	E480232

1000 Watt TVS

Features

- AEC-Q101 Qualified
- For Surface Mount Applications
- Excellent Clamping Capability
- High Temp Soldering:260°C / 10 Seconds at Terminals
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD protection of data lines in accordance with IEC 61000-4-2, ±30kV(Air),±30kV (Contact)

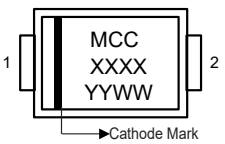
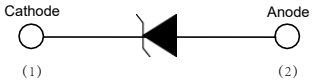
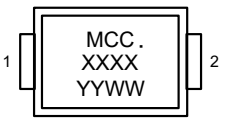
Maximum Ratings

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000μs Waveform (Note 3)	I_{PPM}	See Next Table	A
Peak Pulse Power Dissipation(Note 3)	P_{PPM}	1000	W
Power Dissipation on Infinite Heatsink at T_L= 75°C	P_D	5.0	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	100	A

Note:

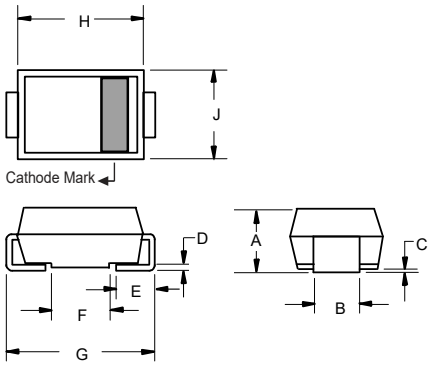
1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above T_A=25 °C per Fig.4.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

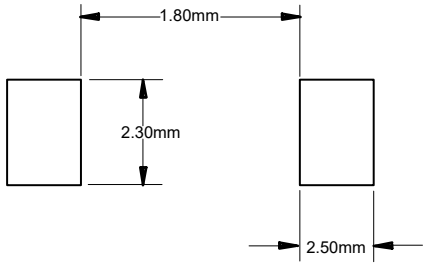
XXXX = Marking code YYWW = Date Code

SMB (DO-214AA) (LEAD FRAME)



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.079	0.103	2.00	2.62	
B	0.075	0.087	1.91	2.21	
C	0.002	0.008	0.05	0.20	
D	0.006	0.012	0.15	0.31	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.200	0.220	5.08	5.59	
H	0.160	0.191	4.06	4.85	
J	0.130	0.155	3.30	3.94	

Suggested Solder Pad Layout



Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	T_J	-55 to +175	˚C
Storage Temperature Range	T_{STG}	-55 to +175	˚C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	20	˚C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	˚C/W
Typical Thermal Resistance Junction to Case	$R_{\theta JC}$	15	˚C/W

Note:
5.Mounted on 0.2 x 0.2" (5.0 x 5.0 mm) copper pads to each terminal.

