	<b>E480232</b>
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### Features

- AEC-Q101 Qualified
- Halogen Free."Green" Device (Note 1)
- For Surface Mount Applications in Order to Optimize Board Space
- Low Inductance
- Fast Response Time: Typical Less Than 1ps From 0V to  $V_{BR}$  min
- 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)
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e.SMBJ11CAHE3 for 5% Tolerance

### Mechanical Data

- Polarity: Color Band Denotes Positive End( cathode) Except Bi-directional Types
- Maximum Soldering Temperature:260°C for 10 Seconds
- Manufacturing Code Added for Better Tracking
- Terminals: Solderable Per MIL-STD-750, Method 2026

### Maximum Ratings

- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Thermal Resistance : 20°C/W Junction to Lead
- Thermal Resistance : 25°C/W Junction to Case

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Peak Pulse Power Surge Current on 10/1000µs Waveform	$I_{PP}$	See the Table	Note 3
Peak Pulse Power Dissipation	$P_{PP}$	600W	Note 3,4

#### Notes:

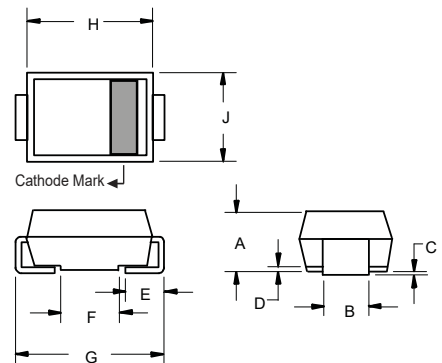
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above  $T_A=25^\circ\text{C}$  per Fig.4.
4. Mounted on 5.0mm<sup>2</sup> copper pads to each terminal.

#### Pin Configuration:



## 600 Watt TVS 10 to 190 Volts

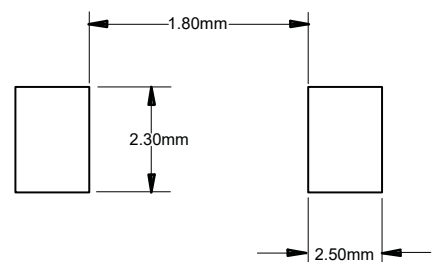
### SMB (DO-214AA) (LEAD FRAME)



