ZMM5264	60	2.5	170	1400 ⁽⁴⁾	+0.097	-	-	-
ZMM5265	62	2.5	185	1400 ⁽⁴⁾	+0.097	-	-	-
ZMM5266	68	2.5	230	1600 ⁽⁴⁾	+0.097	-	-	-
ZMM5267	75	2.5	270	1700 ⁽⁴⁾	+0.098	-	-	-

Notes:

- (1) The Zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10% of the Zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units
- (2) Valid provided that electrodes are kept at ambient temperature
- (3) Measured under thermal equilibrium and DC test conditions
- (4) at I_Z = 0.5 mA

ZENER DIODES (1 WATT) ZMU100 / ZMU180

CASE TYPE: MELF Glass



Type	Zener voltage ⁽¹⁾ at I_{ZT} V_Z V	Dynamic Resistance at I_{ZT} $f = 1$ kHz r_{zj} Ω	Temp. Coeff. of Zener Voltage at I_{ZT} α_{VZ} 10 ⁻⁴ /K	Test current I_{ZT} mA	Reverse Voltage at $I_R = .5$ μ A V_R V	Admissible Zener current ⁽²⁾ at $T_{amb} = 25$ °C I_Z mA
ZMU100	88 ... 110	140 (< 300)	+9 ... +13	5	> 75	7
ZMU120	107 ... 134	170 (< 330)	+9 ... +13	5	> 90	6
ZMU150	130 ... 165	200 (< 360)	+9 ... +13	5	> 112	5
ZMU180	160 ... 200	220 (< 380)	+9 ... +13	5	> 134	4

Notes:

(1) Tested with pulses $t_p = 5$ ms

(2) Valid provided that electrodes are kept at ambient temperature

ZENER DIODES (1 WATT) ZMY1 / ZMY100

CASE TYPE: MELF Glass



Type	Zener voltage ⁽²⁾ at I _{ZT}		Dynamic resistance at I _{ZT} f = 1 kHz max r _{Zj} Ω	Temp. coeff. of Zener volt. at I _{ZT} @V _Z 10 ⁻⁴ /K	Test current I _{ZT} mA	Reverse voltage at I _R = 0.5 μA V _R V	Admissible Zener current ⁽¹⁾ at T _{amb} = 25 °C I _Z mA
	min.	max. V _Z V					
ZMY1 ⁽³⁾	0.65 ...	0.75	6.5 (< 8)	-26 ... -23	5	-	406
ZMY3.9	3.7 ...	4.1	4 (< 7)	-7 ... +2	100	-	203
ZMY4.3	4.0 ...	4.6	4 (< 7)	-7 ... +3	100	-	182
ZMY4.7	4.4 ...	5.0	4 (< 7)	-7 ... +4	100	-	165
ZMY5.1	4.8 ...	5.4	2 (< 5)	-6 ... +5	100	> 0.7	150
ZMY5.6	5.2 ...	6.0	1 (< 2)	-3 ... +5	100	> 1.5	135
ZMY6.2	5.8 ...	6.6	1 (< 2)	-1 ... +6	100	> 2.0	128
ZMY6.8	6.4 ...	7.2	1 (< 2)	0 ... +7	100	> 3.0	110
ZMY7.5	7.0 ...	7.9	1 (< 2)	0 ... +7	100	> 5.0	100
ZMY8.2	7.7 ...	8.7	1 (< 2)	+3 ... +8	100	> 6.0	89
ZMY9.1	8.5 ...	9.6	2 (< 4)	+3 ... +8	50	> 7.0	82
ZMY10	9.4 ...	10.6	2 (< 4)	+5 ... +9	50	> 7.5	74
ZMY11	10.4 ...	11.6	3 (< 7)	+5 ... +10	50	> 8.5	66
ZMY12	11.4 ...	12.7	3 (< 7)	+5 ... +10	50	> 9.0	60
ZMY13	12.4 ...	14.1	4 (< 9)	+5 ... +10	50	> 10	55
ZMY15	13.8 ...	15.8	4 (< 9)	+5 ... +10	50	> 11	49
ZMY16	15.3 ...	17.1	5 (< 10)	+7 ... +11	25	> 12	44
ZMY18	16.8 ...	19.1	5 (< 11)	+7 ... +11	25	> 14	40
ZMY20	18.8 ...	21.2	6 (< 12)	+7 ... +11	25	> 15	36
ZMY22	20.8 ...	23.3	7 (< 13)	+7 ... +11	25	> 17	34
ZMY24	22.8 ...	25.6	8 (< 14)	+7 ... +12	25	> 18	29
ZMY27	25.1 ...	28.9	9 (< 15)	+7 ... +12	25	> 20	27
ZMY30	28 ...	32	10 (< 20)	+7 ... +12	25	> 22.5	25
ZMY33	31 ...	35	11 (< 20)	+7 ... +12	25	> 25	22
ZMY36	34 ...	38	25 (< 60)	+7 ... +12	10	> 27	20
ZMY39	37 ...	41	30 (< 60)	+8 ... +12	10	> 29	18
ZMY43	40 ...	46	35 (< 80)	+8 ... +13	10	> 32	17
ZMY47	44 ...	50	40 (< 80)	+8 ... +13	10	> 35	15
ZMY51	48 ...	54	45 (< 100)	+8 ... +13	10	> 38	14
ZMY56	52 ...	60	50 (< 100)	+8 ... +13	10	> 42	13
ZMY62	58 ...	66	60 (< 130)	+8 ... +13	10	> 47	11
ZMY68	64 ...	72	65 (< 130)	+8 ... +13	10	> 51	10
ZMY75	70 ...	79	70 (< 160)	+8 ... +13	10	> 56	9
ZMY82	77 ...	88	80 (< 160)	+8 ... +13	10	> 61	8
ZMY91	85 ...	96	120 (< 250)	+9 ... +13	5	> 68	7.5
ZMY100	94 ...	106	130 (< 250)	+9 ... +13	5	> 75	7

Notes:

(1) Valid provided that electrodes are kept at ambient temperature

(2) Tested with pulses t_p = 5 ms

(3) The ZMY1 is a silicon diode operated in forward direction. Hence, the index of all characteristics and maximum ratings should be "F" instead of "Z". Connect the cathode terminal to the negative pole

For devices in glass case MELF with higher Zener voltage but same power dissipation see types ZMU100 ... ZMU180

ZENER DIODES (500mW) ZPD1 / ZPD75

CASE TYPE: DO-204AH (Glass DO-35)



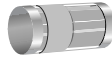
Type	Zener Voltage ⁽¹⁾ at I _Z = 5 mA V _Z V	Dynamic Resistance		Temp. Coeff. of Zener Voltage at I _Z = 5 mA α_{VZ} 10 ⁻⁴ /K	Reverse Voltage at I _R = 100 nA V _R V	Admissible Zener current ⁽²⁾	
		at I _Z = 5 mA f = 1 kHz r _{Zj} Ω	at I _Z = 1 mA f = 1 kHz r _{Zj} Ω			at T _{amb} = 45 °C I _Z = mA	at T _{amb} = 25 °C I _Z = mA
ZPD1 ⁽³⁾	0.7 ... 0.8	6.5 (< 8)	< 50	-26 ... -23	-	280	340
ZPD2.7	2.5 ... 2.9	75 (< 8) ⁽³⁾	< 500	-9 ... -4	-	135	160
ZPD3	2.8 ... 3.2	80 (< 9) ⁽⁵⁾	< 500	-9 ... -3	-	117	140
ZPD3.3	3.1 ... 3.5	80 (< 9) ⁽⁵⁾	< 500	-8 ... -3	-	109	130
ZPD3.6	3.4 ... 3.8	80 (< 9) ⁽⁵⁾	< 500	-8 ... -3	-	101	120
ZPD3.9	3.7 ... 4.1	80 (< 9) ⁽⁵⁾	< 500	-7 ... -3	-	92	110
ZPD4.3	4.0 ... 4.6	80 (< 9) ⁽⁵⁾	< 500	-6 ... -1	-	85	100
ZPD4.7	4.4 ... 5.0	70 (< 78)	< 500	-5 ... +2	-	76	90
ZPD5.1	4.8 ... 5.4	30 (< 60)	< 480	-3 ... +4	> 0.8	67	80
ZPD5.6	5.2 ... 6.0	10 (< 40)	< 400	-2 ... +6	> 1	59	70
ZPD6.2	5.8 ... 6.6	4.8 (< 10)	< 200	-1 ... +7	> 2	54	64
ZPD6.8	6.4 ... 7.2	4.5 (< 8)	< 150	+2 ... +7	> 3	49	58
ZPD7.5	7.0 ... 7.9	4 (< 7)	< 50	+3 ... +7	> 5	44	53
ZPD8.2	7.7 ... 8.7	4.5 (< 7)	< 50	+4 ... +7	> 6	40	47
ZPD9.1	8.5 ... 9.6	4.8 (< 10)	< 50	+5 ... +8	> 7	36	43
ZPD10	9.4 ... 10.6	5.2 (< 1) ⁽⁵⁾	< 70	+5 ... +8	> 7.5	33	40
ZPD11	10.4 ... 11.6	6 (< 20)	< 70	+5 ... +9	> 8.5	30	36
ZPD12	11.4 ... 12.7	7 (< 20)	< 90	+6 ... +9	> 9	28	32
ZPD13	12.4 ... 14.1	9 (< 2) ⁽⁵⁾	< 110	+7 ... +9	> 10	25	29
ZPD15	13.8 ... 15.6	11 (< 30)	< 110	+7 ... +9	> 11	23	27
ZPD16	15.3 ... 17.1	13 (< 40)	< 170	+8 ... +9.5	> 12	20	24
ZPD18	16.8 ... 19.1	18 (< 50)	< 170	+8 ... +9.5	> 14	18	21
ZPD20	18.8 ... 21.2	20 (< 50)	< 220	+8 ... +10	> 15	17	20
ZPD22	20.8 ... 23.3	25 (< 5) ⁽⁵⁾	< 220	+8 ... +10	> 17	16	18
ZPD24	22.8 ... 25.6	28 (< 80)	< 220	+8 ... +10	> 18	13	16
ZPD27	25.1 ... 28.9	30 (< 80)	< 250	+8 ... +10	> 20	12	14
ZPD30	28 ... 32	35 (< 80)	< 250	+8 ... +10	> 22.5	10	13
ZPD33	31 ... 35	40 (< 80)	< 250	+8 ... +10	> 25	9	12
ZPD36	34 ... 38	40 (< 90)	< 250	+8 ... +10	> 27	9	11
ZPD39	37 ... 41	50 (< 90)	< 300	+10 ... +12	> 29	8	10
ZPD43	40 ... 46	60 (< 100)	< 700	+10 ... +12	> 32	7	9.2
ZPD47	44 ... 50	70 (< 100)	< 750	+10 ... +12	> 35	6	8.5
ZPD51	48 ... 54	70 (< 100)	< 750	+10 ... +12	> 38	6	7.8
ZPD56	52.0 ... 60.0 ⁽⁴⁾	< 135 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-
ZPD62	58.0 ... 66.0 ⁽⁴⁾	< 150 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-
ZPD68	64.0 ... 72.0 ⁽⁴⁾	< 200 ⁽⁴⁾	< 1000 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-
ZPD75	70.0 ... 79.0 ⁽⁴⁾	< 250 ⁽⁴⁾	< 1500 ⁽⁵⁾	typ. +10 ⁽⁴⁾	-	-	-

Notes:

- (1) Tested with pulses t_p = 5 ms
- (2) Valid provided that leads at a distance of 4 mm from case are kept at ambient temperature
- (3) The ZPD1 is a silicon diode operated in forward direction. Hence, the index of all parameters should be "F" instead of "Z". Connect the cathode terminal to the negative pole
- (4) at I_Z = 2.5 mA
- (5) at I_Z = 0.5 mA

ZENER DIODES (1.3 WATTS) ZPU100 / ZPU180

CASE TYPE: MELF Glass



Type	Zener voltage ⁽²⁾ at I_{ZT} V_Z V	Dynamic Resistance at I_{ZT} $f = 1$ kHz r_{zj} Ω	Temp. Coeff. of Zener Voltage at I_{ZT} αV_Z 10 ⁻⁴ /K	Test current I_{ZT} mA	Reverse Voltage at $I_R = 0.5$ μ A V_R V	Admissible Zener current ⁽¹⁾ at $T_{amb} = 25$ °C I_Z mA
ZPU100	88 ... 110	140 (< 300)	+9 ... +13	5	> 75	10
ZPU120	107 ... 134	170 (< 330)	+9 ... +13	5	> 90	8.5
ZPU150	130 ... 165	200 (< 360)	+9 ... +13	5	> 112	7
ZPU180	160 ... 200	220 (< 380)	+9 ... +13	5	> 134	5.5

