



## Features

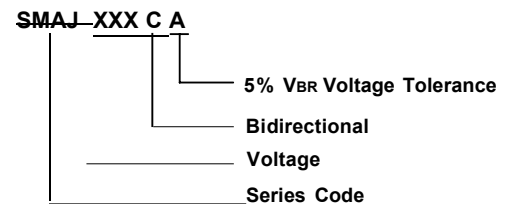
- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- 400W peak pulse power capability at 10/1000µs waveform,
- Repetition rate (duty cycle): 0.01%
- Fast response time
- Typical IR less than 1µA above 10V
- High Temperature soldering: 260C/10 seconds at terminals
- Plastic package has underwriters laboratory flammability 94V-0



## Mechanical Data

- Case : JEDEC DO-214AC/SMA molded plastic body
- Terminals : Solderable per MIL-STD-750, Method 2026
- Polarity : Polarity symbol marking on body
- Mounting Position : Any
- Weight : 0.07 grams
- Marking : Date Code and Marking Code See Page 3

## Part Number Code



## Applications

- I/O interface
- AC/DC power supply
- Low frequency signal transmission line (RS232, RS485, etc.)

### MAXIMUM RATINGS AND CHARACTERISTICS

MAXIMUM RATINGS AND CHARACTERISTICS			
Ratings at 25 C ambient temperature unless otherwise specified.			
Peak pulse power dissipation at 10 / 1000 hs waveform (Note1, Note2, Fig . 1)	$P_{PPM}$	Minimum 400	W
Peak pulse current of at 10 / 1000 hs waveform ( Note 1 , Fig . 3 )	$I_{PPM}$	See Table	A
Steady state power dissipation at $T_A = 50 C$ ( Fig . 5 )	$P_{M(AV)}$	3.3	W
Peak forward surge current, 8 . 3 ms single half sine- wave superimposed on rated load, ( JEDEC Method) ( Note3 , Fig . 6 )	$I_{FSM}$	40	A
Operating junction and Storage Temperature Range .	$T_J , T_{STG}$	-65 to +150	C
Typical thermal resistance junction to lead	$R_{\theta JL}$	30	C/ W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	120	C/ W

- Notes: 1 . Non- repetitive current pulse, per Fig . 3 and derated above  $T_A = 25 C$  per Fig . 2 .  
 2 . Mounted on 5 . 0 mm×5 . 0 mm ( 0 . 03 mm thick) copper pads to each terminal .  
 3 . 8 . 3 ms single half sine- wave, or equivalent square wave, duty cycle= 4 pulses per minutes maximum .



