



E480232

Features

- AEC-Q101 Qualified
- For Surface Mount Applications
- Unidirectional And Bidirectional
- 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)

Mechanical Data

- Polarity: Indicated by Cathode Band Except Bi-directional Types
- Manufacturing Code Added for Better Tracking

Maximum Ratings

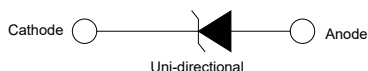
- Operating Junction Temperature Range: -55°C to +175°C
- Storage Temperature Range: -55°C to +175°C
- Typical Thermal Resistance: 100°C/W Junction to Ambient

Peak Pulse Power Surge Current with a 10/1000µs Waveform	I_{PPM}	See the Table	Note 3
Peak Pulse Power Dissipation	P_{PPM}	400W(Min.)	Note 3,7
Steady State Power Dissipation	$P_{M(AV)}$	1.5 W	Note 3,6

Note:

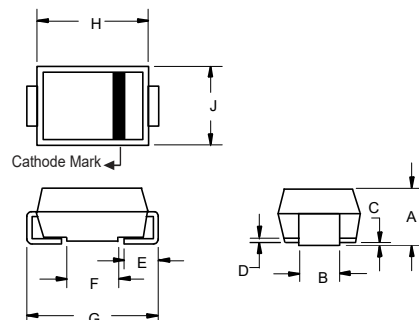
1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above $T_A=25^\circ\text{C}$ per Fig.4.
4. Mounted on 5.0mm² copper pads to each terminal.
5. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.
6. Lead temperature at $T_L = 75^\circ\text{C}$.
7. Peak pulse power waveform is 10/1000us.

Pin Configuration:



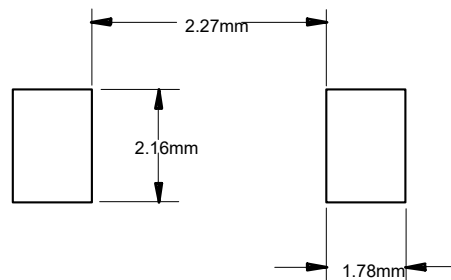
400 Watt TVS
10 to 190 Volts

SMA (DO-214AC) LEAD FRAME



DIMENSIONS					
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		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	
UNI-POLAR	BI-POLAR	(VOLTS)	MIN	MAX	I_T (mA)	(VOLTS)	(AMPS)	(μA)	UNI	BI
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	87.1	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	3.9	1	RM	ZM
SMAJ70AHE3	SMAJ70CAHE3	70	77.8	86.0	1	113	3.5	1	RP	ZP
SMAJ75AHE3	SMAJ75CAHE3	75	83.3	92.1	1	121	3.3	1	RR	ZR
SMAJ78AHE3	SMAJ78CAHE3	78	86.7	95.8	1	126	3.2	1	RT	ZT
SMAJ80AHE3	SMAJ80CAHE3	80	88.8	97.6	1	129	3.1	1	RB	ZB
SMAJ85AHE3	SMAJ85CAHE3	85	94.4	104.0	1	137	2.9	1	RV	ZV
SMAJ90AHE3	SMAJ90CAHE3	90	100.0	111.0	1	146	2.7	1	RX	ZX
SMAJ100AHE3	SMAJ100CAHE3	100	111.0	123.0	1	162	2.5	1	RZ	ZZ
SMAJ110AHE3	SMAJ110CAHE3	110	122.0	135.0	1	177	2.3	1	SE	VE
SMAJ120AHE3	SMAJ120CAHE3	120	133.0	147.0	1	193	2.1	1	SG	VG
SMAJ130AHE3	SMAJ130CAHE3	130	144.0	159.0	1	209	1.9	1	SK	VK
SMAJ140AHE3	SMAJ140CAHE3	140	155.0	171.0	1	227	1.8	1	SL	VL
SMAJ150AHE3	SMAJ150CAHE3	150	167.0	185.0	1	243	1.7	1	SM	VM
SMAJ160AHE3	SMAJ160CAHE3	160	178.0	197.0	1	259	1.5	1	SP	VP
SMAJ170AHE3	SMAJ170CAHE3	170	189.0	209.0	1	275	1.5	1	SR	VR
SMAJ180AHE3	SMAJ180CAHE3	180	200.0	220.0	1	292	1.4	1	ST	VT
SMAJ190AHE3	SMAJ190CAHE3	190	211.0	232.0	1	308	1.3	1	SU	VU

For bi-directional type having V_{WM} of 10 Volts and less, the I_R limit is double.
For parts without A, the V_{BR} is +10%.