Notes:

- (1) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case
- (2) Tested with pulses $t_p = 5$ ms

ZENER DIODES (1.3 WATTS) ZPY1 / ZPY100

CASE TYPE: DO-41 Glass



Type	Zener voltage ⁽²⁾ at I _{ZT} V _Z V	Dynamic resistance at I _{ZT} f = 1 kHz max r _{Zj} Ω	Temp. coeff. of Zener volt. at I _{ZT} @V _Z 10 ⁻⁴ /K	Test current I _{ZT} mA	Reverse voltage at I _R = 0.5 μA V _R V	Admissible Zener current ⁽¹⁾ at T _{amb} = 25 °C I _Z mA
ZPY1 ⁽³⁾	0.65 ... 0.75	6.5 (< 8)	- 26 ... - 23	5	-	580
ZPY3.9	3.7 ... 4.1	4 (< 7)	- 7 ... +2	100	-	290
ZPY4.3	4.0 ... 4.6	4 (< 7)	- 7 ... +3	100	-	260
ZPY4.7	4.4 ... 5.0	4 (< 7)	- 7 ... +4	100	-	235
ZPY5.1	4.8 ... 5.4	2 (< 5)	- 6 ... +5	100	> 0.7	215
ZPY5.6	5.2 ... 6.0	1 (< 2)	- 3 ... +5	100	> 1.5	193
ZPY6.2	5.8 ... 6.6	1 (< 2)	- 1 ... +6	100	> 2.0	183
ZPY6.8	6.4 ... 7.2	1 (< 2)	0 ... +7	100	> 3.0	157
ZPY7.5	7.0 ... 7.9	1 (< 2)	0 ... +7	100	> 5.0	143
ZPY8.2	7.7 ... 8.7	1 (< 2)	+3 ... +8	100	> 6.0	127
ZPY9.1	8.5 ... 9.6	2 (< 4)	+3 ... +8	50	> 7.0	117
ZPY10	9.4 ... 10.6	2 (< 4)	+5 ... +9	50	> 7.5	105
ZPY11	10.4 ... 11.6	3 (< 7)	+5 ... +10	50	> 8.5	94
ZPY12	11.4 ... 12.7	3 (< 7)	+5 ... +10	50	> 9.0	85
ZPY13	12.4 ... 14.1	4 (< 9)	+5 ... +10	50	> 10	78
ZPY15	13.8 ... 15.8	4 (< 9)	+5 ... +10	50	> 11	70
ZPY16	15.3 ... 17.1	5 (< 10)	+7 ... +11	25	> 12	63
ZPY18	16.8 ... 19.1	5 (< 11)	+7 ... +11	25	> 14	57
ZPY20	18.8 ... 21.2	6 (< 12)	+7 ... +11	25	> 15	52
ZPY22	20.8 ... 23.3	7 (< 13)	+7 ... +11	25	> 17	48
ZPY24	22.8 ... 25.6	8 (< 14)	+7 ... +12	25	> 18	42
ZPY27	25.1 ... 28.9	9 (< 15)	+7 ... +12	25	> 20	38
ZPY30	28 ... 32	10 (< 20)	+7 ... +12	25	> 22.5	35
ZPY33	31 ... 35	11 (< 20)	+7 ... +12	25	> 25	31
ZPY36	34 ... 38	25 (< 60)	+7 ... +12	10	> 27	29
ZPY39	37 ... 41	30 (< 60)	+8 ... +12	10	> 29	26
ZPY43	40 ... 46	35 (< 80)	+8 ... +13	10	> 32	24
ZPY47	44 ... 50	40 (< 80)	+8 ... +13	10	> 35	22
ZPY51	48 ... 54	45 (< 100)	+8 ... +13	10	> 38	20
ZPY56	52 ... 60	50 (< 100)	+8 ... +13	10	> 42	18
ZPY62	58 ... 66	60 (< 130)	+8 ... +13	10	> 47	16
ZPY68	64 ... 72	65 (< 130)	+8 ... +13	10	> 51	14

Notes:

- (1) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case
- (2) Tested with pulses t_p = 5 ms
- (3) The ZPY1 is a silicon diode operated in forward direction. Hence, the index of all characteristics and maximum ratings should be "F" instead of "Z"
Connect the cathode terminal to the negative pole

For devices in glass case DO-41 with higher Zener voltage but same power dissipation see types ZPU100 ... ZPU180

ZENER DIODES (2 WATTS) ZY11 / ZY200

CASE TYPE: DO-41 Plastic





Type	Zener voltage ⁽²⁾ at I _{ZT} V _Z V	Dynamic resistance at I _{ZT} f = 1 kHz max r _{Zj} Ω	Temp. coeff. of Zener volt. at I _{ZT} @V _Z 10 ⁻⁴ /K	Test current I _{ZT} mA	Reverse voltage at I _R = 0.5 μA V _R V	Admissible Zener current ⁽¹⁾ at T _{amb} = 25 °C I _Z mA
ZY11	10.4 ... 11.6	4 (< 7)	+5 ... +10	50	> 9.2	135
ZY12	11.4 ... 12.7	4 (< 7)	+5 ... +10	50	> 10	120
ZY13	12.4 ... 14.1	5 (< 10)	+5 ... +10	50	> 10.7	110
ZY15	13.8 ... 15.8	5 (< 10)	+5 ... +10	50	> 12	98
ZY16	15.3 ... 17.1	6 (< 15)	+6 ... +11	25	> 13.3	90
ZY18	16.8 ... 19.1	6 (< 15)	+6 ... +11	25	> 14.7	80
ZY20	18.8 ... 21.2	6 (< 15)	+6 ... +11	25	> 16.5	72
ZY22	20.8 ... 23.3	6 (< 15)	+6 ... +11	25	> 18.3	66
ZY24	22.8 ... 25.6	7 (< 15)	+6 ... +11	25	> 20.1	60
ZY27	25.1 ... 28.9	7 (< 15)	+6 ... +11	25	> 22.5	53
ZY30	28 ... 32	8 (< 15)	+6 ... +11	25	> 25.1	48
ZY33	31 ... 35	8 (< 15)	+6 ... +11	25	> 27.8	44
ZY36	34 ... 38	21 (< 40)	+6 ... +11	10	> 30.2	40
ZY39	37 ... 41	21 (< 40)	+6 ... +11	10	> 32.9	37
ZY43	40 ... 46	24 (< 45)	+7 ... +12	10	> 35.6	33
ZY47	44 ... 50	24 (< 45)	+7 ... +12	10	> 39.2	30
ZY51	48 ... 54	25 (< 60)	+7 ... +12	10	> 42.8	27
ZY56	52 ... 60	25 (< 60)	+7 ... +12	10	> 47.3	25
ZY62	58 ... 66	25 (< 80)	+8 ... +13	10	> 51.7	21
ZY68	64 ... 72	25 (< 80)	+8 ... +13	10	> 57.1	20

Notes:

- (1) Valid provided that leads are kept at ambient temperature at a distance of 10 mm from case
- (2) Tested with pulses t_p = 5 ms
- (3) The ZY1 is a silicon diode operated in forward direction. Hence, the index of all parameters ratings should be "F" instead of "Z". Connect the cathode lead to the negative pole
- (4) Consult factory for voltages above 68V

VOLTAGE STABILIZER DIODES

PACKAGE		Operating voltage at $I_z = 5\text{mA}^{(1)}$ $V_z(\text{V})$	Dynamic resistance at $I_z = 5\text{mA}$ $r_{zj}\Omega$	Permissible operating current $I_z \text{ max. mA}$
DO - 204AH (Glass DO-35) 	SOD-80C (MiniMELF Glass) 			
	LL1.5	1.35 ... 1.55	13(<20)	120 ⁽²⁾
	LL2	2.0 ... 2.3	18(<30)	120 ⁽²⁾
	LL2.4	2.2 ... 2.56	14(<20)	120 ⁽²⁾
ZTE1.5		1.35 ... 1.55	13(<20)	120 ⁽³⁾
ZTE2		2.0 ... 2.3	18(<30)	120 ⁽³⁾
ZTE2.4		2.2 ... 2.56	14(<20)	120 ⁽³⁾
ZTK11		10 ... 12	10(<25)	19 ⁽⁴⁾
ZTK18		16 ... 20	11(<25)	13 ⁽⁴⁾
ZTK22		20 ... 24	11(<25)	10 ⁽⁴⁾
ZTK27		24 ... 30	12(<25)	8 ⁽⁴⁾
ZTK33A		30 ... 32	12(<25)	7 ⁽⁴⁾
ZTK33B		32 ... 34	12(<25)	7 ⁽⁴⁾
ZTK33C		34 ... 36	12(<25)	7 ⁽⁴⁾



(1) Tested with pulses $t_p=5\text{ms}$

(2) Valid provided that electrodes are kept at ambient temperature, $T_{\text{amb}} = 25^\circ\text{C}$



(3) Valid provided that leads are kept at ambient temperature at a distance of 8mm from case, $T_{\text{amb}} = 25^\circ\text{C}$

(4) Valid provided that leads are kept at ambient temperature at a distance of 8mm from case, $T_{\text{amb}} = 45^\circ\text{C}$

TUNER DIODES

Package		Capacitance (pF) @ 1 MHz		Major Application
SOD-123 	SOD-323 	@ V _R = 1V	@ V _R = 28V	
BB721	BB721S	17.5 - 20.0	1.9 - 2.3	
BB729	BB729S	36.0 - 42.0	2.4 - 2.9	VHF Cable TV tuners
BB731	BB731S	62.0 - 76.0	2.9 - 3.4	VHF TV tuners, 41-170 MHz

BANDSWITCHING DIODES

Package		Capacitance (Ω) @ 50 to 100 MHz		Major Application
SOD-123 	SOD-323 	@ 1F = 3 mA	@ 1F = 10 mA	
BA782	BA782S	0.7	0.5	
BA783	BA783S	1.2	1.9	Tuners in the range of 50-1000 MHz

BI-DIRECTIONAL TRIGGER DIODE (DIAC)

(For use in triac and thyristor circuits)

Breakover Voltage V_{BO} (V)	Device	Package	Pmax (mW)	Peak On-State Current I_{TRM} (A)
32	IDB31	SOT-23	150	2.0

SMALL SIGNAL SCHOTTKY DIODES






	PACKAGE								
	Leaded	Surface Mount Device						mV	mA
	DO-35	MiniMELF	SOD-323	SOD-123	SOT-23				
				single	dual				
Reverse Voltage V _{BR} Volt									
10			SD104CWS				400	1	
15			SD104BWS				425	1	
20			SD104AWS				450	1	
	SD103C	LL103C	SD103CWS*	SD103CW			370	20	
30	BAT85	BAS85	BAT54WS*		BAT54	BAT54A/C/S	400	10	
	BAT42	LL42		BAT42W			400	10	
	BAT43	LL43		BAT43W			330	2	
	BAT48	LL48					400	10	
	SD103B	LL103B	SD103BWS*	SD103BW			370	20	
40	SD101C	LL101C		SD101CW			390	1	
					BAS40	BAS40-04/05/06	380	1	
	SD103A	LL103A	SD103AWS*	SD103AW			370	20	
50	SD101B	LL101B		SD101BW			400	1	
	BAT86	BAS86					380	1	
60	SD101A	LL101A		SD101AW			410	1	
	1N6263	LL6263					410	1	
70	1N5711	LL5711			BAS70	BAS70-04/05/06	410	1	
100	BAT46	LL46		BAT46W			450	10	
	BAT41	LL41					450	1	

Dual SOT-23: A=06 common anode, C=05=common cathode, S=04=series

*Available Q4-98

Blue Text = New Products



SMALL SIGNAL SWITCHING DIODES

Reverse Voltage V_{BR} Volt	PACKAGE											
	Leaded	Surface Mount Device										
	(DO-35)	SOD-80C (MiniMELF)			SOD-323	SOD-123	SOT-23			Forward current I_F max mA	Forward Voltage @ Forward current VF max @ IF	
						single	single	dual	V		mA	
500mW	400mW	500mW	200mW	400mW	250mW	350mW	350mW					
50	1N4150		LL4150		1N4150W				200	1.15	200	
60		BAV100							200	1.00	100	
70					BAL99			BAV99	250	1.00	50	
								BAV70	250	1.00	50	
								BAW56	250	1.00	50	
75	1N4151		LL4151		1N4151W				150	1.00	50	
				BAS16WS	BAS16D	BAS16			250	1.00	50	
100	1N914					MMBD914			75 / 200*	1.00	10	
	1N4148		LL4148	1N4148WS	1N4148W	IMBD4148			150	1.00	10	
	1N4448		LL4448		1N4448W	IMBD4448			150	1.00	100	
	BAV19	BAV101		BAV19WS	BAV19W		BAS19		200	1.00	100	
150	BAV20	BAV102		BAV20WS	BAV20W		BAS20		200	1.00	100	
200	BAV21	BAV103		BAV21WS	BAV21W		BAS21		200	1.00	100	