**Electrical Characteristics (T<sub>A</sub>=25°C)**

Part Number		Device Marking Code		Reverse Stand- Off Voltage	Breakdown Voltage @I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
Unidirectional	Bidirectional	UNI	BI	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)
SMAJ5.0A	SMAJ5.0CA	AE	WE	5.0	6.40~7.00	10	9.2	43.5	800
SMAJ6.0A	SMAJ6.0CA	AG	WG	6.0	6.67~7.37	10	10.3	38.8	800
SMAJ6.5A	SMAJ6.5CA	AK	WK	6.5	7.22~7.98	10	11.2	35.7	500
SMAJ7.0A	SMAJ7.0CA	AM	WM	7.0	7.78~8.60	10	12.0	33.3	200
SMAJ7.5A	SMAJ7.5CA	AP	WP	7.5	8.33~9.21	1	12.9	31.0	100
SMAJ8.0A	SMAJ8.0CA	AR	WR	8.0	8.89~9.83	1	13.6	29.4	50
SMAJ8.5A	SMAJ8.5CA	AT	WT	8.5	9.44~10.40	1	14.4	27.8	20
SMAJ9.0A	SMAJ9.0CA	AV	WV	9.0	10.00~11.10	1	15.4	26.0	10
SMAJ10A	SMAJ10CA	AX	WX	10.0	11.10~12.30	1	17.0	23.5	5
SMAJ11A	SMAJ11CA	AZ	WZ	11.0	12.20~13.50	1	18.2	22.0	1
SMAJ12A	SMAJ12CA	BE	XE	12.0	13.30~14.70	1	19.9	20.1	1
SMAJ13A	SMAJ13CA	BG	XG	13.0	14.40~15.90	1	21.5	18.6	1
SMAJ14A	SMAJ14CA	BK	XK	14.0	15.60~17.20	1	23.2	17.2	1
SMAJ15A	SMAJ15CA	BM	XM	15.0	16.70~18.50	1	24.4	16.4	1
SMAJ16A	SMAJ16CA	BP	XP	16.0	17.80~19.70	1	26.0	15.4	1
SMAJ17A	SMAJ17CA	BR	XR	17.0	18.90~20.90	1	27.6	14.5	1
SMAJ18A	SMAJ18CA	BT	XT	18.0	20.00~22.10	1	29.2	13.7	1
SMAJ20A	SMAJ20CA	BV	X	20.0	22.20~24.50	1	32.4	12.3	1
SMAJ22A	SMAJ22CA	BX	XX	22.0	24.40~26.90	1	35.5	11.3	1
SMAJ24A	SMAJ24CA	BZ	XZ	24.0	26.70~29.50	1	38.9	10.3	1
SMAJ26A	SMAJ26CA	CE	YE	26.0	28.90~31.90	1	42.1	9.5	1
SMAJ28A	SMAJ28CA	CG	YG	28.0	31.10~34.40	1	45.4	8.8	1
SMAJ30A	SMAJ30CA	CK	YK	30.0	33.30~36.80	1	48.4	8.3	1
SMAJ33A	SMAJ33CA	CM	YM	33.0	36.70~40.60	1	53.3	7.5	1
SMAJ36A	SMAJ36CA	CP	YP	36.0	40.00~44.20	1	58.1	6.9	1
SMAJ40A	SMAJ40CA	CR	YR	40.0	44.40~49.10	1	64.5	6.2	1
SMAJ43A	SMAJ43CA	CT	YT	43.0	47.80~52.80	1	69.4	5.8	1
SMAJ45A	SMAJ45CA	CV	YV	45.0	50.00~55.30	1	72.7	5.5	1
SMAJ48A	SMAJ48CA	CX	YX	48.0	53.30~58.90	1	77.4	5.2	1
SMAJ51A	SMAJ51CA	CZ	YZ	51.0	56.70~62.70	1	82.4	4.9	1