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number		Reverse Stand-off Voltage	Breakdown Voltage V_{BR} @ I_T		Test Current	Maximum Clamping Voltage@ I_{PP}	Maximum Peak Pulse Current	Maximum Reverse Leakage @V_R	Marking Code	
Uni	Bi	V_{RWM} (V)	Min (V)	Max (V)	I_T (mA)	V_C (V)	I_{PP} (A)	I_R (μA)	Uni	Bi
SMBJ1.0KE6.8AHE3	SMBJ1.0KE6.8CAHE3	5.8	6.46	7.14	10	10.5	95.2	1000	A10A	N10A
SMBJ1.0KE7.5AHE3	SMBJ1.0KE7.5CAHE3	6.4	7.13	7.88	10	11.3	88.5	500	A10B	N10B
SMBJ1.0KE8.2AHE3	SMBJ1.0KE8.2CAHE3	7	7.79	8.61	10	12.1	82.6	200	A10C	N10C
SMBJ1.0KE9.1AHE3	SMBJ1.0KE9.1CAHE3	7.8	8.65	9.56	1	13.4	74.6	50	A10D	N10D
SMBJ1.0KE10AHE3	SMBJ1.0KE10CAHE3	8.6	9.5	10.5	1	14.5	69	10	A10E	N10E
SMBJ1.0KE11AHE3	SMBJ1.0KE11CAHE3	9.4	10.45	11.55	1	15.6	64.1	5	A10F	N10F
SMBJ1.0KE12AHE3	SMBJ1.0KE12CAHE3	10.2	11.4	12.6	1	16.7	59.9	5	A10G	N10G
SMBJ1.0KE13AHE3	SMBJ1.0KE13CAHE3	11.1	12.35	13.65	1	18.2	54.9	5	A10H	N10H
SMBJ1.0KE15AHE3	SMBJ1.0KE15CAHE3	12.8	14.25	15.75	1	21.2	47.2	5	A10I	N10I
SMBJ1.0KE16AHE3	SMBJ1.0KE16CAHE3	13.6	15.2	16.8	1	22.5	44.4	5	A10J	N10J
SMBJ1.0KE18AHE3	SMBJ1.0KE18CAHE3	15.3	17.1	18.9	1	25.2	39.7	5	A10K	N10K
SMBJ1.0KE20AHE3	SMBJ1.0KE20CAHE3	17.1	19	21	1	27.7	36.1	5	A10L	N10L
SMBJ1.0KE22AHE3	SMBJ1.0KE22CAHE3	18.8	20.9	23.1	1	30.6	32.7	5	A10M	N10M
SMBJ1.0KE24AHE3	SMBJ1.0KE24CAHE3	20.5	22.8	25.2	1	33.2	30.1	5	A10N	N10N
SMBJ1.0KE27AHE3	SMBJ1.0KE27CAHE3	23.1	25.65	28.35	1	37.5	26.7	5	A10O	N10O
SMBJ1.0KE30AHE3	SMBJ1.0KE30CAHE3	25.6	28.5	31.5	1	41.4	24.2	5	A10P	N10P
SMBJ1.0KE33AHE3	SMBJ1.0KE33CAHE3	28.2	31.35	34.65	1	45.7	21.9	5	A10Q	N10Q
SMBJ1.0KE36AHE3	SMBJ1.0KE36CAHE3	30.8	34.2	37.8	1	49.9	20	5	A10R	N10R
SMBJ1.0KE39AHE3	SMBJ1.0KE39CAHE3	33.3	37.05	40.95	1	53.9	18.6	5	A10S	N10S
SMBJ1.0KE43AHE3	SMBJ1.0KE43CAHE3	36.8	40.85	45.15	1	59.3	16.9	5	A10T	N10T
SMBJ1.0KE47AHE3	SMBJ1.0KE47CAHE3	40.2	44.65	49.35	1	64.8	15.4	5	A10U	N10U
SMBJ1.0KE51AHE3	SMBJ1.0KE51CAHE3	43.6	48.45	53.55	1	70.1	14.3	5	A10V	N10V
SMBJ1.0KE56AHE3	SMBJ1.0KE56CAHE3	47.8	53.2	58.8	1	77	13	5	A10W	N10W
SMBJ1.0KE62AHE3	SMBJ1.0KE62CAHE3	53	58.9	65.1	1	85	11.8	5	A10X	N10X
SMBJ1.0KE68AHE3	SMBJ1.0KE68CAHE3	58.1	64.6	71.4	1	92	10.9	5	A10Y	N10Y

