



E480232

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 (Note 2) ("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 $T_L = 75^\circ\text{C}$	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 $T_A = 25^\circ\text{C}$ per Fig.4.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

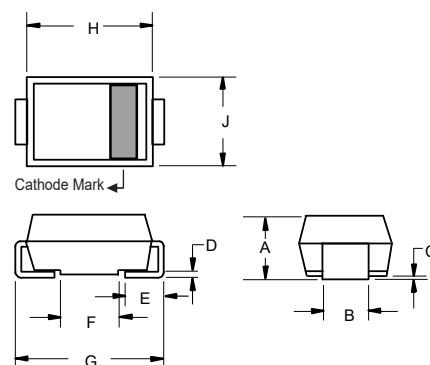
Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code YYWW = Date Code

1000 Watt TVS
5.0 to 85
Volts

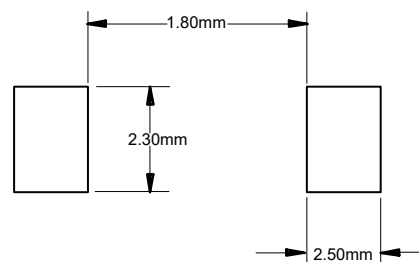
SMB (DO-214AA)
(LEAD FRAME)



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_{RMW} (V)	Min (V)	Max (V)	I_T (mA)	V_C (V)	I_{PP} (A)	I_R (μ A)	Uni	Bi
SMB10J5.0AHE3	SMB10J5.0CAHE3	5	6.4	7.07	10	9.20	108.70	1000	AKE	AAE
SMB10J6.0AHE3	SMB10J6.0CAHE3	6	6.67	7.37	10	10.30	97.09	1000	AKG	AAG
SMB10J6.5AHE3	SMB10J6.5CAHE3	6.5	7.22	7.98	10	11.20	89.29	500	AKK	AAK
SMB10J7.0AHE3	SMB10J7.0CAHE3	7	7.78	8.6	10	12.00	83.33	200	AKM	AAM
SMB10J7.5AHE3	SMB10J7.5CAHE3	7.5	8.33	9.21	1	12.90	77.52	100	AKP	AAP
SMB10J8.0AHE3	SMB10J8.0CAHE3	8	8.89	9.83	1	13.60	73.53	50	AKR	AAR
SMB10J8.5AHE3	SMB10J8.5CAHE3	8.5	9.44	10.4	1	14.40	69.44	20	AKT	AAT
SMB10J9.0AHE3	SMB10J9.0CAHE3	9	10	11.1	1	15.40	64.94	10	AKV	AAV
SMB10J10AHE3	SMB10J10CAHE3	10	11.1	12.3	1	17.00	58.82	5	AKX	AAX
SMB10J11AHE3	SMB10J11CAHE3	11	12.2	13.5	1	18.20	54.95	5	AKZ	AAZ
SMB10J12AHE3	SMB10J12CAHE3	12	13.3	14.7	1	19.90	50.25	5	ALB	ABB
SMB10J13AHE3	SMB10J13CAHE3	13	14.4	15.9	1	21.50	46.51	1	ALE	ABE
SMB10J14AHE3	SMB10J14CAHE3	14	15.6	17.2	1	23.20	43.10	1	ALG	ABG
SMB10J15AHE3	SMB10J15CAHE3	15	16.7	18.5	1	24.40	40.98	1	ALK	ABK
SMB10J16AHE3	SMB10J16CAHE3	16	17.8	19.7	1	26.00	38.46	1	ALM	ABM
