

E480232

### Features

AEC-Q101 Qualified

*H* 

- Excellent Clamping Capability
- For Surface Mount Applications
- Glass Passivated Junction
- Halogen Free. "Green" Device (Note 1)
- High Temp Soldering: 260°C / 10 Seconds At Terminals
- For Bidirectional Devices Add "C" to The Suffix of The Part Number: i.e.SMA6J13CAHE3 for 5% Tolerance
- 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

# **Maximum Ratings**

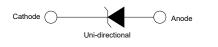
- Operating Junction Temperature Range: -55°C to +150°C
- Storage Temperature Range: -55°C to +150°C
- Typical Thermal Resistance: 33°C/W Junction to Lead

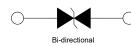
Peak Pulse Power Surge Current with a 10/1000µs Waveform	I <sub>PPM</sub>	See the Table	Note 3
Peak Pulse Power Dissipation	P <sub>PPM</sub>	600 W(Min.)	Note 3
Power Dissipatoin on Infinite Heatsink	P <sub>D</sub>	3.0 W	T <sub>L</sub> = 75°C
Peak Forward Surge Current Unidirectional Only	I <sub>FSM</sub>	60 A	Note 4

#### Note:

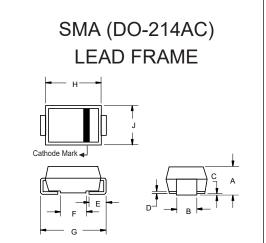
- 1. Halogen free "Green" products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
- 2. High temperature solder exemption applied, see EU directive annex 7a.
- 3. Non-repetitive current pulse per Fig.3 and derated above  $T_{\text{A}}\text{=}$  25  $^{\circ}\text{C}$  per Fig.4
- Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Pin Configuration:



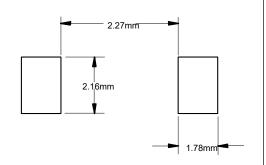


# 600 Watt TVS 13 to 40 Volts



DIMENSIONS						
INCHES		MM		NOTE		
MIN	MAX	MIN	MAX	NOTE		
0.075	0.096	1.90	2.44			
0.050	0.064	1.27	1.63			
0.002	0.008	0.051	0.203			
	0.020		0.51			
0.030	0.060	0.76	1.52			
0.065	0.091	1.65	2.32			
0.189	0.220	4.80	5.59			
0.157	0.187	4.00	4.75			
0.090	0.115	2.25	2.92			
	MIN 0.075 0.050 0.002  0.030 0.065 0.189 0.157	INCHES   MIN MAX   0.075 0.096   0.050 0.064   0.002 0.008    0.020   0.030 0.060   0.065 0.091   0.189 0.220   0.157 0.187	INCHES M   MIN MAX MIN   0.075 0.096 1.90   0.050 0.064 1.27   0.002 0.008 0.051    0.020    0.030 0.060 0.76   0.065 0.091 1.65   0.189 0.220 4.80   0.157 0.187 4.00	INCHES MM   MIN MAX MIN MAX   0.075 0.096 1.90 2.44   0.050 0.064 1.27 1.63   0.002 0.008 0.051 0.203    0.020  0.51   0.030 0.060 0.76 1.52   0.065 0.091 1.65 2.32   0.189 0.220 4.80 5.59   0.157 0.187 4.00 4.75		

