600W, 10V - 30V Surface Mount Transient Voltage Suppressor

FEATURES

- Low profile package
- Ideal for automated placement
- Glass passivated junction
- Excellent clamping capability
- Fast response time: typically less than 1.0ps
- 600 watts peak pulse power capability with a 10 / 1000 μs waveform
- Compliant to RoHS Directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

DO-214AC (SMA)

Pb-Free

RoHS COMPLIANT

MECHANICAL DATA

Case: DO-214AC (SMA)

Molding compound, UL flammability classification rating 94V-0

Moisture sensitivity level: level 1, per J-STD-020

Part no. with suffix "H" means AEC-Q101 qualified

Packing code with suffix "G" means green compound (halogen-free)

Terminal: Matte tin plated leads, solderable per JESD22-B102

Meet JESD 201 class 2 whisker test

Polarity: Indicated by cathode band

Weight: 0.06 g (approximately)

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS (T_A=25°C unless otherwise noted)			
PARAMETER	SYMBOL	Value	UNIT
Peak power dissipation at T_A=25°C, tp=1ms(Note 1)	P_{PK}	600	W
Steady state power dissipation	P_D	4	W
Peak forward surge current, 8.3 ms single half sine-wave superimposed on rated load	I_{FSM}	50	A
Typcial thermal resistance	$R_{\theta JA}$	56	°C/W
	$R_{\theta JL}$	20	
Operating junction temperature range	T_J	- 55 to +175	°C
Storage temperature range	T_{STG}	- 55 to +175	°C

Note 1: Non-repetitive current pulse per fig. 3 and derated above T_A=25°C per fig. 2

ORDERING INFORMATION					
PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	PACKAGE	PACKING
SMA6JxxA (Note 1, 2)	H	R3	G	SMA	1,800 / 7" Plastic reel
		R2		SMA	7,500 / 13" Paper reel
		M2		SMA	7,500 / 13" Plastic reel

Note 1: "xx" defines voltage from 10V (SMA6J10A) to 30V (SMA6J30A)

Note 2: Whole series with green compound

EXAMPLE					
EXAMPLE P/N	PART NO.	PART NO. SUFFIX	PACKING CODE	PACKING CODE SUFFIX	DESCRIPTION
SMA6J10AHR3G	SMAJ26A	H	R3	G	AEC-Q101 qualified Green compound

RATINGS AND CHARACTERISTICS CURVES (T_A=25°C unless otherwise noted)

