



E480232

Features

- AEC-Q101 Qualified
- For Surface Mount Applications
- Low Inductance
- High Temp Soldering: 260°C / 10 Seconds At Terminals
- For Bidirectional Devices Add "C" To The Suffix of The Part Number: i.e. SMAJ10CAHE3 for 5% Tolerance
- 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)

Maximum Ratings and Thermal Characteristics

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}	400	W
Power Dissipation on Infinite Heatsink at $T_L = 75^\circ\text{C}$	P_D	1.5	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	40	A
Operating and Storage Temperature Range	T_J, T_{STG}	-55 to +175	°C
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	50	°C/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	100	°C/W

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.

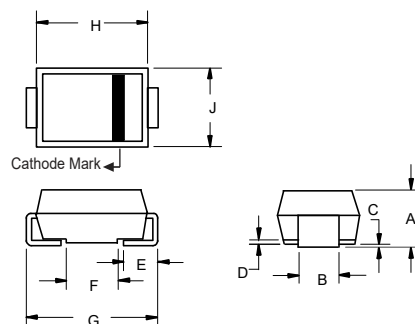
Internal Structure

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code YYWW = Date Code

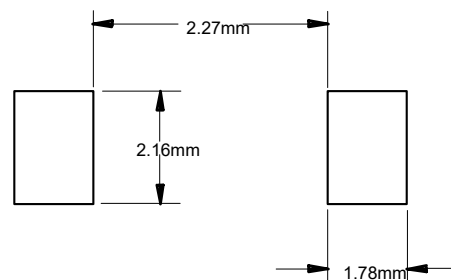
400 Watt TVS
5.0 to 190
Volts

SMA (DO-214AC) LEAD FRAME



DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.075	0.096	1.90	2.44	
B	0.050	0.064	1.27	1.63	
C	0.002	0.008	0.051	0.203	
D	---	0.020	---	0.51	
E	0.030	0.060	0.76	1.52	
F	0.065	0.091	1.65	2.32	
G	0.189	0.220	4.80	5.59	
H	0.157	0.187	4.00	4.75	
J	0.090	0.115	2.25	2.92	