SMB10J17AHE3	SMB10J17CAHE3	17	18.9	20.9	1	27.60	36.23	1	ALP	ABP
SMB10J18AHE3	SMB10J18CAHE3	18	20	22.1	1	29.20	34.25	1	ALR	ABR
SMB10J19AHE3	SMB10J19CAHE3	19	21.1	23.3	1	30.80	32.47	1	ALT	ABT
SMB10J20AHE3	SMB10J20CAHE3	20	22.2	24.5	1	32.40	30.86	1	ALV	ABV
SMB10J22AHE3	SMB10J22CAHE3	22	24.4	26.9	1	35.50	28.17	1	ALX	ABX
SMB10J24AHE3	SMB10J24CAHE3	24	26.7	29.5	1	38.90	25.71	1	ALZ	ABZ
SMB10J26AHE3	SMB10J26CAHE3	26	28.9	31.9	1	42.10	23.75	1	AME	ACE
SMB10J28AHE3	SMB10J28CAHE3	28	31.1	34.4	1	45.40	22.03	1	AMG	ACG
SMB10J30AHE3	SMB10J30CAHE3	30	33.3	36.8	1	48.40	20.66	1	AMK	ACK
SMB10J33AHE3	SMB10J33CAHE3	33	36.7	40.6	1	53.30	18.76	1	AMM	ACM
SMB10J36AHE3	SMB10J36CAHE3	36	40	44.2	1	58.10	17.21	1	AMP	ACP
SMB10J40AHE3	SMB10J40CAHE3	40	44.4	49.1	1	64.50	15.50	1	AMR	ACR
SMB10J43AHE3	SMB10J43CAHE3	43	47.8	52.8	1	69.40	14.41	1	AMT	ACT
SMB10J45AHE3	SMB10J45CAHE3	45	50	55.3	1	72.70	13.76	1	AMV	ACV
SMB10J48AHE3	SMB10J48CAHE3	48	53.3	58.9	1	77.40	12.92	1	AMX	ACX
SMB10J51AHE3	SMB10J51CAHE3	51	56.7	62.7	1	82.40	12.14	1	AMZ	ACZ
SMB10J54AHE3	SMB10J54CAHE3	54	60	66.3	1	87.10	11.48	1	ANB	ADB
SMB10J58AHE3	SMB10J58CAHE3	58	64.4	71.2	1	93.60	10.68	1	ANE	ADE
SMB10J60AHE3	SMB10J60CAHE3	60	66.7	73.7	1	96.80	10.33	1	ANG	ADG
SMB10J64AHE3	SMB10J64CAHE3	64	71.1	78.6	1	103	9.71	1	ANK	ADK
SMB10J70AHE3	SMB10J70CAHE3	70	77.8	86	1	113	8.85	1	ANM	ADM
SMB10J75AHE3	SMB10J75CAHE3	75	83.3	92.1	1	121	8.26	1	ANP	ADP
SMB10J78AHE3	SMB10J78CAHE3	78	86.7	95.8	1	126	7.94	1	ANR	ADR
SMB10J80AHE3	SMB10J80CAHE3	80	88.8	97.6	1	130	7.72	1	ANT	ADT
SMB10J85AHE3	SMB10J85CAHE3	85	94.4	104	1	137	7.30	1	ANV	ADV