*1N914 is rated at 75mA and MMBD914 is rated at 200mA

Blue Text = New Products



SMALL SIGNAL DMOS TRANSISTORS

PACKAGE							
T0-92				SOT-23			
							
V _{DSS} (Volt)	N-Channel	P-Channel	N-Channel	P-Channel	I _D (mA)	R _{DS(ON)} (Ω)	@V _{GS} / I _D
60			2N7002		250	7.5	10V / 500mA
		BS250	BS870	BS850	250	5	10V / 200mA
	2N7000				300	5	10V / 500mA
	BS170				300	5	10V / 200mA

TUNER DIODES

PACKAGE					
SOD-123		SOD-323			
				Major Application	
Capacitance (pF) @ 1 MHz					
@ V _R = 1V	@ V _R = 28V				
17.5 - 20.0	1.9 - 2.3	BB721	BB721S	UHF and direct satellite TV tuners	
36.0 - 42.0	2.4 - 2.9	BB729	BB729S	VHF Cable TV tuners	
62.0 - 76.0	2.9 - 3.4	BB731	BB731S	VHF TV tuners, 41-170 MHz	

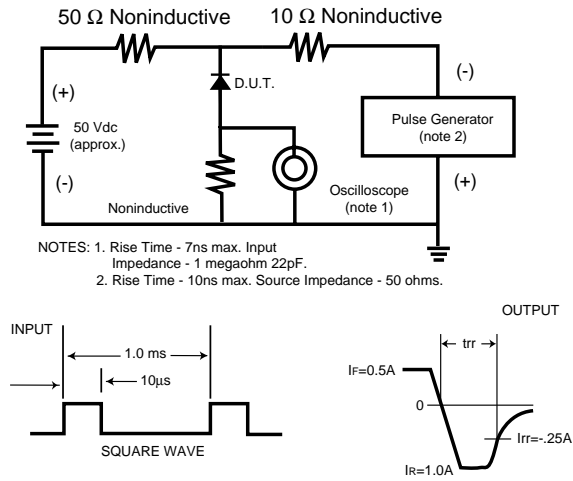
BANDSWITCHING DIODES

PACKAGE					
SOD-123		SOD-323			
				Major Application	
Dynamic Forward Resistance (Ω) @ 50 to 1000 MHz					
@ I _F = 3 mA	@ I _F = 10 mA				
0.7	0.5	BA782	BA782S	Bandswitching in radio & TV	
1.2	1.9	BA783	BA783S	tuners in range of 50-1000 MHz	

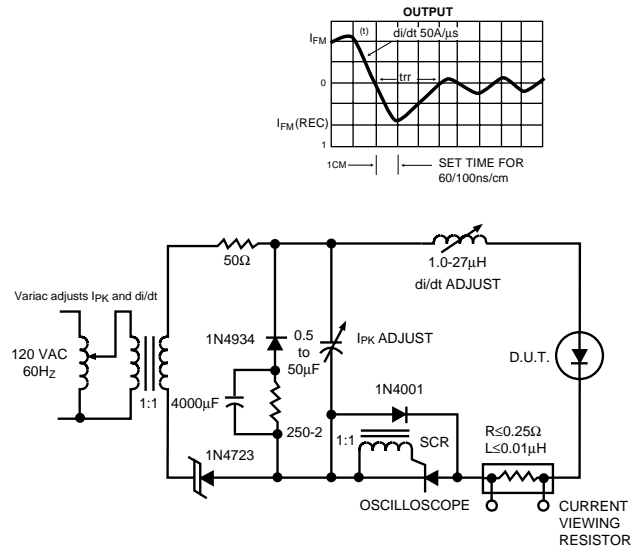
CIRCUITS:

trr, Reverse Recovery Time Characteristics and Test Diagrams

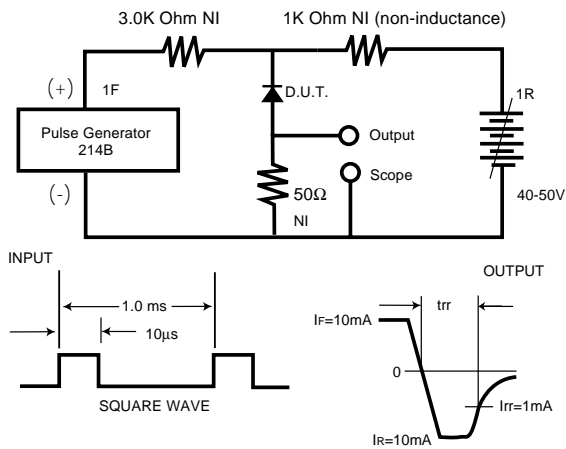
1



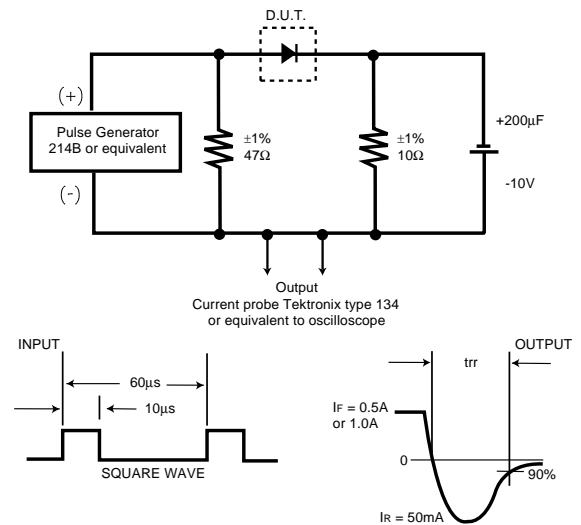
2



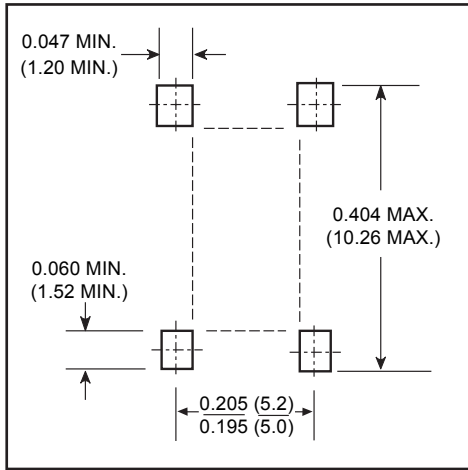
3



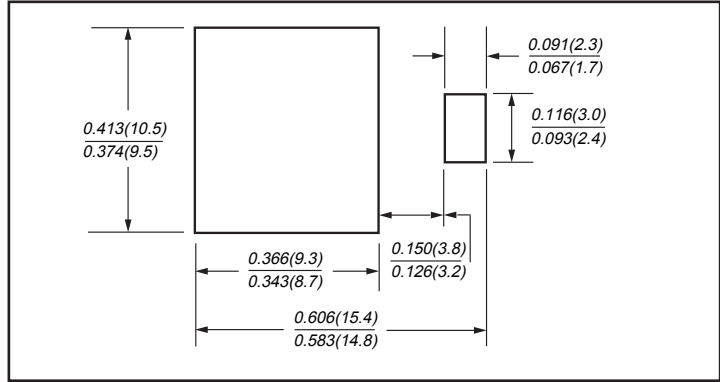
4



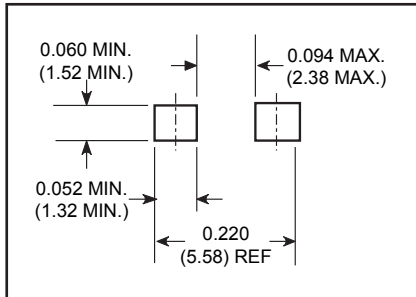
RECOMMENDED MINIMUM MOUNTING PAD
LAYOUT SIZES FOR THE SURFACE MOUNT RECTIFIER, THE FLAT PACK
AND SMALL SIGNAL RECTIFIER



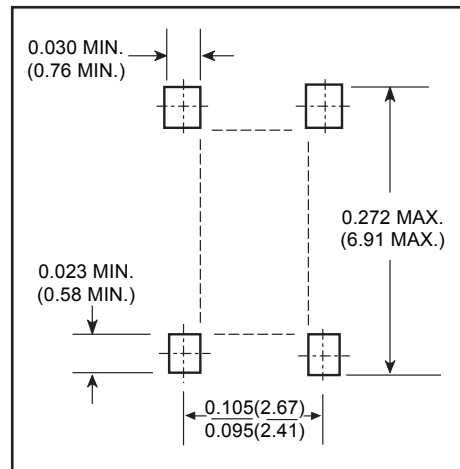
DFS BRIDGE



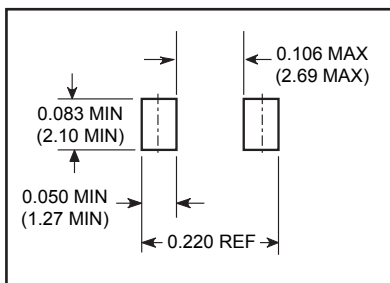
DO-218AA



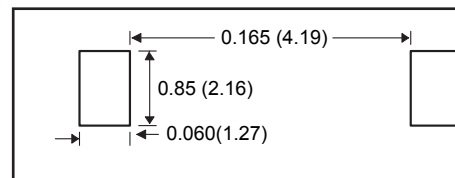
DO-214AC / DO-214BA



MBS BRIDGE



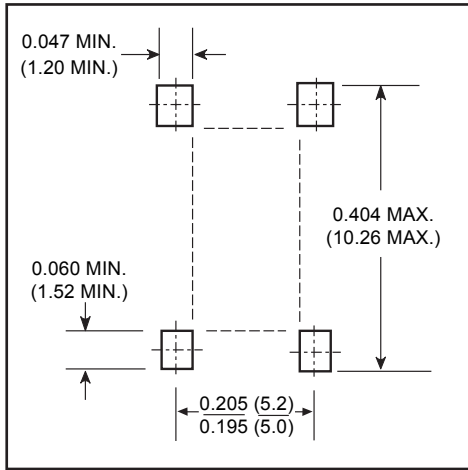
SMB / DO214AA



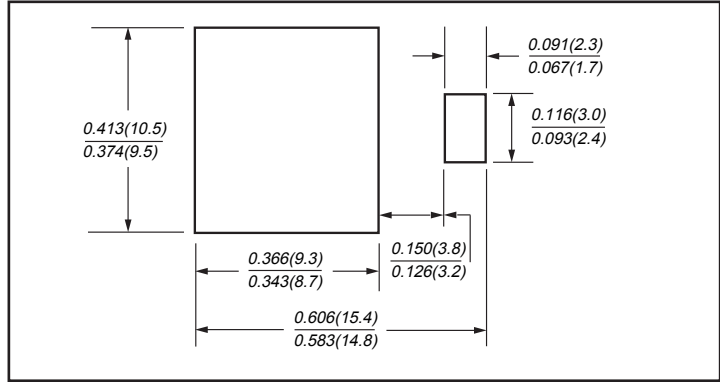
SMBG / DO-215AA

All Dimensions in inches and (millimeters)

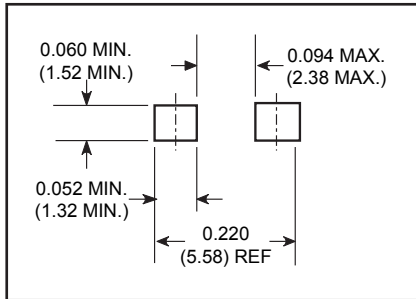
RECOMMENDED MINIMUM MOUNTING PAD
LAYOUT SIZES FOR THE SURFACE MOUNT RECTIFIER, THE FLAT PACK
AND SMALL SIGNAL RECTIFIER