FIG. 1 PEAK PULSE POWER RATING CURVE

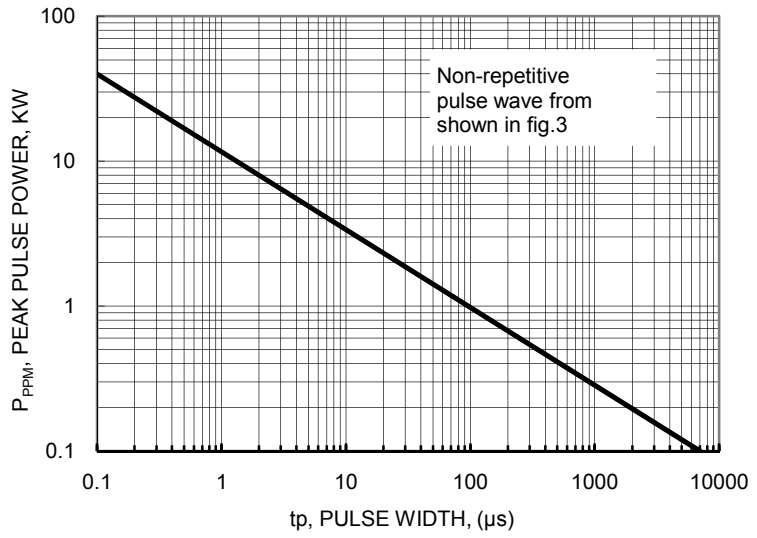


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

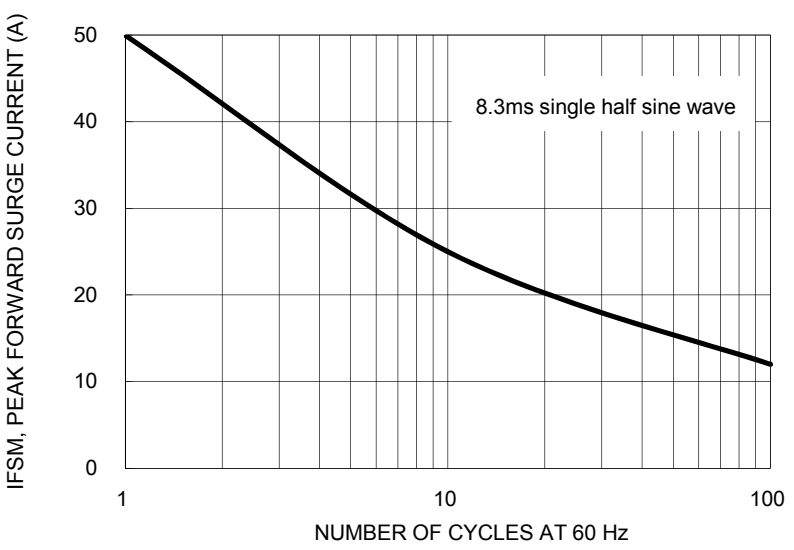


FIG. 3 CLAMPING POWER PULSE WAVEFORM

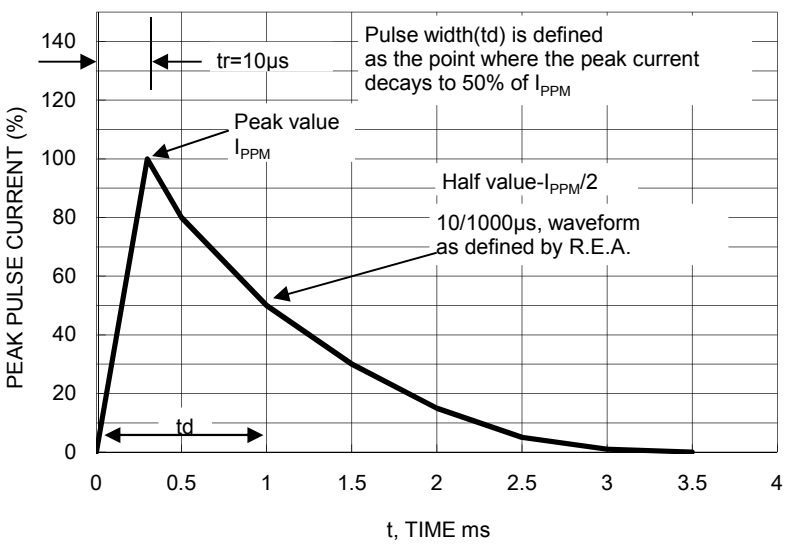
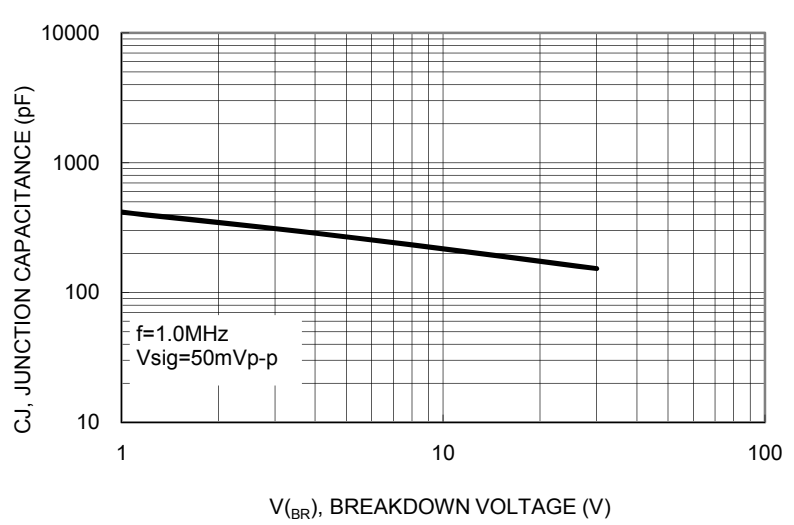