Curve Characteristics

Fig.1-Peak Pulse Power Rating Curve

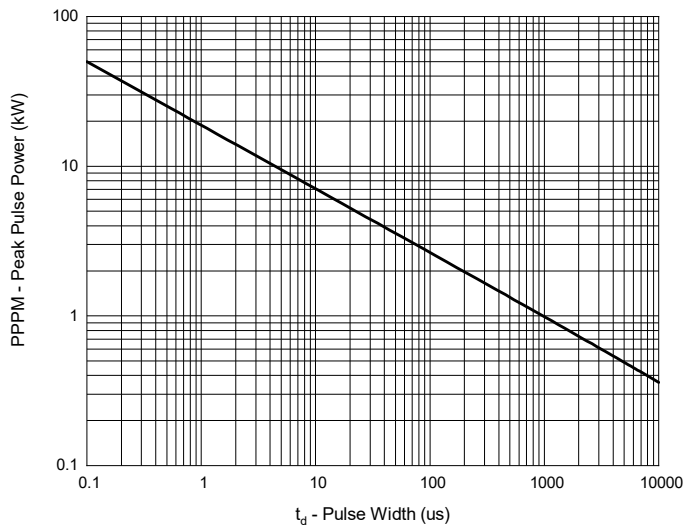


Fig. 2 - Typical Junction Capacitance

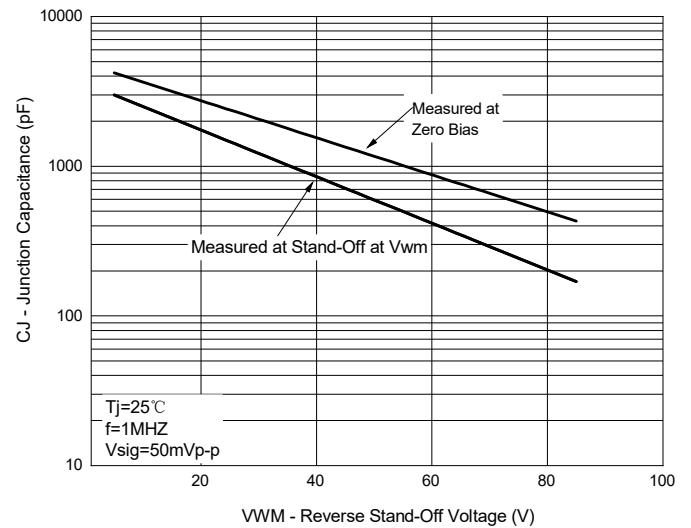


Fig. 3 - Pulse Waveform

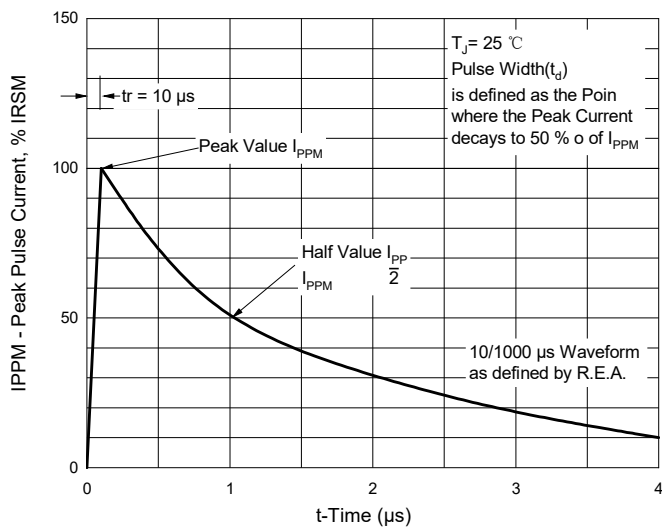
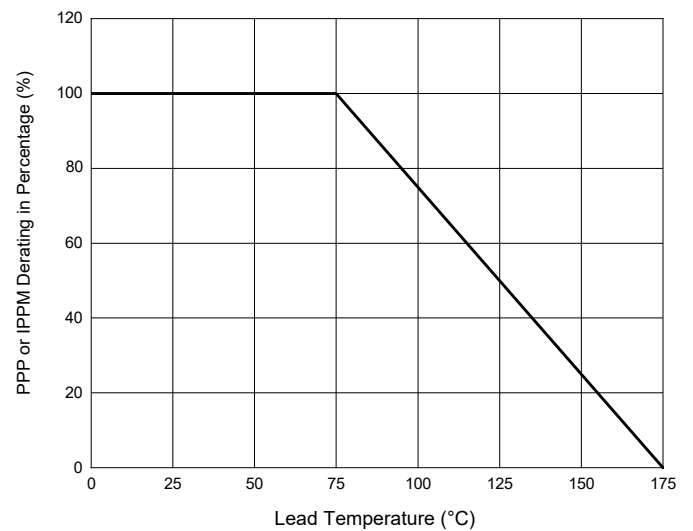


Fig. 4 - Pulse Derating Curve



Ordering Information

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

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