Part Number		Device Marking Code		Reverse Stand- Off Voltage	Breakdown Voltage @I <sub>r</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
Unidirectional	Bidirectional	UNI	BI	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (μA)
SMAJ54A	SMAJ54CA	RE	ZE	54.0	60.00~66.30	1	87.1	4.6	1
SMAJ58A	SMAJ58CA	RG	ZG	58.0	64.40~71.20	1	93.6	4.3	1
SMAJ60A	SMAJ60CA	RK	ZK	60.0	66.70~73.70	1	96.8	4.1	1
SMAJ64A	SMAJ64CA	RM	ZM	64.0	71.10~78.60	1	103.0	3.9	1
SMAJ70A	SMAJ70CA	RP	ZP	70.0	77.80~86.00	1	113.0	3.5	1
SMAJ75A	SMAJ75CA	RR	ZR	75.0	83.30~92.10	1	121.0	3.3	1
SMAJ78A	SMAJ78CA	RT	ZT	78.0	86.70~95.80	1	126.0	3.2	1
SMAJ85A	SMAJ85CA	RV	ZV	85.0	94.40~104.00	1	137.0	2.9	1
SMAJ90A	SMAJ90CA	RX	ZX	90.0	100.00~111.00	1	146.0	2.7	1
SMAJ100A	SMAJ100CA	RZ	ZZ	100.0	111.00~123.00	1	162.0	2.5	1
SMAJ110A	SMAJ110CA	SE	VE	110.0	122.00~135.00	1	177.0	2.3	1
SMAJ120A	SMAJ120CA	SG	VG	120.0	133.00~147.00	1	193.0	2.1	1
SMAJ130A	SMAJ130CA	SK	VK	130.0	144.00~159.00	1	209.0	1.9	1
SMAJ150A	SMAJ150CA	SM	VM	150.0	167.00~185.00	1	243.0	1.6	1
SMAJ160A	SMAJ160CA	SP	VP	160.0	178.00~197.00	1	259.0	1.5	1
SMAJ170A	SMAJ170CA	SR	VR	170.0	189.00~209.00	1	275.0	1.5	1
SMAJ180A	SMAJ180CA	ST	VT	180.0	201.00~222.00	1	292.0	1.4	1
SMAJ190A	SMAJ190CA	SU	YU	190.0	211.00~233.00	1	308.0	1.3	1
SMAJ200A	SMAJ200CA	SV	VV	200.0	224.00~247.00	1	324.0	1.2	1
SMAJ210A	SMAJ210CA	SW	YW	210.0	237.00~263.00	1	340.0	1.2	1
SMAJ220A	SMAJ220CA	GE	VX	220.0	246.00~272.00	1	356.0	1.1	1
SMAJ250A	SMAJ250CA	SZ	VZ	250.0	279.00~309.00	1	405.0	1.0	1
SMAJ300A	SMAJ300CA	TE	UE	300.0	335.00~371.00	1	486.0	0.8	1
SMAJ350A	SMAJ350CA	TG	UG	350.0	391.00~432.00	1	567.0	0.7	1
SMAJ400A	SMAJ400CA	TK	UK	400.0	447.00~494.00	1	648.0	0.6	1
SMAJ440A	SMAJ440CA	TM	UM	440.0	492.00~543.00	1	713.0	0.6	1