#### SUGGESTED SOLDER PAD LAYOUT





# Electrical Characteristics @ 25°C Unless Otherwise Specified

MC Part N	-	Breakdov	reakdown Voltage V <sub>BR</sub> @  I <sub>T</sub>		$\begin{array}{c c} Maximum \\ Reverse \\ Leakage \\ I_D(\mu A) \end{array} \begin{array}{c} Reverse \ Stand- \\ Off \ Voltage \ V_{WM} \\ (Volts) \end{array}$		Maximum Reverse Surge Current I <sub>pp</sub> (A) @10x1000us	Maximum Clamping Voltage V <sub>c</sub> (Volts)	Device Marking Code	
Uni-polar	Bi-polar	Min. (V)	Max. (V)	I <sub>⊤</sub> (mA)	@V <sub>WM</sub>		sinewave	@I <sub>pp</sub>	Uni	Bi
SMA6J13AHE3	SMA6J13CAHE3	14.4	15.9	1	1.0	13	27.9	21.5	LG	UG
SMA6J14AHE3	SMA6J14CAHE3	15.6	17.2	1	1.0	14	25.9	23.2	LK	UK
SMA6J15AHE3	SMA6J15CAHE3	16.7	18.5	1	1.0	15	24.6	24.4	LM	UM
SMA6J16AHE3	SMA6J16CAHE3	17.8	19.7	1	1.0	16	23.1	26.0	LP	UP
SMA6J17AHE3	SMA6J17CAHE3	18.9	20.9	1	1.0	17	21.7	27.6	LR	UR
SMA6J18AHE3	SMA6J18CAHE3	20.0	22.1	1	1.0	18	20.5	29.2	LT	UT
SMA6J19AHE3	SMA6J19CAHE3	21.1	23.3	1	1.0	19	19.5	30.8	LB	UB
SMA6J20AHE3	SMA6J20CAHE3	22.2	24.5	1	1.0	20	18.5	32.4	LV	UV
SMA6J22AHE3	SMA6J22CAHE3	24.4	26.9	1	1.0	22	16.9	35.5	LX	UX
SMA6J24AHE3	SMA6J24CAHE3	26.7	29.5	1	1.0	24	15.4	38.9	LZ	UZ
SMA6J26AHE3	SMA6J26CAHE3	28.9	31.9	1	1.0	26	14.3	42.1	ME	WE
SMA6J28AHE3	SMA6J28CAHE3	31.1	34.4	1	1.0	28	13.2	45.4	MG	WG
SMA6J30AHE3	SMA6J30CAHE3	33.3	36.8	1	1.0	30	12.4	48.4	MK	WK
SMA6J33AHE3	SMA6J33CAHE3	36.7	40.6	1	1.0	33	11.3	53.3	MM	WM
SMA6J36AHE3	SMA6J36CAHE3	40.0	44.2	1	1.0	36	10.3	58.1	MP	WP
SMA6J40AHE3	SMA6J40CAHE3	44.4	49.1	1	1.0	40	9.3	64.5	MR	WR



# **Curve Characteristics**

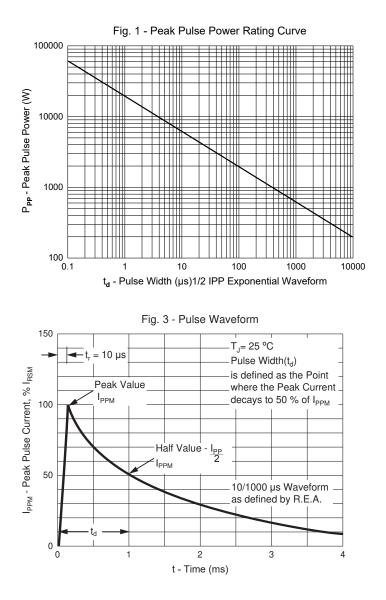
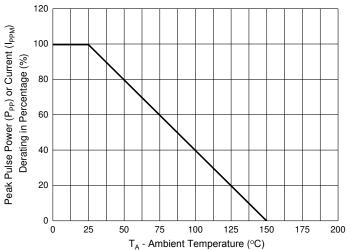


Fig. 2 - Typical Junction Capacitance 10000 Bi-directional at Zero Bias C<sub>J</sub> - Junction Capacitance (pF) 1000 Uni-directional at Zero Bias Uni-directional at V<sub>RWM</sub> 100 10 Bi-directional at VRWM T<sub>J</sub> = 25 °C f = 1.0 MHz 1 10 100 1000 1 V<sub>BR</sub> - Reverse Breakdown Voltage (V) Fig. 4 - Pulse Derating Curve 120 100





# **Ordering Information**

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

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