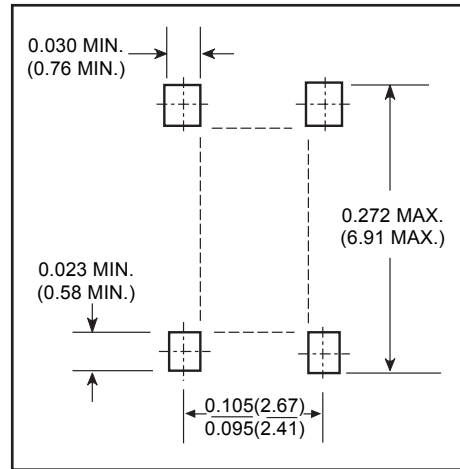
DFS BRIDGE



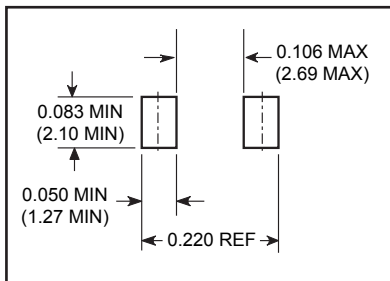
DO-218AA



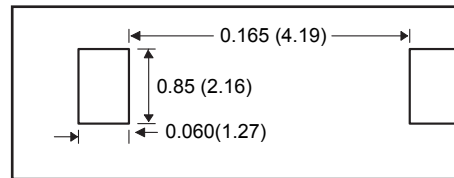
DO-214AC / DO-214BA



MBS BRIDGE



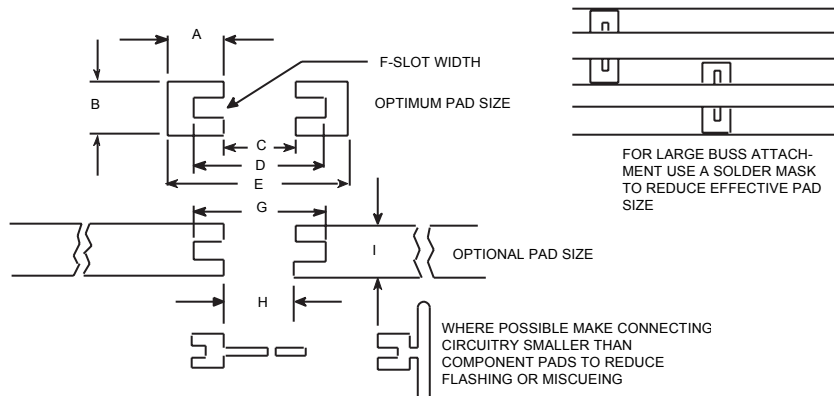
SMB / DO214AA



SMBG / DO-215AA

All Dimensions in inches and (millimeters)

RECOMMENDED MINIMUM MOUNTING PAD LAYOUT SIZES FOR THE MELF SURFACE MOUNT RECTIFIER

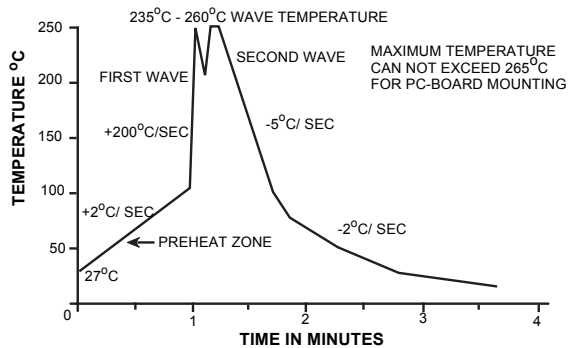


DIMENSION	GL34 DO-213AA	GL41 DO-213AB
A	.069 (1.75)	.100 (2.54)
B	.063 (1.60)	.100 (2.54)
C	.069 (1.75)	.100 (2.54)
D	.138 (3.50)	.200 (5.08)
E	.207 (5.26)	.300 (7.62)
F	.016 (.406)	.025 (.635)
G	.138 (3.50)	.200 (5.08)
H	.035 to .080	.050 to .125
I	.048 (1.22) min	.075 (1.90) min

RECOMMENDED SOLDERING PROCESSING FOR SURFACE MOUNT AND AXIAL-LEADED COMPONENTS

WAVE SOLDERING

Wave soldering has the highest solder temperature and heat transfer rates that are imposed by small resin molded parts like transistors, integrated circuits and surface mount components. The profile has short dwell time in the solder pot and a preheat to minimize thermal shock for ceramic components and temperature problems with resin molded parts. A typical temperature profile using 63/37 alloy solder is shown below.

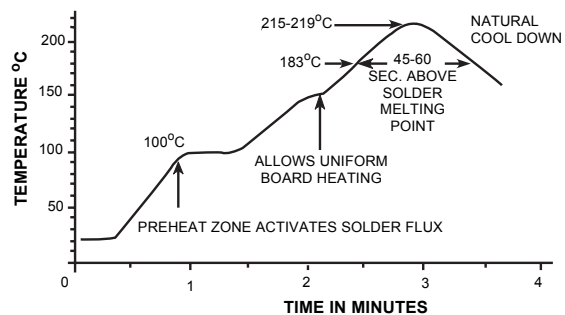


WAVE SOLDERING NOTES

The profile illustrated above depends ultimately on the type of flux used with the solder paste. The peak temperature for this process should not exceed 265°C for PC-board mounting.

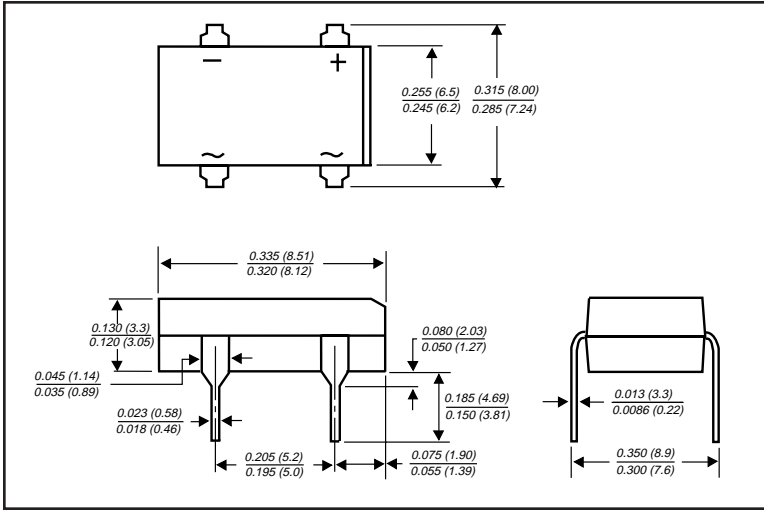
INFRARED REFLOW SOLDERING (IR)

Soldering with IR has the highest yields due to controlled heating rates and solder liquidus times. Only the dwell time and peak temperature limitations of resin molded components need to be considered.

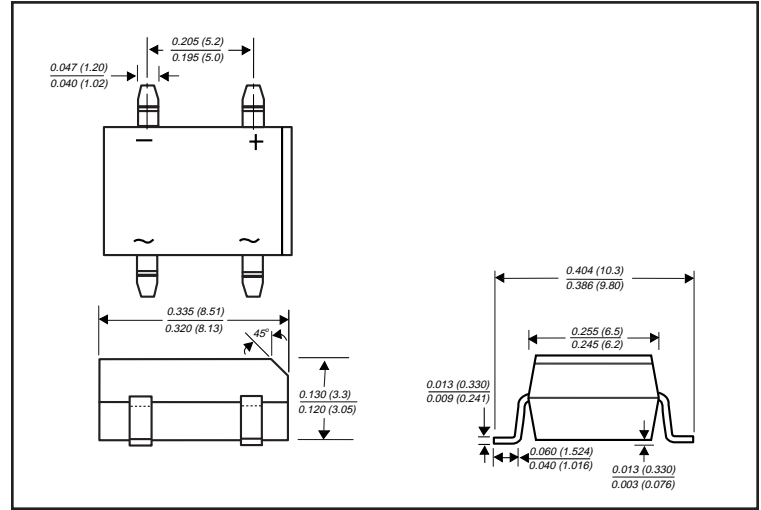


CASE DRAWINGS

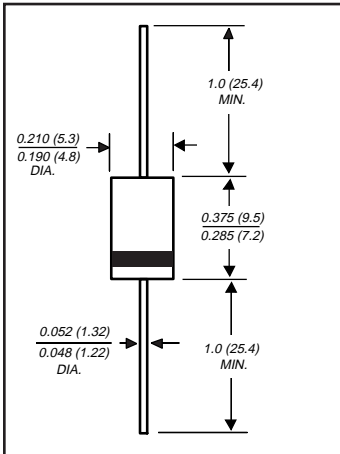
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



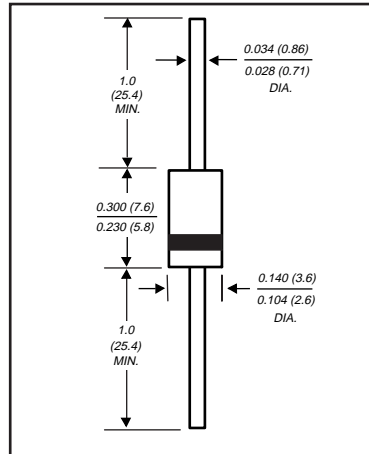
DFM



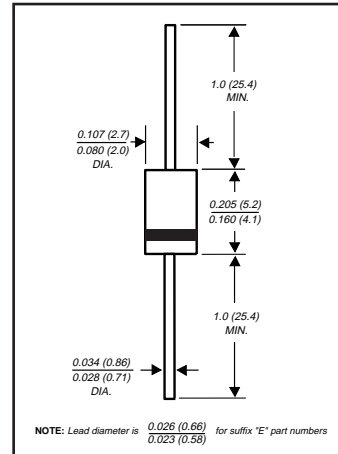
DFS



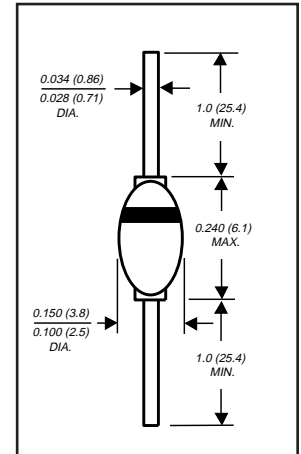
DO-201AD



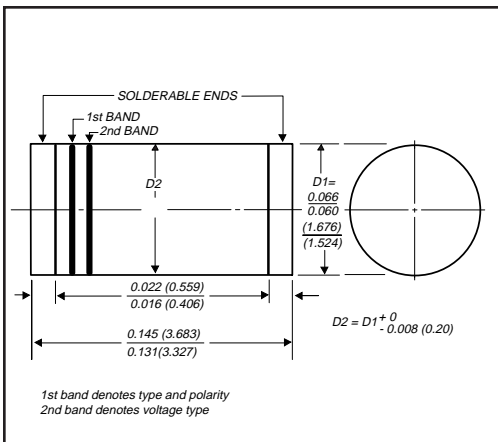
DO-204AC (DO-15)



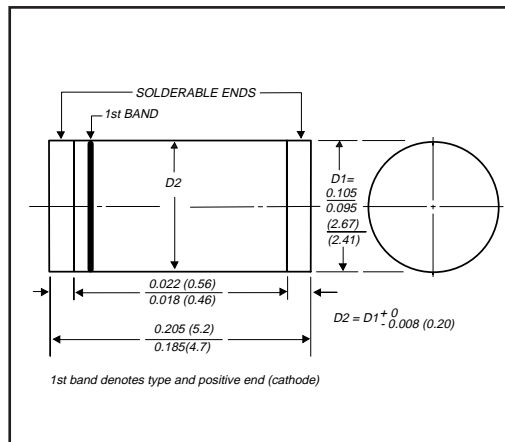
DO-204AL (DO-41)



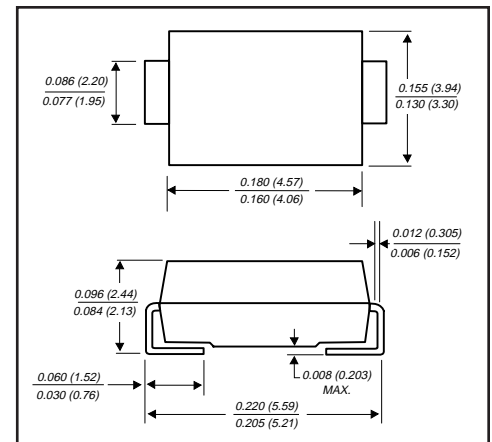
DO-204AP



DO-213AA (GL34)



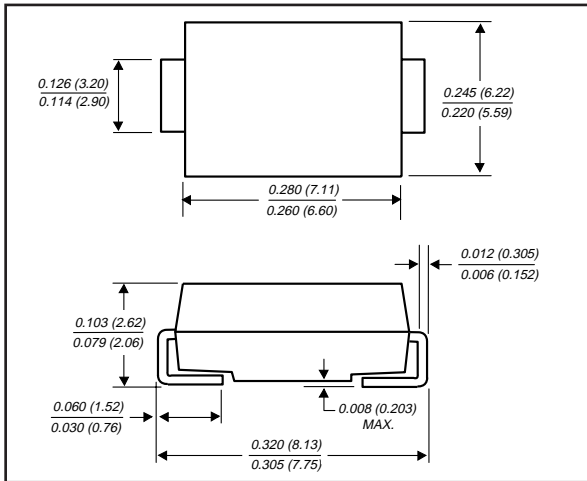
DO-213AB (GL41)



