

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 μ s 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)



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 ($T_A=25^\circ\text{C}$ unless otherwise noted)			
PARAMETER	SYMBOL	Value	UNIT
Peak power dissipation at $T_A=25^\circ\text{C}$, $t_p=1\text{ms}$ (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
Typical thermal resistance	$R_{\theta JA}$	56	$^\circ\text{C/W}$
	$R_{\theta JL}$	20	
Operating junction temperature range	T_J	- 55 to +175	$^\circ\text{C}$
Storage temperature range	T_{STG}	- 55 to +175	$^\circ\text{C}$

Note 1: Non-repetitive current pulse per fig. 3 and derated above $T_A=25^\circ\text{C}$ 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

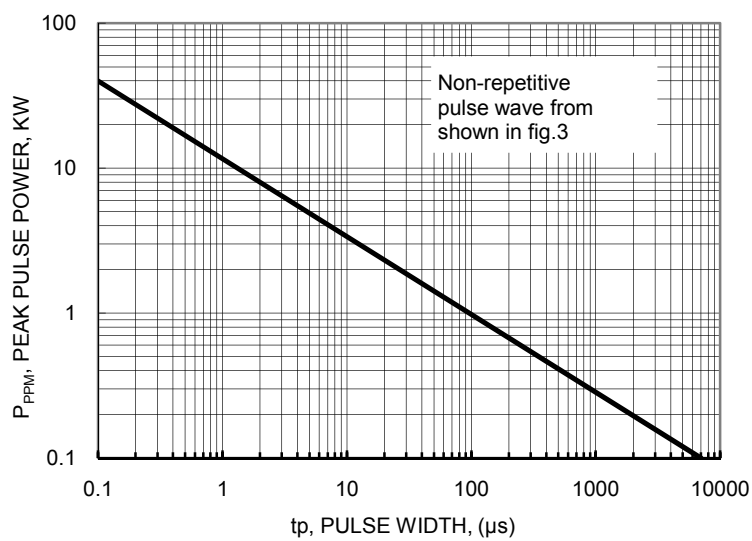


FIG. 2 MAXIMUM NON-REPETITIVE FORWARD SURGE CURRENT UNIDIRECTIONAL ONLY

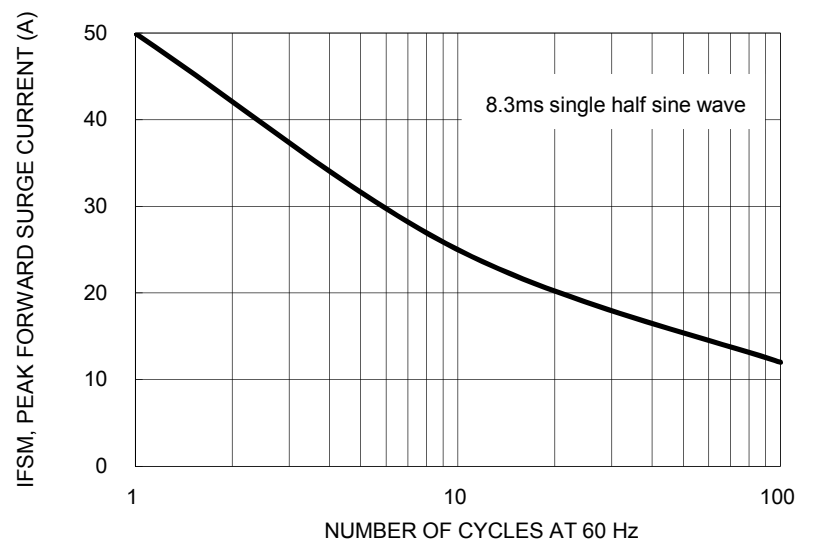


FIG. 3 CLAMPING POWER PULSE WAVEFORM

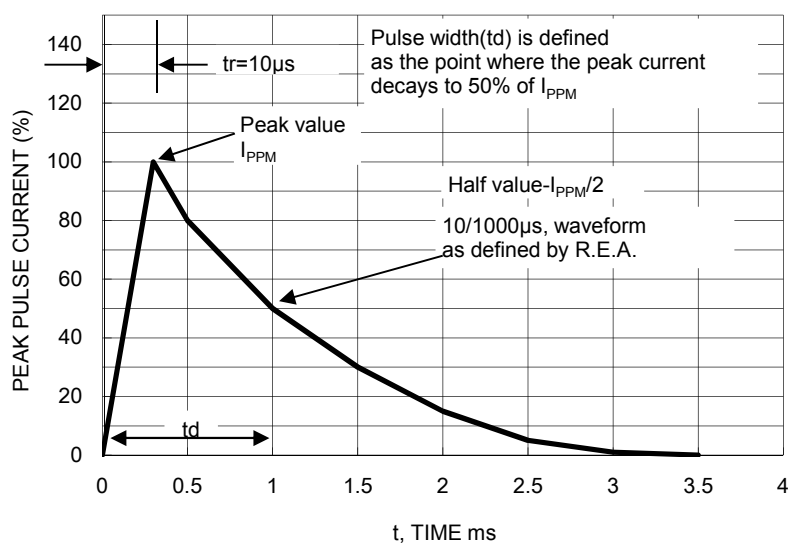
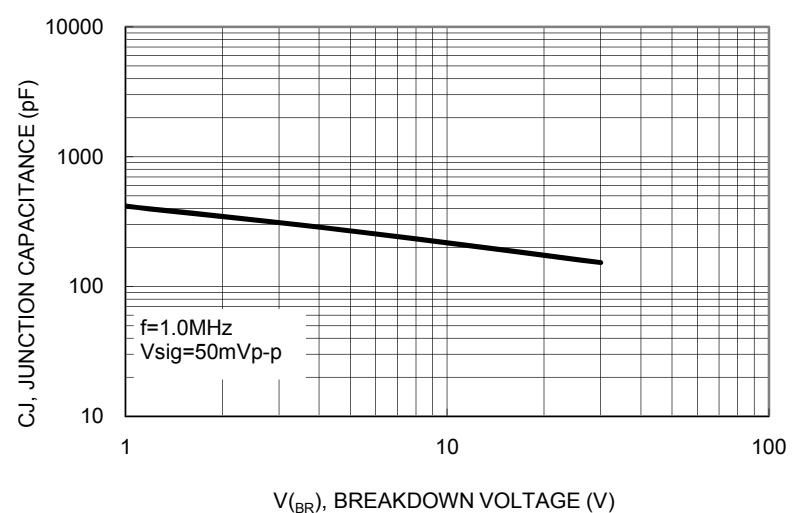
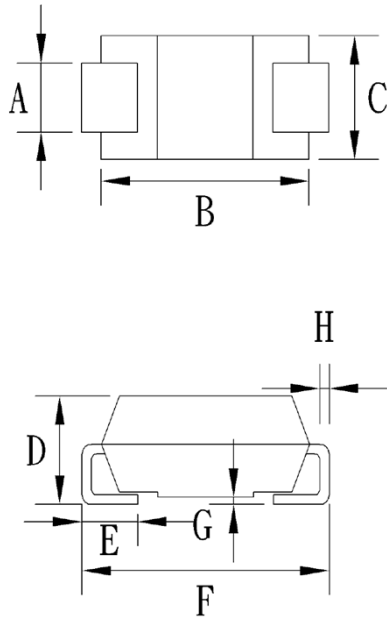


FIG. 4 TYPICAL JUNCTION CAPACITANCE



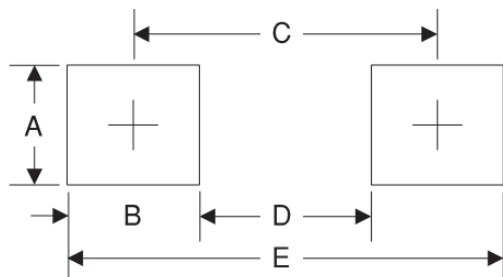
Device	Device Marking Code	Working Peak Reverse Voltage V_{WM} (V)	Breakdown Voltage V_{BR} (V) at I_T		Test Current I_T (mA)	Maximum Clamping Voltage at I_{PPM} V_c (V)	Maximum Peak Pulse Surge Current I_{PPM} (A)	Maximum Reverse Leakage @ V_{WM} I_D (uA)
			Min	Max				
SMA6J10A	6AX	10	11.1	12.3	1	15.7	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

Notice

Specifications of the products displayed herein are subject to change without notice. TSC or anyone on its behalf, assumes no responsibility or liability for any errors or inaccuracies.

Information contained herein is intended to provide a product description only. No license, express or implied, to any intellectual property rights is granted by this document. Except as provided in TSC's terms and conditions of sale for such products, TSC assumes no liability whatsoever, and disclaims any express or implied warranty, relating to sale and/or use of TSC products including liability or warranties relating to fitness for a particular purpose, merchantability, or infringement of any patent, copyright, or other intellectual property right.

The products shown herein are not designed for use in medical, life-saving, or life-sustaining applications. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify TSC for any damages resulting from such improper use or sale.