**Ratings and Characteristic Curves ( $T_A=25^\circ\text{C}$  unless otherwise noted)**

Figure 1. Peak Pulse Power Rating Curve

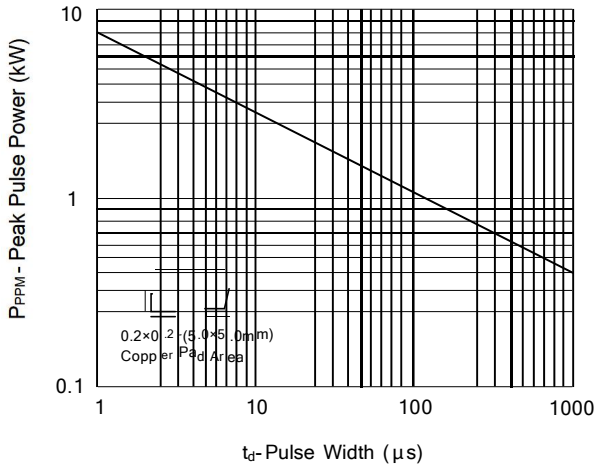


Figure 2. Pulse Derating Curve

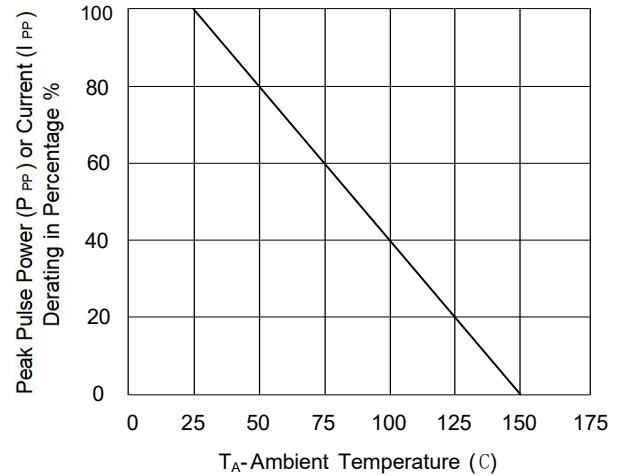


Figure 3. Pulse Waveform

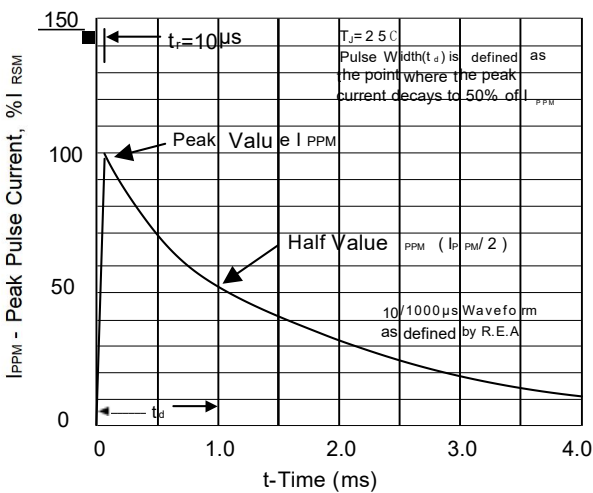