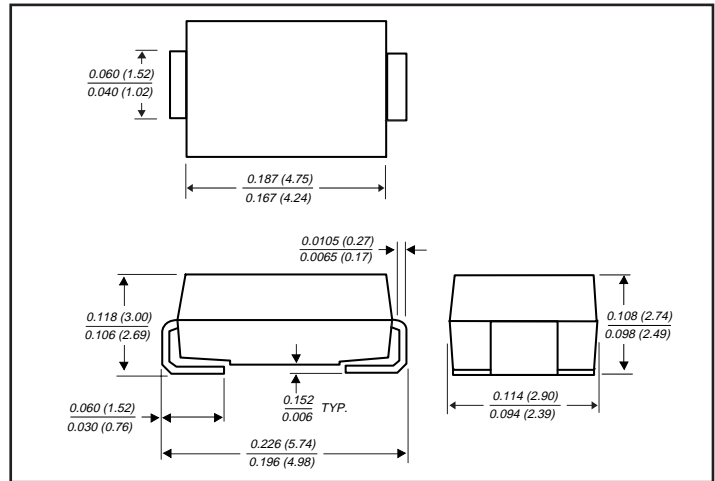
DO-214AA (SMB)

CASE DRAWINGS

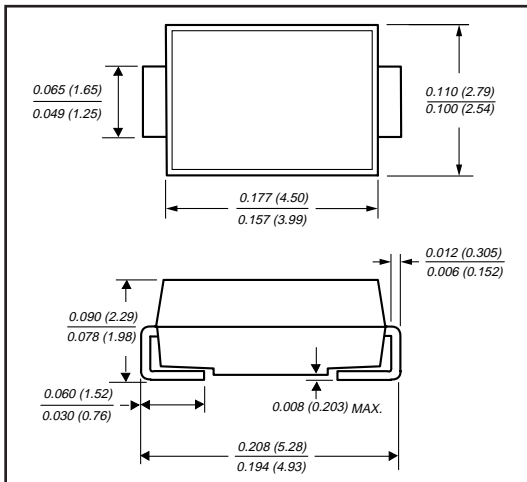
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



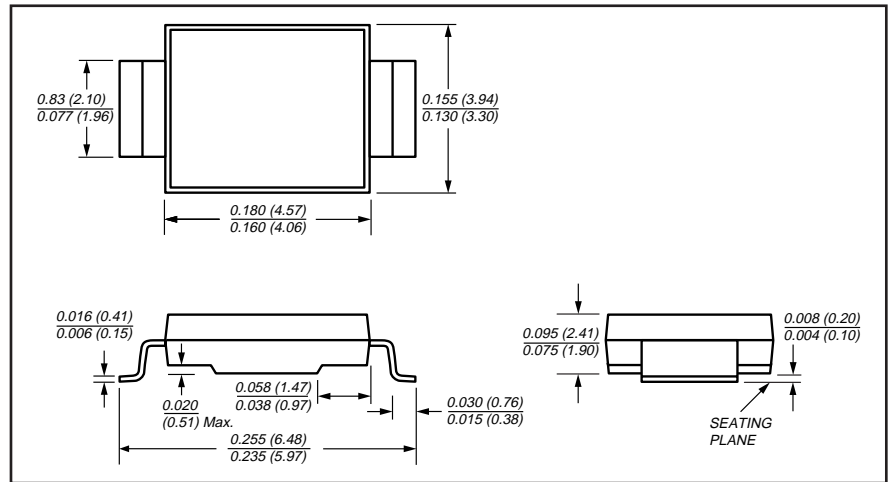
DO-214AB (SMC)



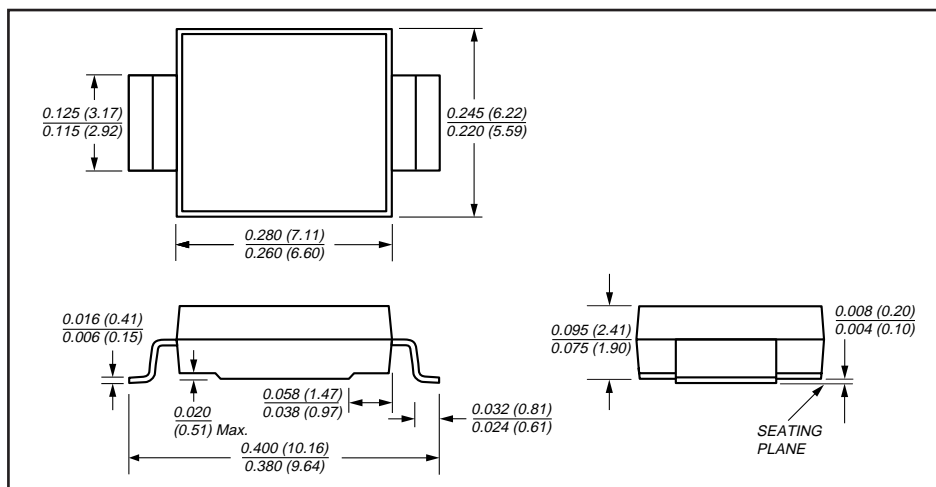
DO-214BA (GF1)



DO-214AC (SMA)



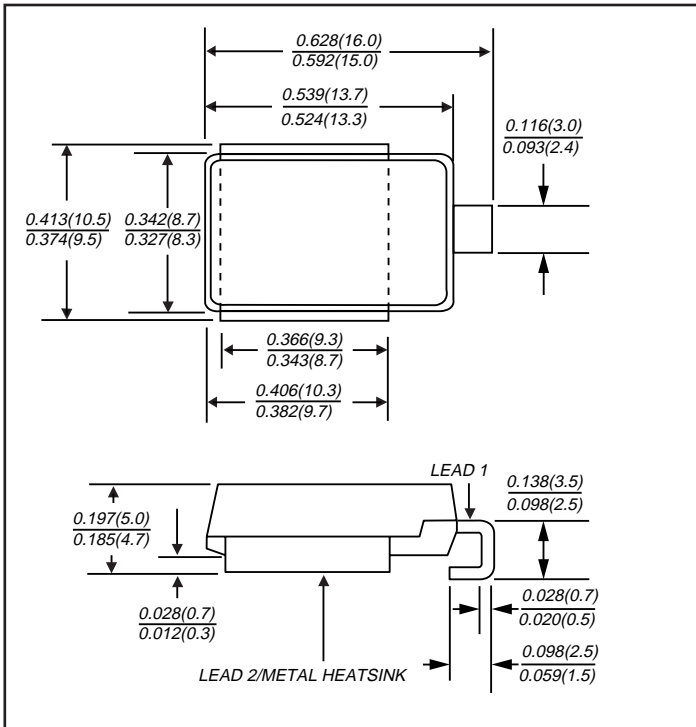
DO-215AA (SMBG GULL WING)



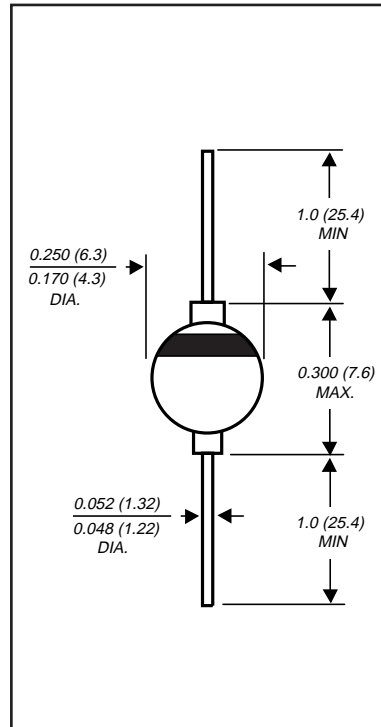
DO-215AB (SMCG GULL WING)

CASE DRAWINGS

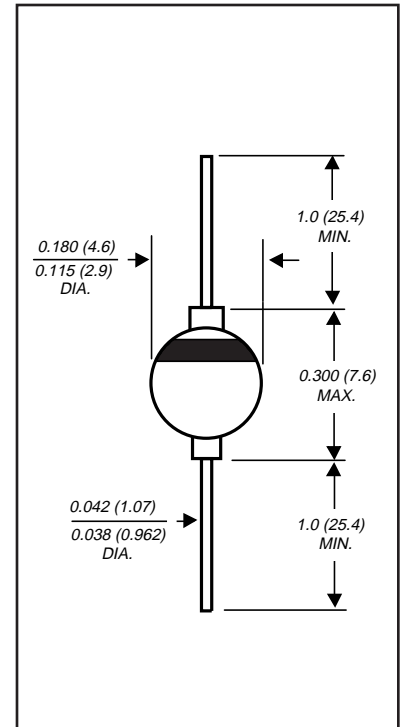
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