#### 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



**Electrical Characteristics @ 25°C Unless Otherwise Specified**

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE $V_{WM}$	BREAKDOWN VOLTAGE $V_{(BR)} @ I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE@ $I_{PP}$	PEAK PULSE CURRENT $I_{PP}$	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$	MARKING CODE
	VOLTS	MIN	MAX	$I_T$ (mA)	VOLTS	(AMPS)	( $\mu$ A)	
SMBJ10AHE3	10	11.1	12.3	1	17.0	35.3	1	KX
SMBJ11AHE3	11	12.2	13.5	1	18.2	33.0	1	KZ
SMBJ12AHE3	12	13.3	14.7	1	19.9	30.2	1	LE
SMBJ13AHE3	13	14.4	15.9	1	21.5	27.9	1	LG
SMBJ14AHE3	14	15.6	17.2	1	23.2	25.8	1	LK
SMBJ15AHE3	15	16.7	18.5	1	24.4	24.0	1	LM
SMBJ16AHE3	16	17.8	19.7	1	26.0	23.1	1	LP
SMBJ17AHE3	17	18.9	20.9	1	27.6	21.7	1	LR
SMBJ18AHE3	18	20.0	22.1	1	29.2	20.5	1	LT
SMBJ20AHE3	20	22.2	24.5	1	32.4	18.5	1	LV
SMBJ22AHE3	22	24.4	26.9	1	35.5	16.9	1	LX
SMBJ24AHE3	24	26.7	29.5	1	38.9	15.4	1	LZ
SMBJ26AHE3	26	28.9	31.9	1	42.1	14.2	1	ME
SMBJ28AHE3	28	31.1	34.4	1	45.4	13.2	1	MG
SMBJ30AHE3	30	33.3	36.8	1	48.4	12.4	1	MK
SMBJ33AHE3	33	36.7	40.6	1	53.3	11.3	1	MM
SMBJ36AHE3	36	40.0	44.2	1	58.1	10.3	1	MP
SMBJ40AHE3	40	44.4	49.1	1	64.5	9.3	1	MR
SMBJ43AHE3	43	47.8	52.8	1	69.4	8.6	1	MT
SMBJ45AHE3	45	50.0	55.3	1	72.7	8.3	1	MV
SMBJ48AHE3	48	53.3	58.9	1	77.4	7.7	1	MX
SMBJ51AHE3	51	56.7	62.7	1	82.4	7.3	1	MZ
SMBJ54AHE3	54	60.0	66.3	1	87.1	6.9	1	NE
SMBJ58AHE3	58	64.4	71.2	1	93.6	6.4	1	NG
SMBJ60AHE3	60	66.7	73.7	1	96.8	6.2	1	NK
SMBJ64AHE3	64	71.1	78.6	1	103	5.8	1	NM
SMBJ70AHE3	70	77.8	86.0	1	113	5.3	1	NP
SMBJ75AHE3	75	83.3	92.1	1	121	4.9	1	NR
SMBJ78AHE3	78	86.7	95.8	1	126	4.7	1	NT
SMBJ80AHE3	80	88.8	97.6	1	129.6	4.6	1	NU
SMBJ85AHE3	85	94.4	104	1	137	4.4	1	NV
SMBJ90AHE3	90	100	111	1	146	4.1	1	NX
SMBJ100AHE3	100	111	123	1	162	3.7	1	NZ
SMBJ110AHE3	110	122	135	1	177	3.4	1	PE
SMBJ120AHE3	120	133	147	1	193	3.1	1	PG
SMBJ130AHE3	130	144	159	1	209	2.9	1	PK
SMBJ140AHE3	140	155	171	1	140	2.6	1	PL
SMBJ150AHE3	150	167	185	1	243	2.5	1	PM
SMBJ160AHE3	160	178	197	1	259	2.3	1	PP
SMBJ170AHE3	170	189	209	1	275	2.2	1	PR
SMBJ180AHE3	180	201	222	1	292	2.1	1	PT
SMBJ190AHE3	190	211	232	1	307.8	2.0	1	PU