Curve Characteristics

Fig.1-Peak Pulse Power Rating Curve

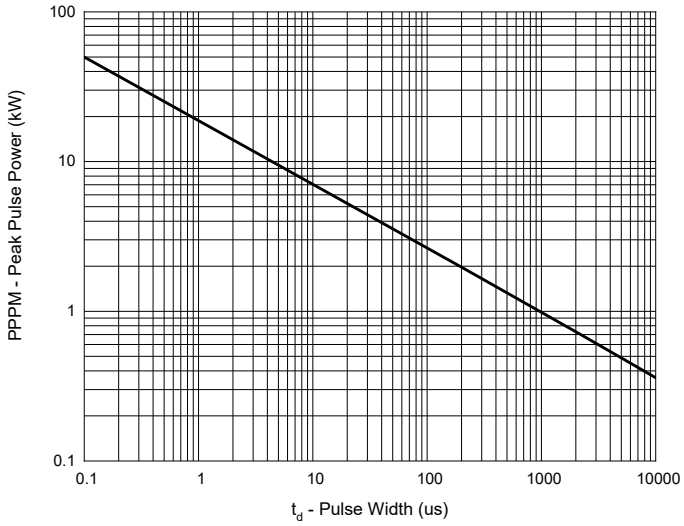


Fig. 2 - Typical Junction Capacitance

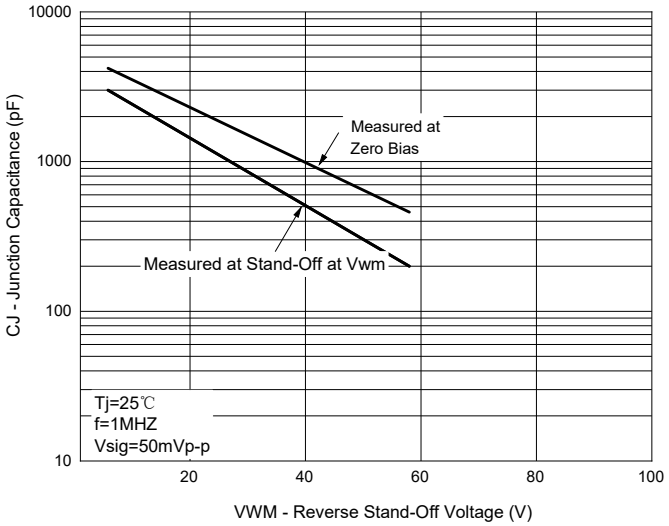


Fig. 3 - Pulse Waveform

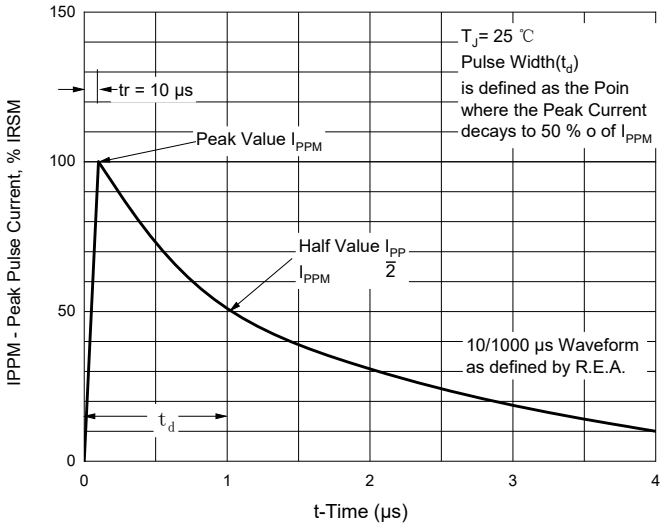
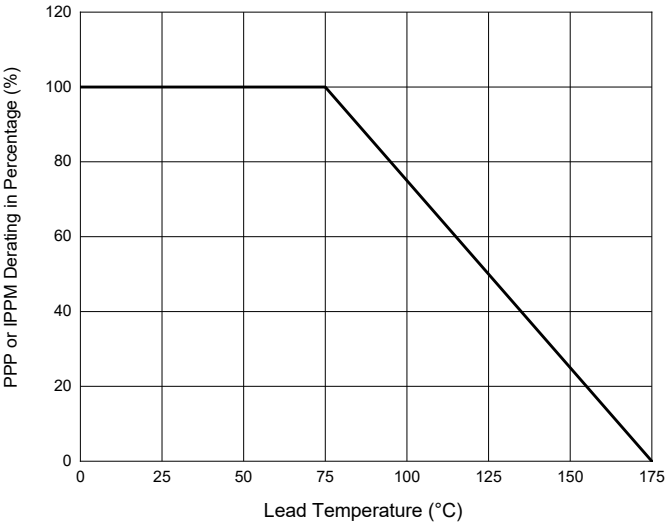


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:3Kpcs/Reel