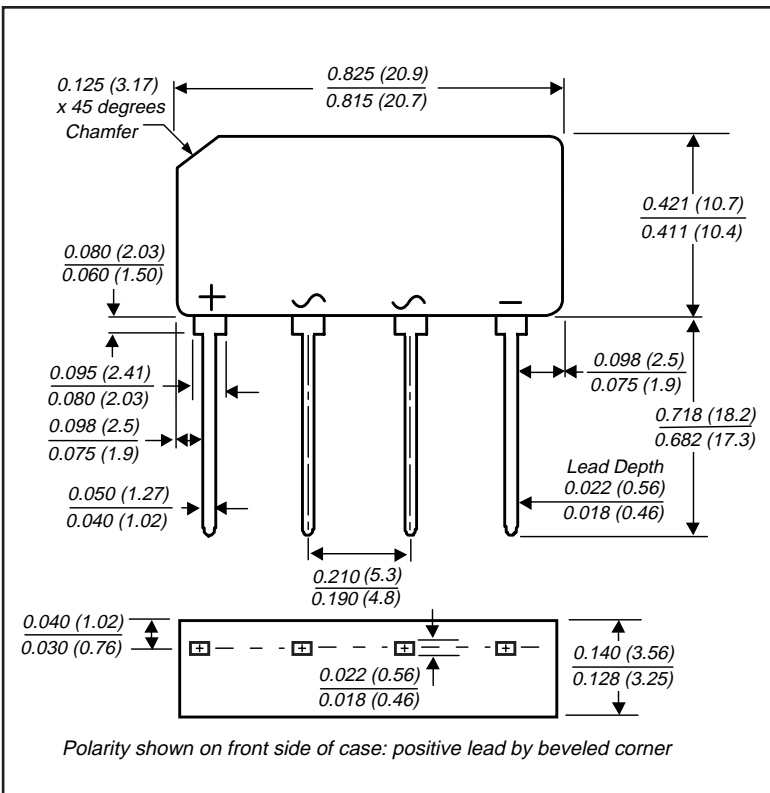
D0-218



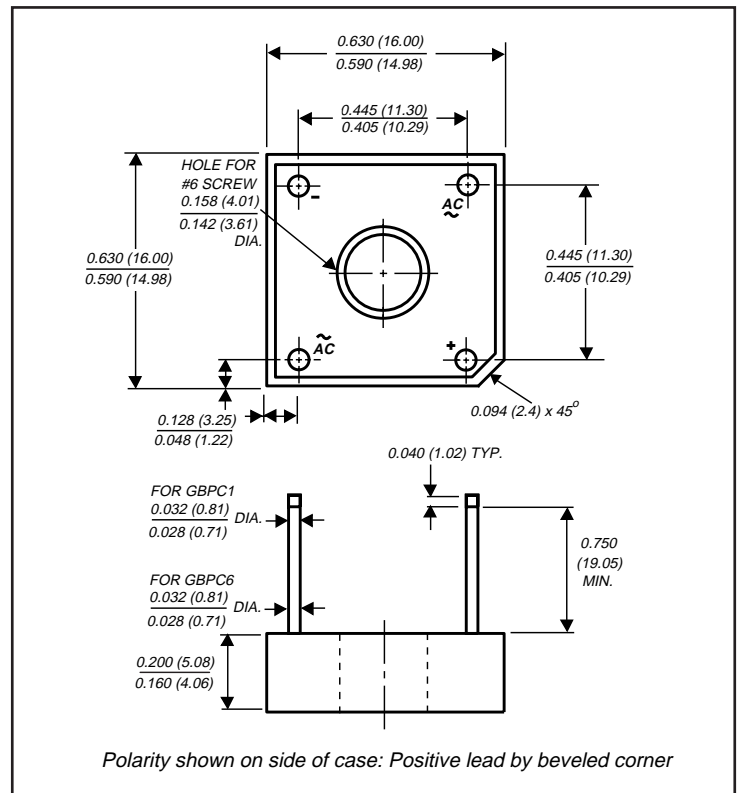
G3



G4



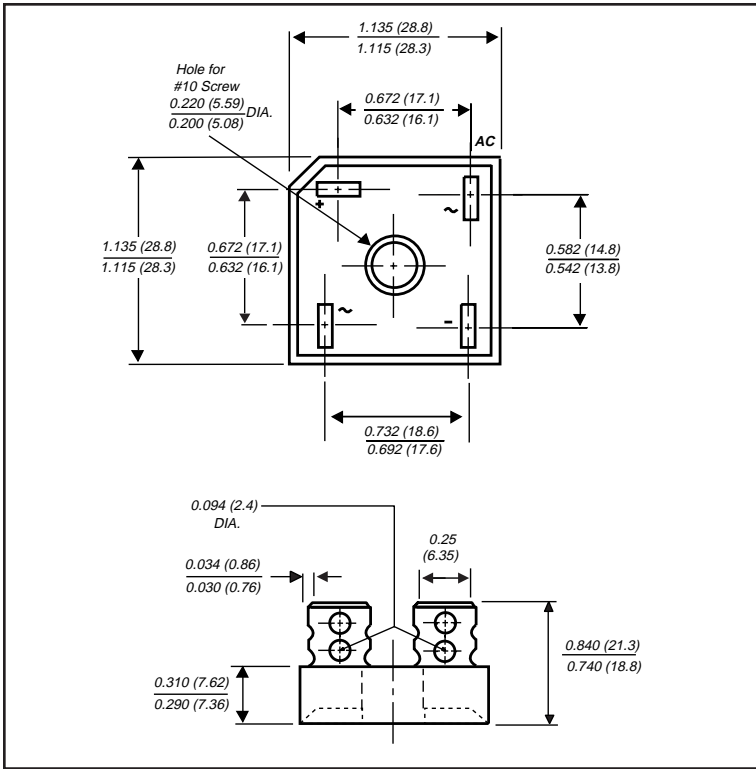
GBL



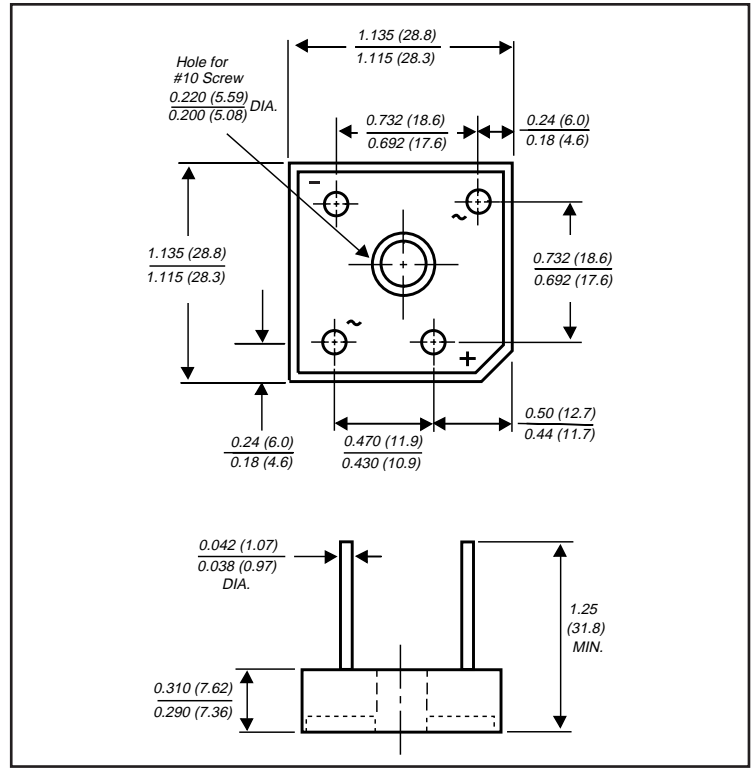
GBPC1 / 6

CASE DRAWINGS

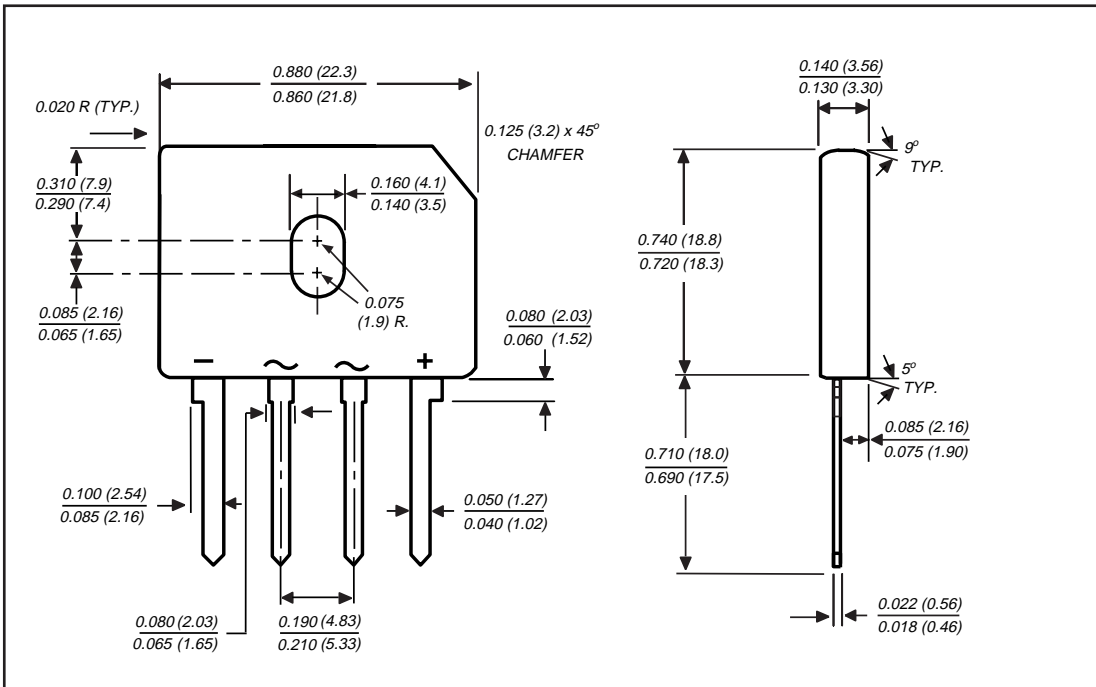
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



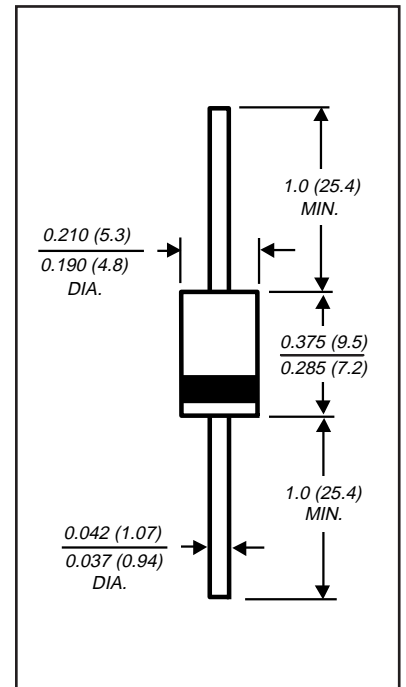
GBPC12-35



GBPC12-35W



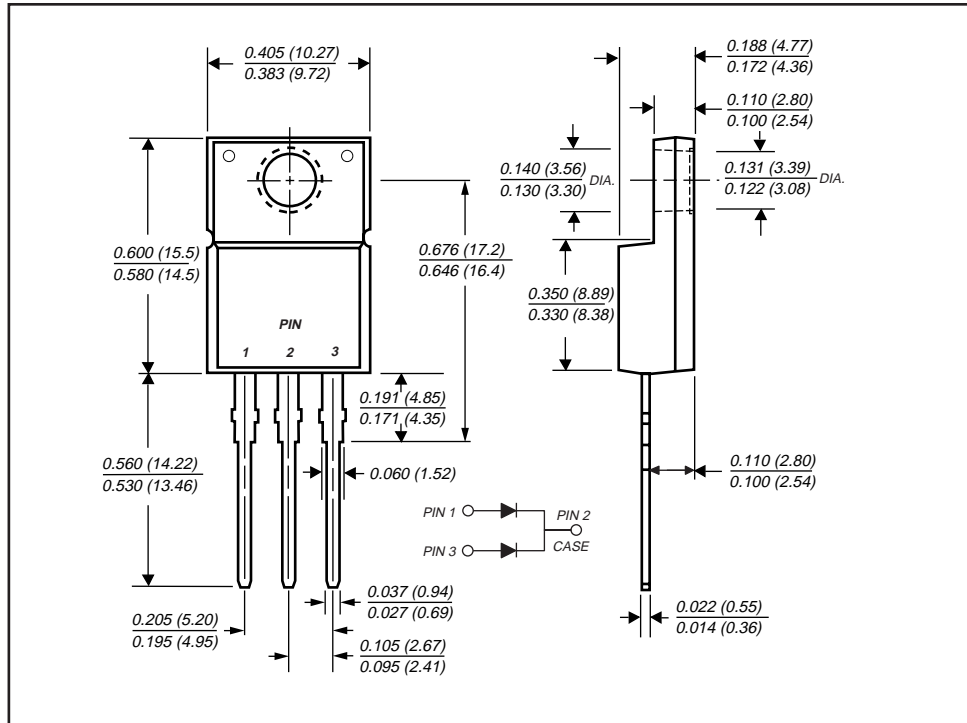
GBU



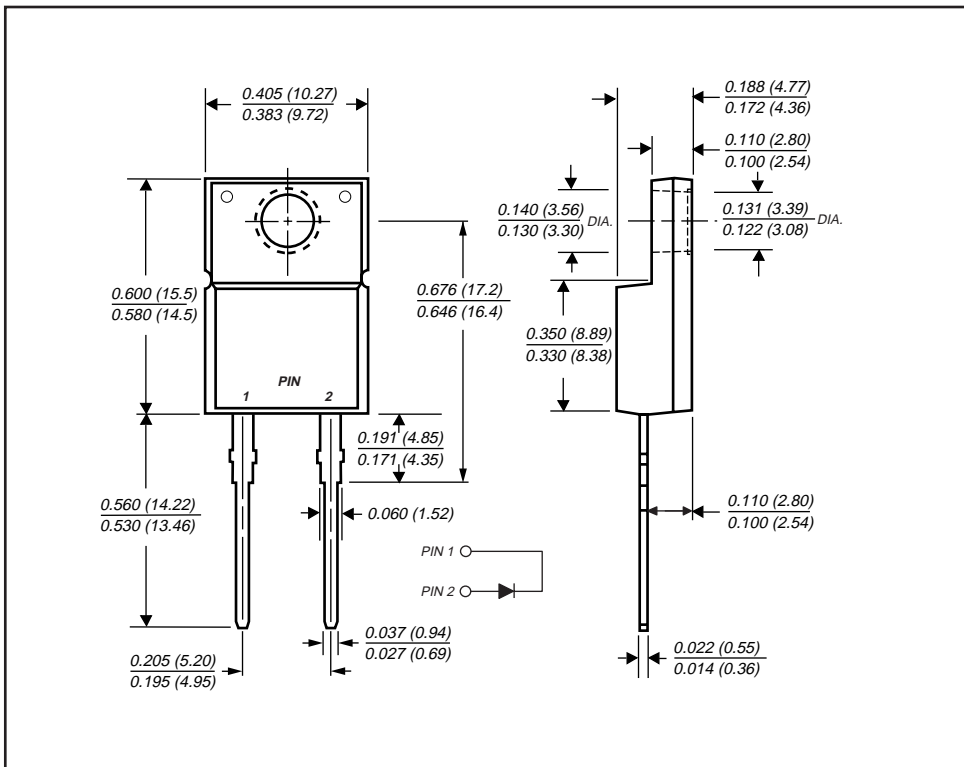
GP20 / 1.5KE

CASE DRAWINGS

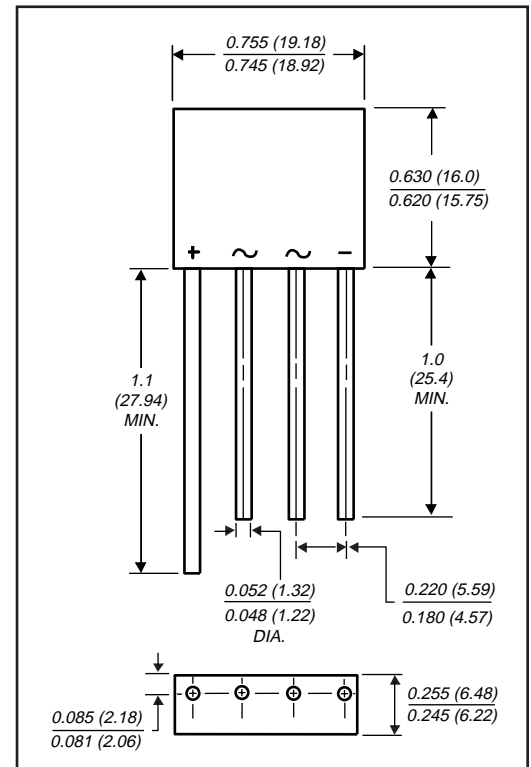
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