**Electrical Characteristics @ 25°C Unless Otherwise Specified**

MCC PART NUMBER	REVERSE STAND-OFF VOLTAGE $V_{WM}$	BREAKDOWN VOLTAGE $V_{(BR)}@I_T$ (VOLTS)			MAXIMUM CLAMPING VOLTAGE@ $I_{PP}$	PEAK PULSE CURRENT $I_{PP}$	MAXIMUM REVERSE LEAKAGE @ $V_{WM}$ $I_D$	MARKING CODE
	VOLTS	MIN	MAX	$I_T$ (mA)	VOLTS	(AMPS)	( $\mu$ A)	
SMBJ10CAHE3	10	11.1	12.3	1	17.0	35.3	1	AX
SMBJ11CAHE3	11	12.2	13.5	1	18.2	33.0	1	AZ
SMBJ12CAHE3	12	13.3	14.7	1	19.9	30.2	1	BE
SMBJ13CAHE3	13	14.4	15.9	1	21.5	27.9	1	BG
SMBJ14CAHE3	14	15.6	17.2	1	23.2	25.8	1	BK
SMBJ15CAHE3	15	16.7	18.5	1	24.4	24.0	1	BM
SMBJ16CAHE3	16	17.8	19.7	1	26.0	23.1	1	BP
SMBJ17CAHE3	17	18.9	20.9	1	27.6	21.7	1	BR
SMBJ18CAHE3	18	20.0	22.1	1	29.2	20.5	1	BT
SMBJ20CAHE3	20	22.2	24.5	1	32.4	18.5	1	BV
SMBJ22CAHE3	22	24.4	26.9	1	35.5	16.9	1	BX
SMBJ24CAHE3	24	26.7	29.5	1	38.9	15.4	1	BZ
SMBJ26CAHE3	26	28.9	31.9	1	42.1	14.2	1	CE
SMBJ28CAHE3	28	31.1	34.4	1	45.4	13.2	1	CG
SMBJ30CAHE3	30	33.3	36.8	1	48.4	12.4	1	CK
SMBJ33CAHE3	33	36.7	40.6	1	53.3	11.3	1	CM
SMBJ36CAHE3	36	40.0	44.2	1	58.1	10.3	1	CP
SMBJ40CAHE3	40	44.4	49.1	1	64.5	9.3	1	CR
SMBJ43CAHE3	43	47.8	52.8	1	69.4	8.6	1	CT
SMBJ45CAHE3	45	50.0	55.3	1	72.7	8.3	1	CV
SMBJ48CAHE3	48	53.3	58.9	1	77.4	7.7	1	CX
SMBJ51CAHE3	51	56.7	62.7	1	82.4	7.3	1	CZ
SMBJ54CAHE3	54	60.0	66.3	1	87.1	6.9	1	DE
SMBJ58CAHE3	58	64.4	71.2	1	93.6	6.4	1	DG
SMBJ60CAHE3	60	66.7	73.7	1	96.8	6.2	1	DK
SMBJ64CAHE3	64	71.1	78.6	1	103	5.8	1	DM
SMBJ70CAHE3	70	77.8	86.0	1	113	5.3	1	DP
SMBJ75CAHE3	75	83.3	92.1	1	121	4.9	1	DR
SMBJ78CAHE3	78	86.7	95.8	1	126	4.7	1	DT
SMBJ80CAHE3	80	88.8	97.6	1	129.6	4.6	1	DU
SMBJ85CAHE3	85	94.4	104	1	137	4.4	1	DV
SMBJ90CAHE3	90	100	111	1	146	4.1	1	DX
SMBJ100CAHE3	100	111	123	1	162	3.7	1	DZ
SMBJ110CAHE3	110	122	135	1	177	3.4	1	EE
SMBJ120CAHE3	120	133	147	1	193	3.1	1	EG
SMBJ130CAHE3	130	144	159	1	209	2.9	1	EK
SMBJ140CAHE3	140	155	171	1	140	2.6	1	EL
SMBJ150CAHE3	150	167	185	1	243	2.5	1	EM
SMBJ160CAHE3	160	178	197	1	259	2.3	1	EP
SMBJ170CAHE3	170	189	209	1	275	2.2	1	ER
SMBJ180CAHE3	180	201	222	1	292	2.1	1	ET
SMBJ190CAHE3	190	211	232	1	307.8	2.0	1	EU