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

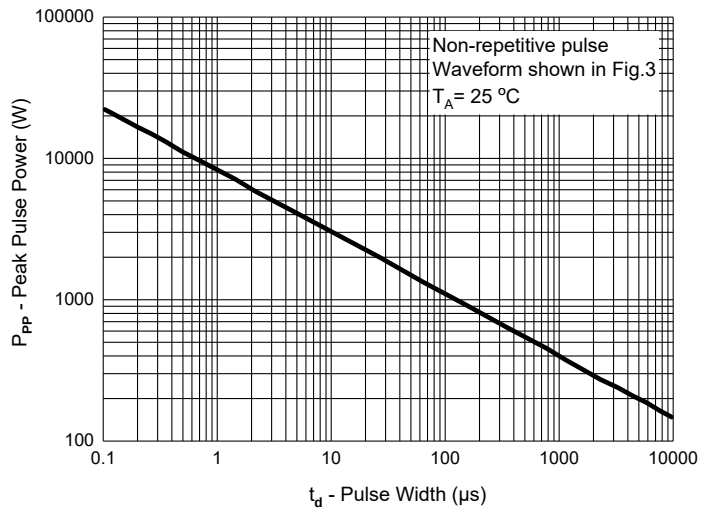


Fig. 2 - Typical Junction Capacitance

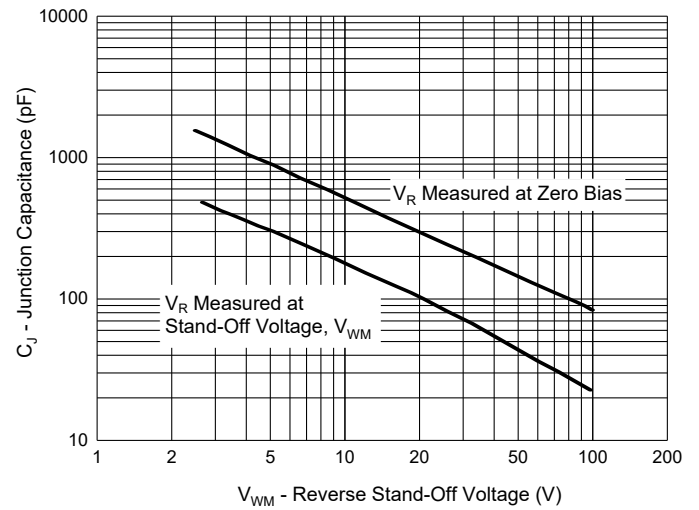


Fig. 3 - Pulse Waveform

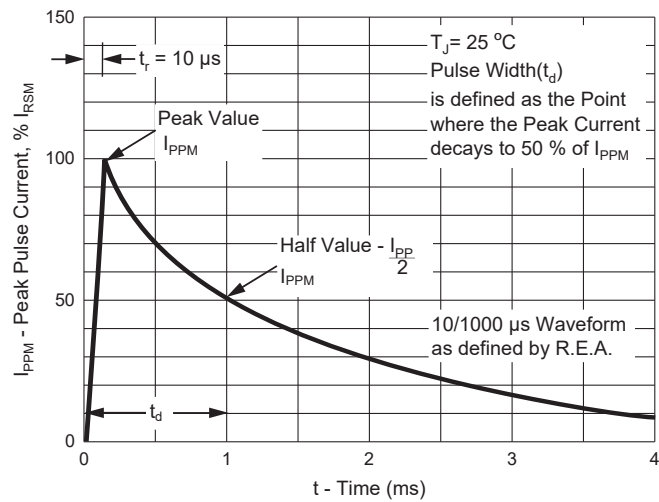
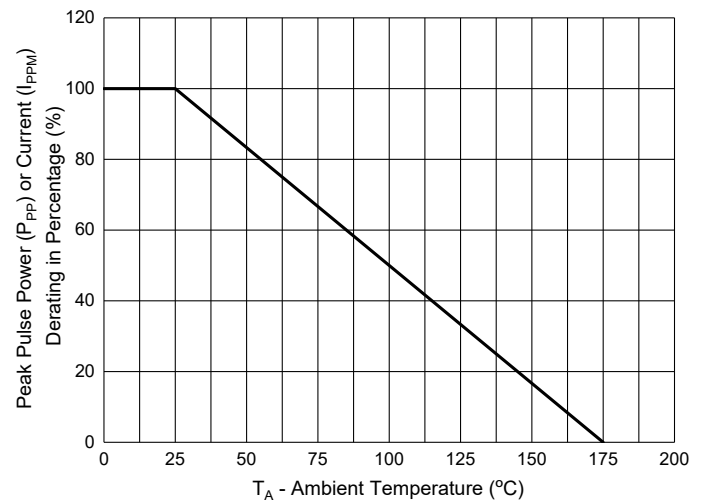