ITO-220AB



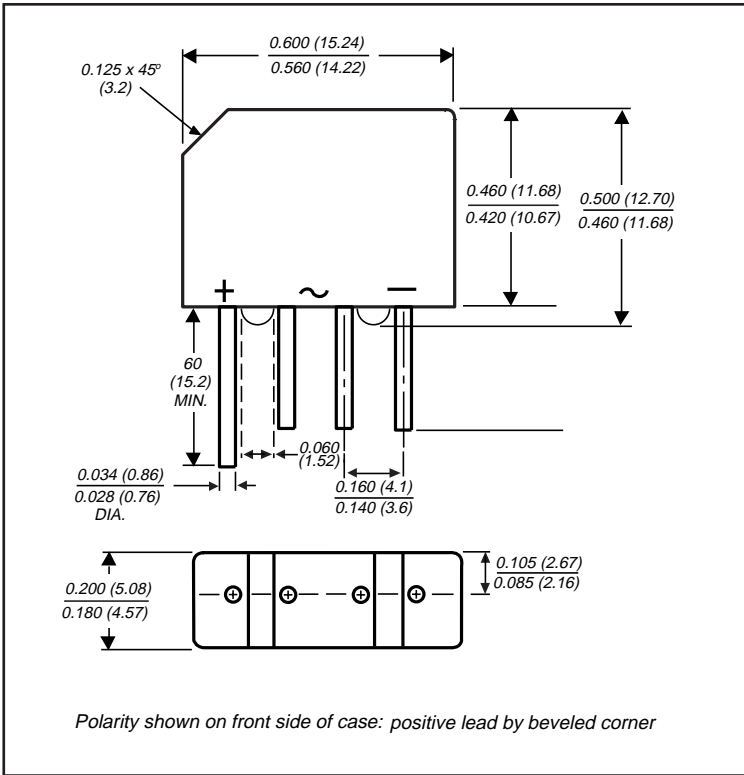
ITO-220AC



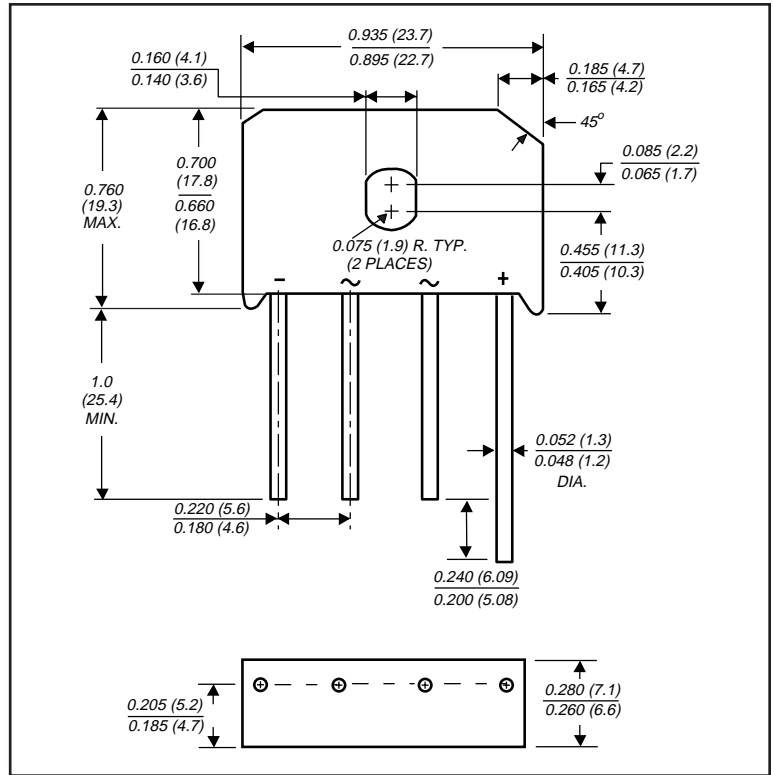
KBL

CASE DRAWINGS

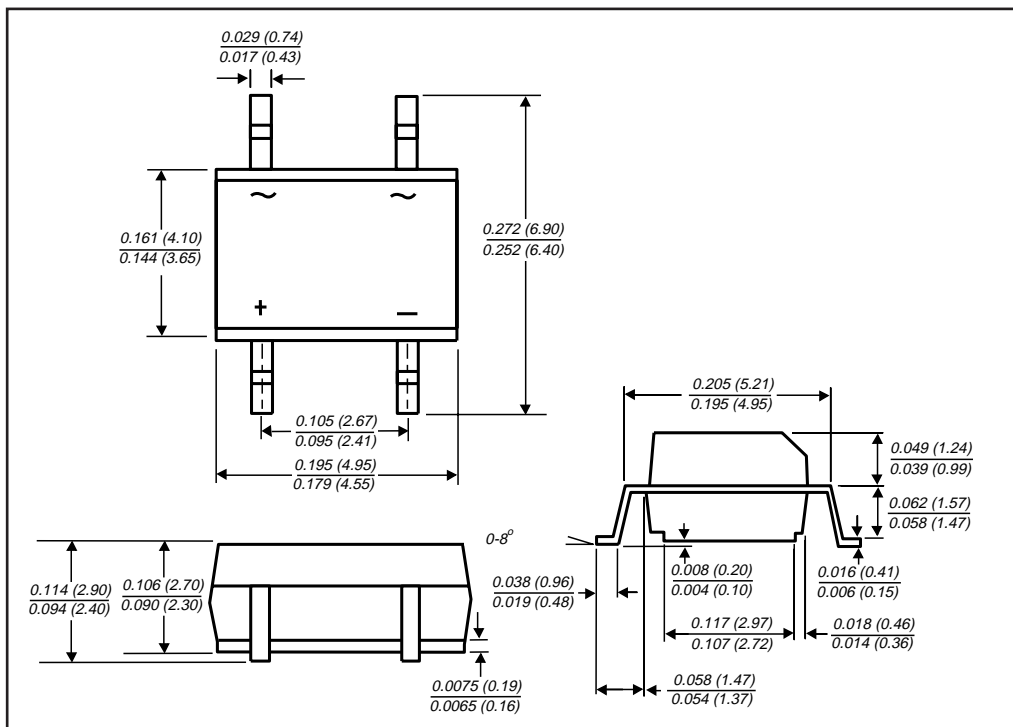
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



KBPM / 2KBPM



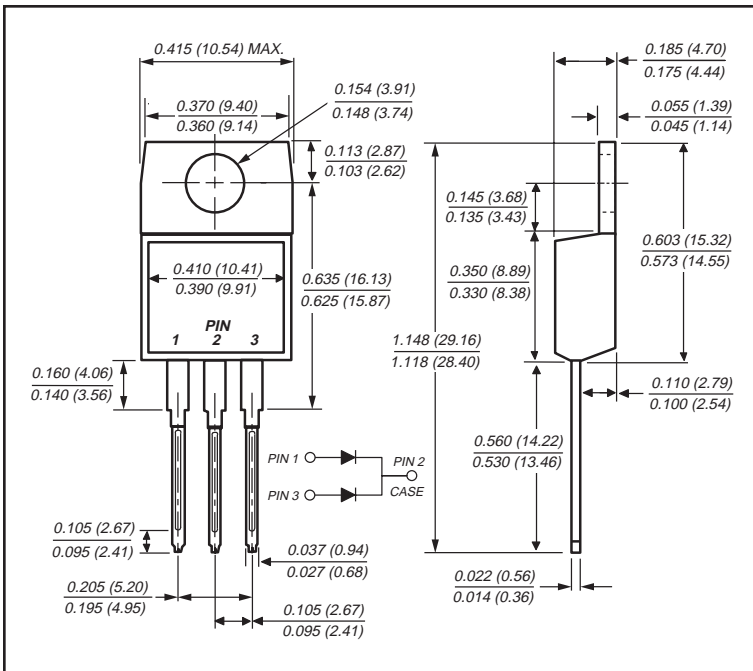
KBU



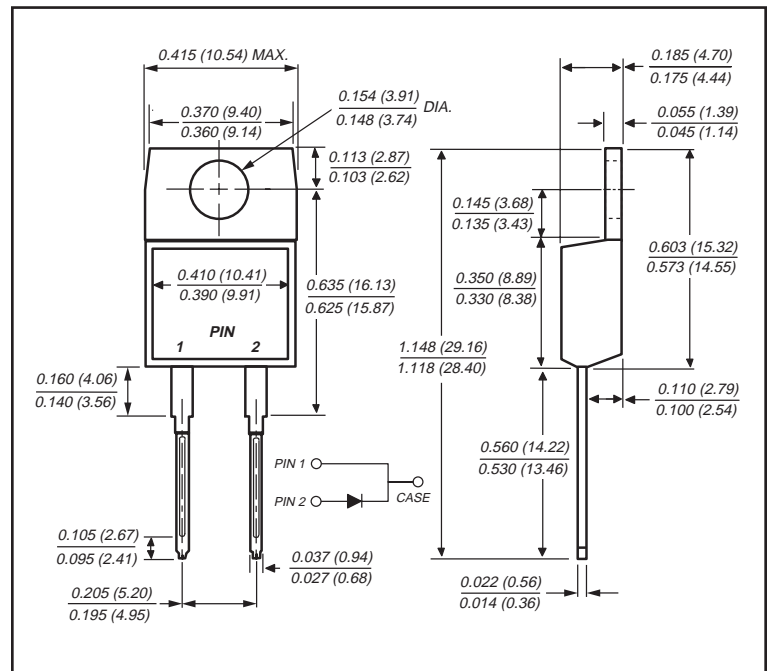
TO-269AA / MBS

CASE DRAWINGS

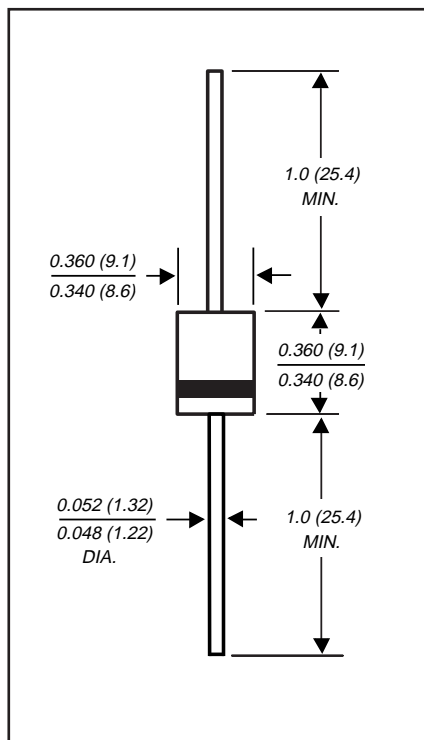
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



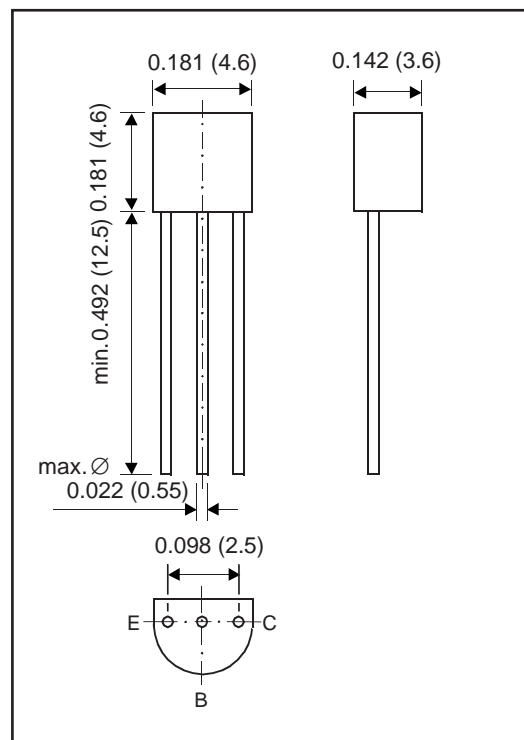
TO-220AB



TO-220AC



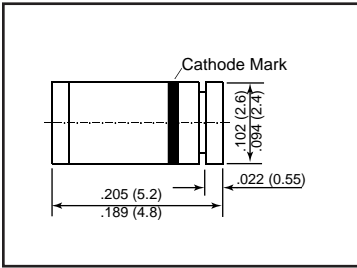
P600



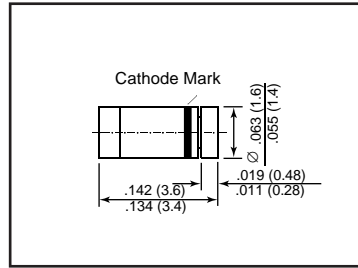
TO-226AA (TO-92)