**Curve Characteristics**

Fig. 1 - Peak Pulse Power Rating Curve

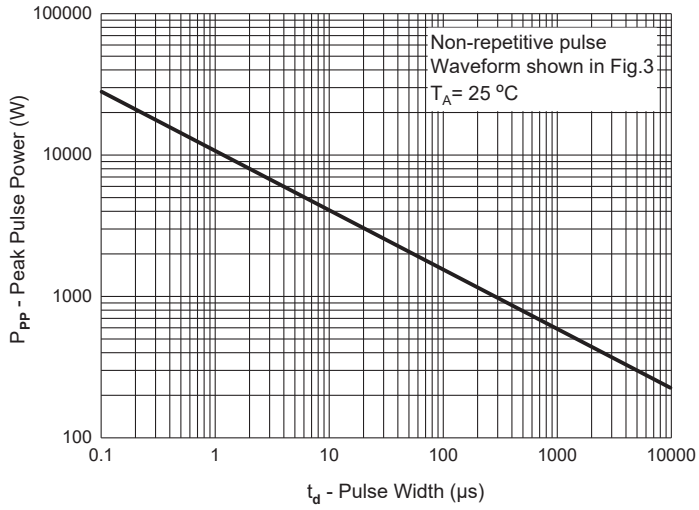


Fig. 2 - Typical Junction Capacitance

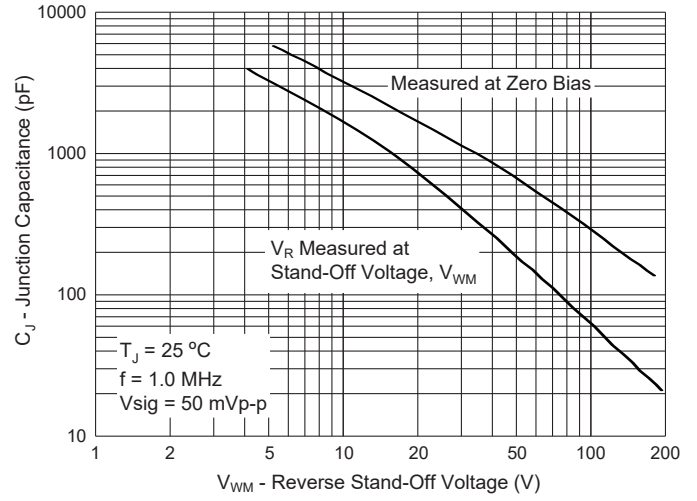


Fig. 3 - Pulse Waveform

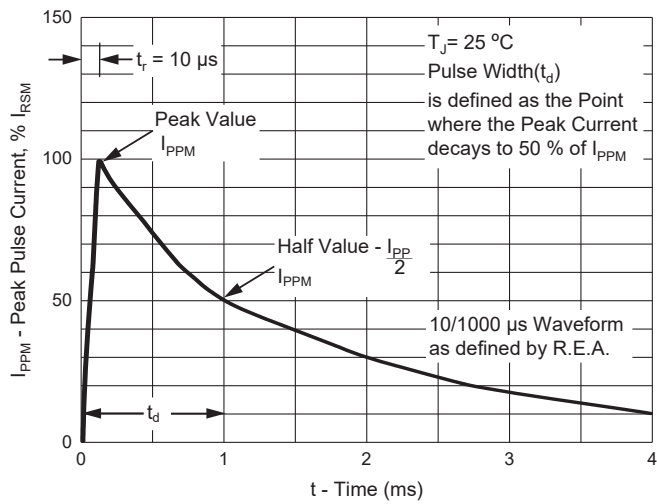
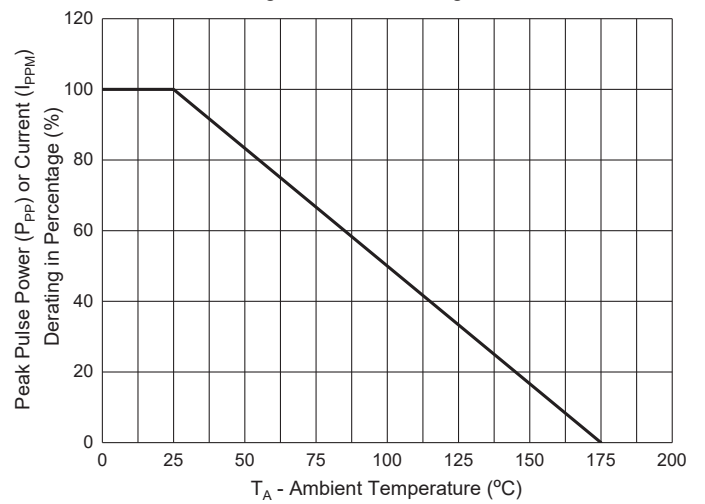


Fig. 4 - Pulse Derating Curve



**Ordering Information**

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

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