Fig. 4 - Pulse Derating Curve



Ordering Information

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

IMPORTANT NOTICE

Micro Commercial Components Corp. reserves the right to make changes without further notice to any product herein to make corrections, modifications , enhancements , improvements , or other changes . **Micro Commercial Components Corp** . does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights ,nor the rights of others . The user of products in such applications shall assume all risks of such use and will agree to hold **Micro Commercial Components Corp** . and all the companies whose products are represented on our website, harmless against all damages. **Micro Commercial Components Corp.** products are sold subject to the general terms and conditions of commercial sale, as published at <https://www.mccsemi.com/Home/TermsAndConditions>.

LIFE SUPPORT

MCC's products are not authorized for use as critical components in life support devices or systems without the express written approval of Micro Commercial Components Corporation.

CUSTOMER AWARENESS

Counterfeiting of semiconductor parts is a growing problem in the industry. Micro Commercial Components (MCC) is taking strong measures to protect ourselves and our customers from the proliferation of counterfeit parts. MCC strongly encourages customers to purchase MCC parts either directly from MCC or from Authorized MCC Distributors who are listed by country on our web page cited below. Products customers buy either from MCC directly or from Authorized MCC Distributors are genuine parts, have full traceability, meet MCC's quality standards for handling and storage. **MCC will not provide any warranty coverage or other assistance for parts bought from Unauthorized Sources.** MCC is committed to combat this global problem and encourage our customers to do their part in stopping this practice by buying direct or from authorized distributors.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Micro Commercial Components (MCC):

[SMAJ11AHE3-TP](#) [SMAJ11CAHE3-TP](#) [SMAJ45AHE3-TP](#) [SMAJ45CAHE3-TP](#) [SMAJ36AHE3-TP](#) [SMAJ36CAHE3-TP](#) [SMAJ16AHE3-TP](#) [SMAJ16CAHE3-TP](#) [SMAJ17AHE3-TP](#) [SMAJ17CAHE3-TP](#) [SMAJ14AHE3-TP](#) [SMAJ14CAHE3-TP](#) [SMAJ51AHE3-TP](#) [SMAJ51CAHE3-TP](#) [SMAJ54AHE3-TP](#) [SMAJ54CAHE3-TP](#) [SMAJ60AHE3-TP](#) [SMAJ60CAHE3-TP](#) [SMAJ64AHE3-TP](#) [SMAJ64CAHE3-TP](#) [SMAJ75AHE3-TP](#) [SMAJ75CAHE3-TP](#) [SMAJ78AHE3-TP](#) [SMAJ78CAHE3-TP](#) [SMAJ85AHE3-TP](#) [SMAJ85CAHE3-TP](#) [SMAJ100AHE3-TP](#) [SMAJ120AHE3-TP](#) [SMAJ120CAHE3-TP](#) [SMAJ130AHE3-TP](#) [SMAJ130CAHE3-TP](#) [SMAJ100CAHE3-TP](#) [SMAJ110AHE3-TP](#) [SMAJ110CAHE3-TP](#) [SMAJ80AHE3-TP](#) [SMAJ80CAHE3-TP](#) [SMAJ90AHE3-TP](#) [SMAJ90CAHE3-TP](#) [SMAJ170AHE3-TP](#) [SMAJ170CAHE3-TP](#) [SMAJ180AHE3-TP](#) [SMAJ180CAHE3-TP](#) [SMAJ190AHE3-TP](#) [SMAJ190CAHE3-TP](#) [SMAJ140AHE3-TP](#) [SMAJ140CAHE3-TP](#) [SMAJ150AHE3-TP](#) [SMAJ150CAHE3-TP](#) [SMAJ160AHE3-TP](#) [SMAJ160CAHE3-TP](#)