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number		Working Peak Reverse Voltage	Breakdown Voltage V_{BR} @ I_T			Maximum Clamping Voltage @ I_{PP}	Maximum Reverse Surge Current	Maximum Reverse Leakage @ V_{RWM}	Device Marking Code	
(Uni)	(Bi)	$V_{RWM}(V)$	Min (V)	Max (V)	I_T (mA)	$V_C(V)$	$I_{PP}(A)$	$I_R(\mu A)$	Uni	Bi
SMAJ5.0AHE3	SMAJ5.0CAHE3	5.0	6.40	7.07	10	9.2	43.4	800	AE	WE
SMAJ6.0AHE3	SMAJ6.0CAHE3	6.0	6.67	7.37	10	10.3	38.8	800	AG	WG
SMAJ6.5AHE3	SMAJ6.5CAHE3	6.5	7.22	7.98	10	11.2	35.7	500	AK	WK
SMAJ7.0AHE3	SMAJ7.0CAHE3	7.0	7.78	8.60	10	12.0	33.3	200	AM	WM
SMAJ7.5AHE3	SMAJ7.5CAHE3	7.5	8.33	9.21	1	12.9	31.0	100	AP	WP
SMAJ8.0AHE3	SMAJ8.0CAHE3	8.0	8.89	9.83	1	13.6	29.4	50	AR	WR
SMAJ8.5AHE3	SMAJ8.5CAHE3	8.5	9.44	10.40	1	14.4	27.8	10	AT	WT
SMAJ9.0AHE3	SMAJ9.0CAHE3	9.0	10.00	11.10	1	15.4	26.0	5	AV	WV
SMAJ10AHE3	SMAJ10CAHE3	10	11.1	12.3	1	17.0	23.5	5	AX	WX
SMAJ11AHE3	SMAJ11CAHE3	11	12.2	13.5	1	18.2	22.0	1	AZ	WZ
SMAJ12AHE3	SMAJ12CAHE3	12	13.3	14.7	1	19.9	20.1	1	BE	XE
SMAJ13AHE3	SMAJ13CAHE3	13	14.4	15.9	1	21.5	18.6	1	BG	XG
SMAJ14AHE3	SMAJ14CAHE3	14	15.6	17.2	1	23.2	17.2	1	BK	XK
SMAJ15AHE3	SMAJ15CAHE3	15	16.7	18.5	1	24.4	16.4	1	BM	XM
SMAJ16AHE3	SMAJ16CAHE3	16	17.8	19.7	1	26.0	15.3	1	BP	XP
SMAJ17AHE3	SMAJ17CAHE3	17	18.9	20.9	1	27.6	14.5	1	BR	XR
SMAJ18AHE3	SMAJ18CAHE3	18	20.0	22.1	1	29.2	13.7	1	BT	XT
SMAJ20AHE3	SMAJ20CAHE3	20	22.2	24.5	1	32.4	12.3	1	BV	XV
SMAJ22AHE3	SMAJ22CAHE3	22	24.4	26.9	1	35.5	11.2	1	BX	XX
SMAJ24AHE3	SMAJ24CAHE3	24	26.7	29.5	1	38.9	10.3	1	BZ	XZ
SMAJ26AHE3	SMAJ26CAHE3	26	28.9	31.9	1	42.1	9.5	1	CE	YE
SMAJ28AHE3	SMAJ28CAHE3	28	31.1	34.4	1	45.4	8.8	1	CG	YG
SMAJ30AHE3	SMAJ30CAHE3	30	33.3	36.8	1	48.4	8.3	1	CK	YK
SMAJ33AHE3	SMAJ33CAHE3	33	36.7	40.6	1	53.3	7.5	1	CM	YM
SMAJ36AHE3	SMAJ36CAHE3	36	40.0	44.2	1	58.1	6.9	1	CP	YP
SMAJ40AHE3	SMAJ40CAHE3	40	44.4	49.1	1	64.5	6.2	1	CR	YR
SMAJ43AHE3	SMAJ43CAHE3	43	47.8	52.8	1	69.4	5.7	1	CT	YT
SMAJ45AHE3	SMAJ45CAHE3	45	50.0	55.3	1	72.7	5.5	1	CV	YV
SMAJ48AHE3	SMAJ48CAHE3	48	53.3	58.9	1	77.4	5.2	1	CX	YX
SMAJ51AHE3	SMAJ51CAHE3	51	56.7	62.7	1	82.4	4.9	1	CZ	YZ
SMAJ54AHE3	SMAJ54CAHE3	54	60.0	66.3	1	87.7	4.6	1	RE	ZE
SMAJ58AHE3	SMAJ58CAHE3	58	64.4	71.2	1	93.6	4.3	1	RG	ZG
SMAJ60AHE3	SMAJ60CAHE3	60	66.7	73.7	1	96.8	4.1	1	RK	ZK
SMAJ64AHE3	SMAJ64CAHE3	64	71.1	78.6	1	103.0	3.9	1	RM	ZM
SMAJ70AHE3	SMAJ70CAHE3	70	77.8	86.0	1	113.0	3.5	1	RP	ZP
SMAJ75AHE3	SMAJ75CAHE3	75	83.3	92.1	1	121.0	3.3	1	RR	ZR
SMAJ78AHE3	SMAJ78CAHE3	78	86.7	95.8	1	126.0	3.2	1	RT	ZT
SMAJ80AHE3	SMAJ80CAHE3	80	88.8	97.6	1	129.0	3.1	1	RB	ZB
SMAJ85AHE3	SMAJ85CAHE3	85	94.4	104.0	1	137.0	2.9	1	RV	ZV
SMAJ90AHE3	SMAJ90CAHE3	90	100.0	111.0	1	146.0	2.7	1	RX	ZX
SMAJ100AHE3	SMAJ100CAHE3	100	111.0	123.0	1	162.0	2.5	1	RZ	ZZ
SMAJ110AHE3	SMAJ110CAHE3	110	122.0	135.0	1	177.0	2.3	1	SE	VE
SMAJ120AHE3	SMAJ120CAHE3	120	133.0	147.0	1	193.0	2.1	1	SG	VG
SMAJ130AHE3	SMAJ130CAHE3	130	144.0	159.0	1	209.0	1.9	1	SK	VK
SMAJ140AHE3	SMAJ140CAHE3	140	155.0	171.0	1	227.0	1.8	1	SL	VL
SMAJ150AHE3	SMAJ150CAHE3	150	167.0	185.0	1	243.0	1.7	1	SM	VM
SMAJ160AHE3	SMAJ160CAHE3	160	178.0	197.0	1	259.0	1.5	1	SP	VP
SMAJ170AHE3	SMAJ170CAHE3	170	189.0	209.0	1	275.0	1.5	1	SR	VR
SMAJ180AHE3	SMAJ180CAHE3	180	200.0	220.0	1	292.0	1.4	1	ST	VT
SMAJ190AHE3	SMAJ190CAHE3	190	211.0	232.0	1	308.0	1.3	1	SU	VU

For bi-directional type having V_{RWM} of 10 Volts and less, the I_R limit is double.