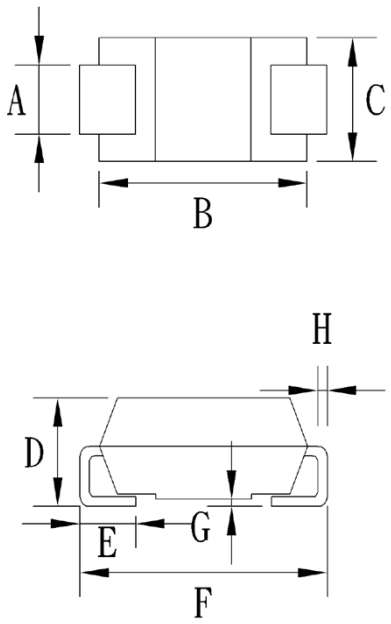
FIG. 4 TYPICAL JUNCTION CAPACITANCE



Device	Device Marking Code	Working Peak Reverse Voltage V_{WM} (V)	Breakdown Voltage V_{BR} (V) at I_T		Test Current I_T (mA)	Maximum Clamping Voltage at I_{PPM} Vc (V)	Maximum Peak Pulse Surge Current I_{PPM} (A)	Maximum Reverse Leakage @ V_{WM} I_D (uA)
			Min	Max				
SMA6J10A	6AX	10	11.1	12.3	1	15.7	38.2	5.0
SMA6J11A	6AZ	11	12.2	13.5	1	17.2	34.8	5.0
SMA6J12A	6BE	12	13.3	14.7	1	18.8	31.9	1.0
SMA6J13A	6BG	13	14.4	15.9	1	20.4	29.4	1.0
SMA6J15A	6BM	15	16.7	18.5	1	23.6	25.4	1.0
SMA6J16A	6BP	16	17.8	19.7	1	25.2	23.8	1.0
SMA6J17A	6BR	17	18.9	20.9	1	26.7	22.5	1.0
SMA6J18A	6BT	18	20	22.1	1	28.3	21.2	1.0
SMA6J20A	6BV	20	22.2	24.5	1	31.4	19.1	1.0
SMA6J22A	6BX	22	24.4	26.9	1	34.5	17.4	1.0
SMA6J24A	6BZ	24	26.7	29.5	1	37.8	15.9	1.0
SMA6J26A	6CE	26	28.9	31.9	1	40.9	14.7	1.0
SMA6J28A	6CG	28	31.1	34.4	1	44.0	13.6	1.0
SMA6J30A	6CK	30	33.3	36.8	1	48.4	12.3	1.0

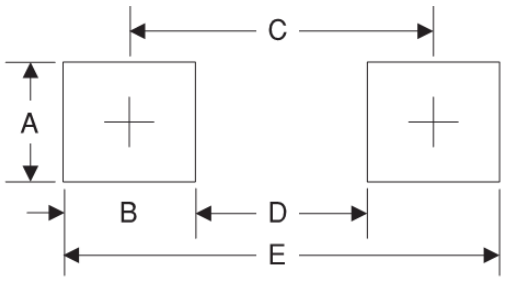
PACKAGE OUTLINE DIMENSIONS

DO-214AC (SMA)



DIM.	Unit (mm)		Unit (inch)	
	Min	Max	Min	Max
A	1.27	1.58	0.050	0.062
B	4.06	4.60	0.160	0.181
C	2.29	2.83	0.090	0.111
D	1.99	2.50	0.078	0.098
E	0.90	1.41	0.035	0.056
F	4.95	5.33	0.195	0.210
G	0.10	0.20	0.004	0.008
H	0.15	0.31	0.006	0.012

SUGGESTED PAD LAYOUT



Symbol	Unit (mm)	Unit (inch)
A	1.68	0.066
B	1.52	0.060
C	3.93	0.155
D	2.41	0.095
E	5.45	0.215

MARKING DIAGRAM

P/N = Device Marking Code
G = Green Compound
YW = Date Code
F = Factory Code

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SMA6J20AHR2G SMA6J30AHR3G SMA6J12A R3G SMA6J10AHR2G SMA6J15AHR2G SMA6J16A R3G SMA6J11AHR3G SMA6J26A R3G SMA6J22A R3G SMA6J10A R3G SMA6J17AHR3G SMA6J13AHR2G SMA6J28AHR2G SMA6J30AHR2G SMA6J10A R2G SMA6J26A R2G SMA6J30A R3G SMA6J11AHR2G SMA6J26AHR3G SMA6J13A R2G SMA6J28AHR3G SMA6J17A R2G SMA6J11A R2G SMA6J13AHR3G SMA6J22AHR3G SMA6J15AHR3G SMA6J11A R3G SMA6J15A R3G SMA6J24A R2G SMA6J17AHR2G SMA6J22AHR2G SMA6J28A R3G SMA6J20A R2G SMA6J18A R2G SMA6J20AHR3G SMA6J17A R3G SMA6J12AHR2G SMA6J16AHR2G SMA6J28A R2G SMA6J18AHR2G SMA6J15A R2G SMA6J13A R3G SMA6J24A R3G SMA6J18AHR3G SMA6J16AHR3G SMA6J10AHR3G SMA6J12AHR3G SMA6J12A R2G SMA6J18A R3G SMA6J22A R2G SMA6J16A R2G SMA6J24AHR3G SMA6J20A R3G SMA6J24AHR2G SMA6J26AHR2G SMA6J30A R2G