CASE DRAWINGS

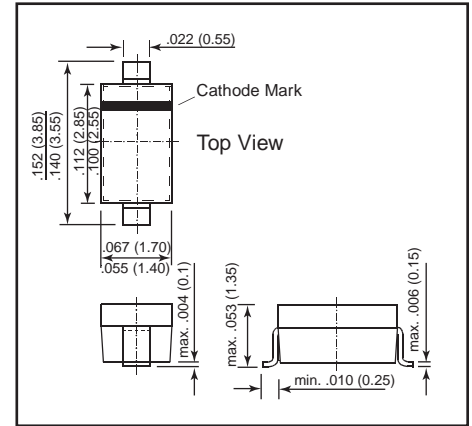
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



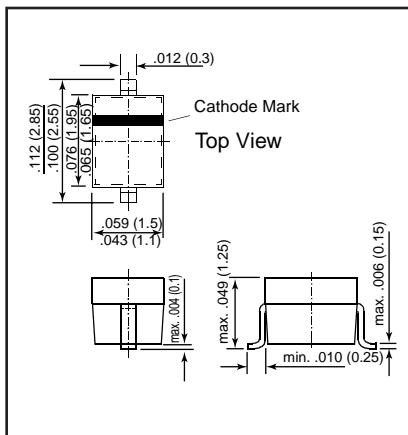
MELF (GLASS)



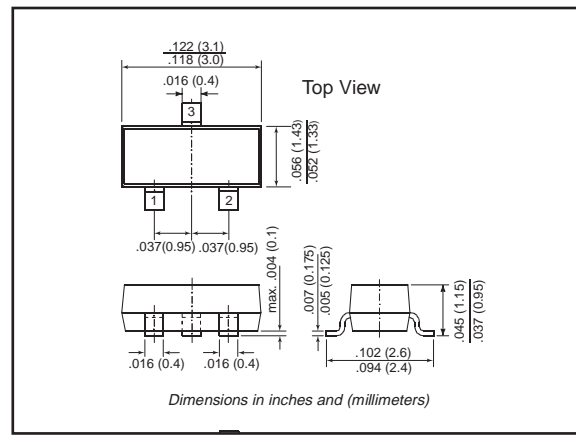
SOD-80C (GLASS MINI-MELF)



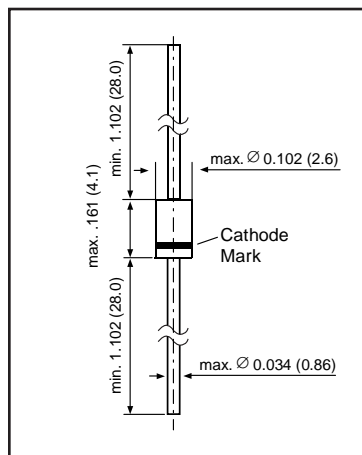
SOD-123



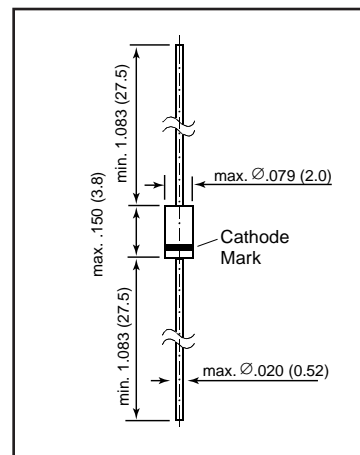
SOD-323



TO-236AB (SOT-23)



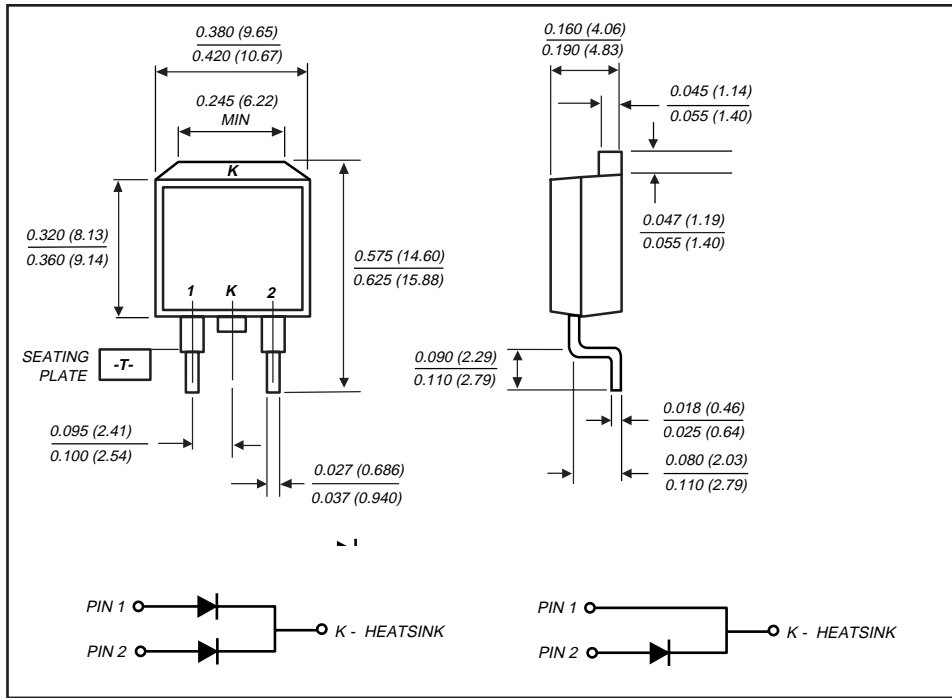
DO-204AL (GLASS DO-41)



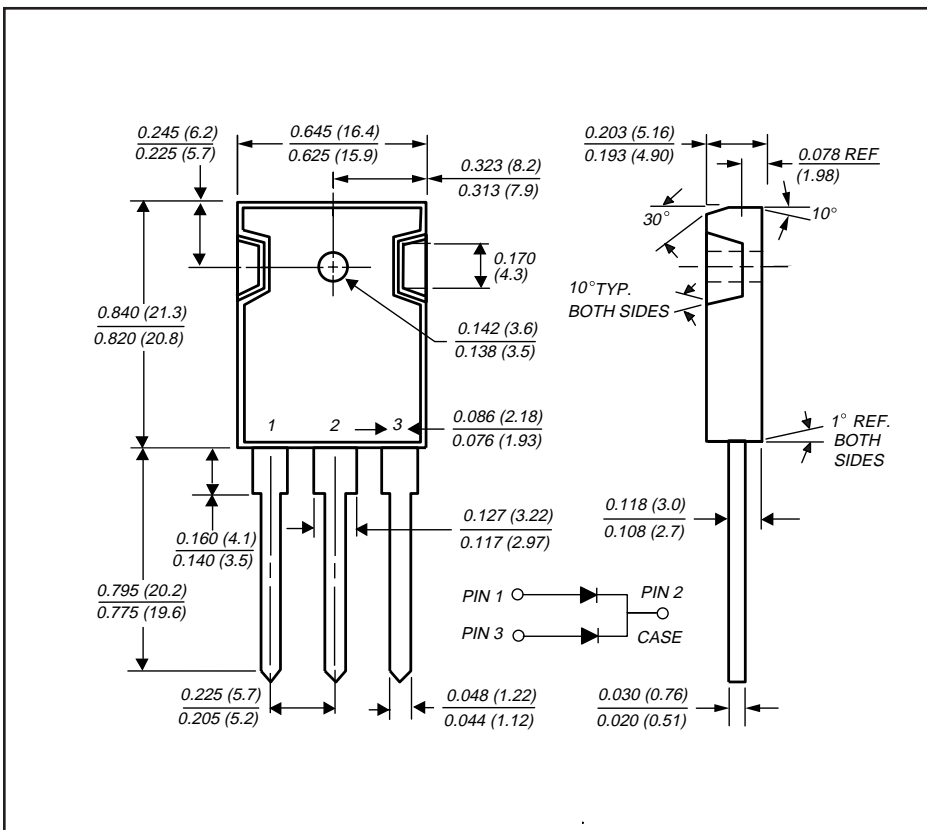
DO-204AH (GLASS DO-35)

CASE DRAWINGS

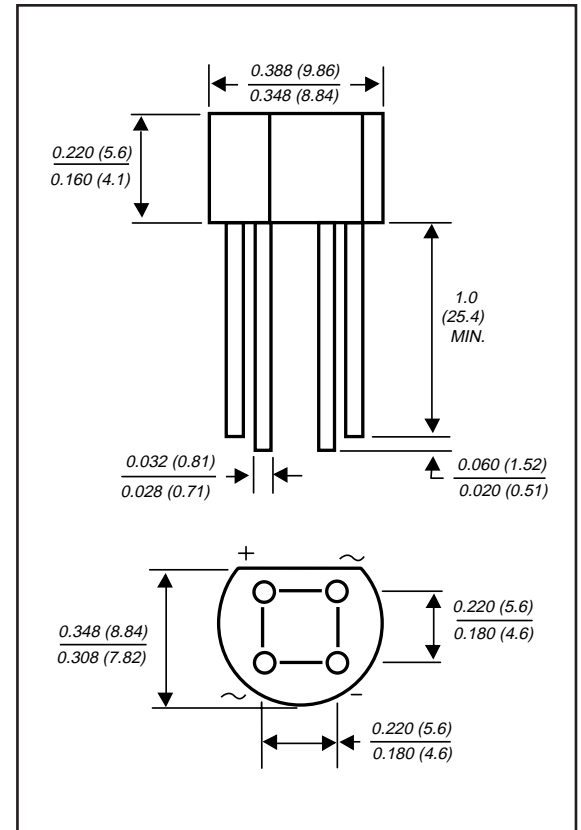
ALL DIMENSIONS ARE IN INCHES AND (MILLIMETERS)



TO-263AB



TO-247AD (TO-3P)



WG / 2WG

■ Офисы продаж

МОСКВА

ул. Усиевича, 24/2
тел./факс: (495) 797-5535, 797-5545
e-mail: moscow@symmetron.ru

САНКТ-ПЕТЕРБУРГ

ул. Таллинская, 7
тел.: (812) 449-4000, -05, -06, факс: 449-4704
e-mail: spb@symmetron.ru

НОВОСИБИРСК

ул. Инская, 56, оф. 201
тел./факс: (383) 211-9295
e-mail: sibir@symmetron.ru

МИНСК

ул. Кульман, 1
Тел. +375 (17) 209-8020, 284-4543
e-mail: minsk@symmetron.ru

КИЕВ

ул. М. Расковой, 13, оф. 903
тел./факс: +38 (044) 2392065, 494-2525
e-mail: kiev@symmetron.ua
www.symmetron.com.ua

ХАРЬКОВ

пл. Свободы, 7, корп. 2, к. 391
тел./факс: +38 (057) 758-0690, 758-0391
e-mail: kharkov@symmetron.ua

■ Представительства:

ЕКАТЕРИНБУРГ

ул. Гражданская, 2, ООО "Элемент"
Тел. (343) 353-6892, e-mail: element@wtn.ru

РОСТОВ-НА-ДОНУ

ул. Станиславского, 167/25, оф. 308, "Элсин"
тел. (863) 297-5910, e-mail: rostov@delsin.ru

СТАВРОПОЛЬ

ул. Серова, 6/1 оф. 14, "Элсин"
тел. (8652) 357-775, e-mail: stavropol@delsin.ru

ХАРЬКОВ

ул. Космическая, д. 26, оф. 409, ООО "Сигма-ЭК"
тел.: (057) 719-5608, e-mail: sigma@vk.kh.ua

МИНСК

ул. Богдановича, 155, ЗАО "Тэхат Сервис"
тел./факс: +375 (17) 234-4765, e-mail: tahat@list.ru

www.symmetron.ru