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

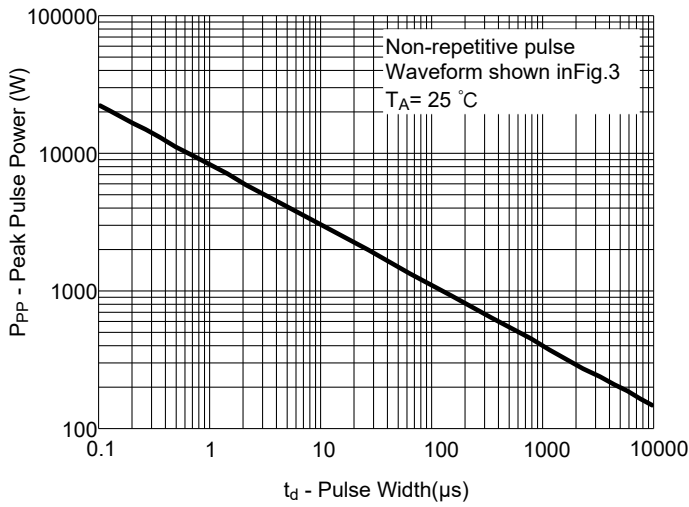


Fig. 2 - Typical Junction Capacitance

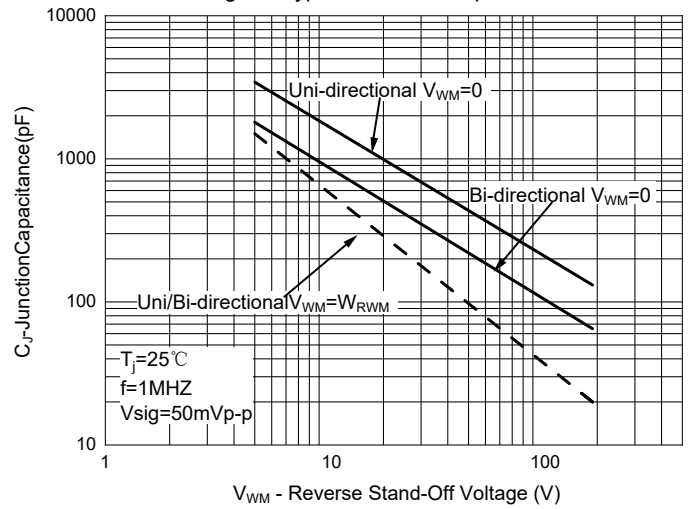


Fig. 3 - Pulse Waveform

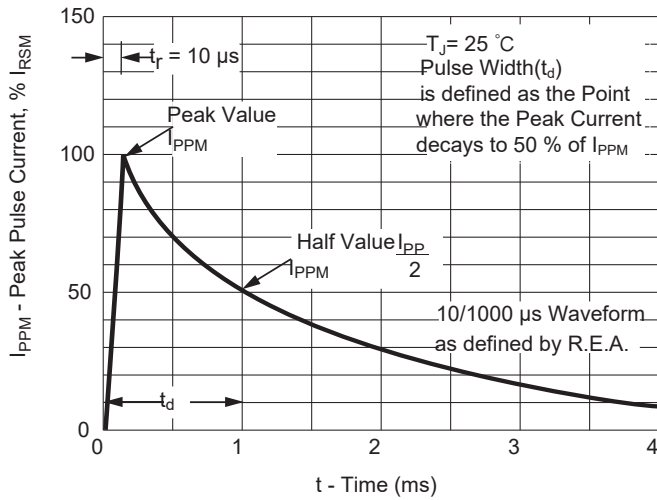
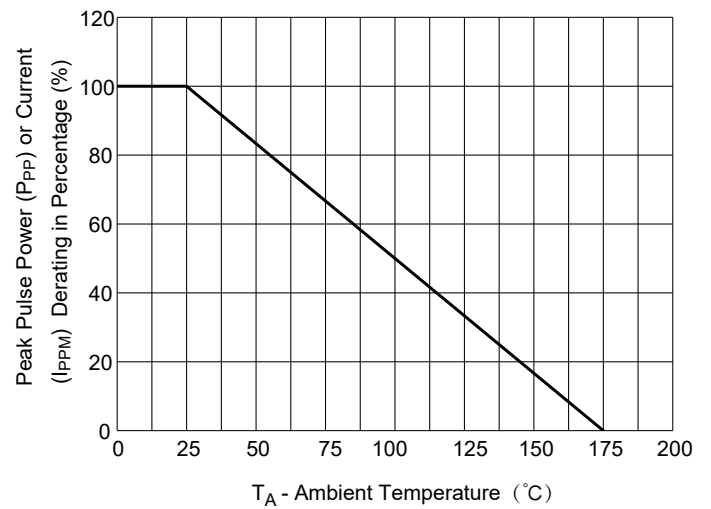


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:5Kpcs/Reel

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