Figure 4. Typical Junction Capacitance

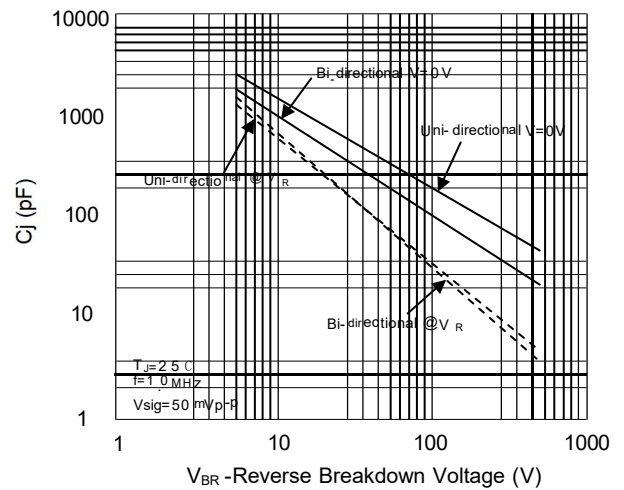


Figure 5. Steady State Power Dissipation Derating Curve

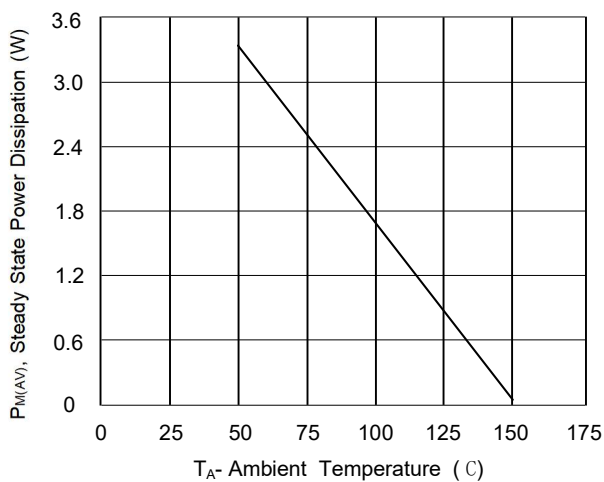
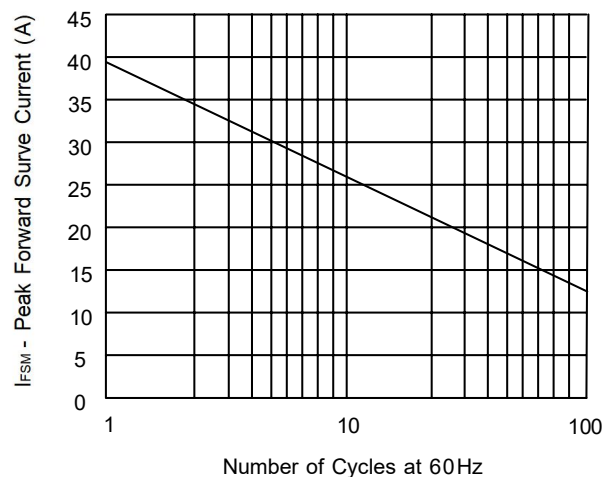
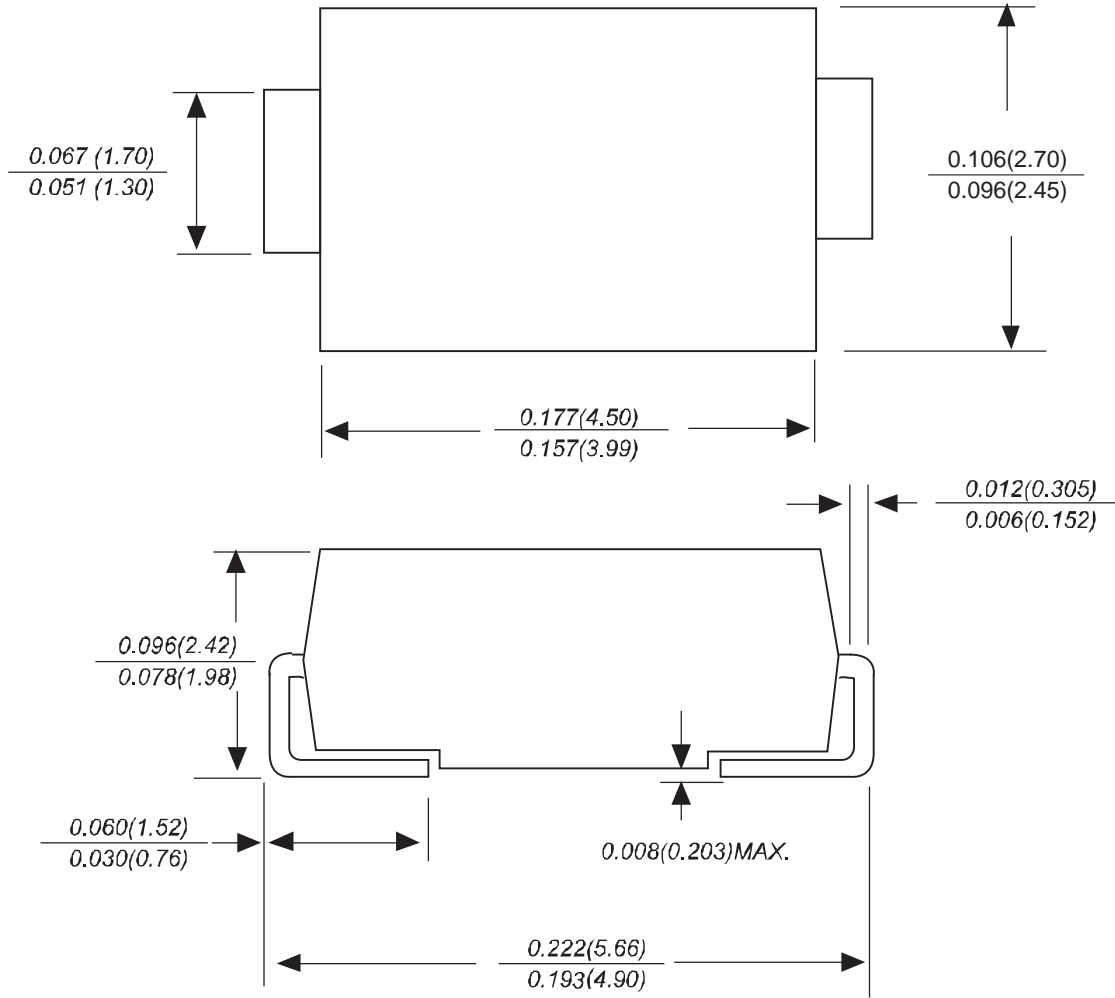


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





### SMA Package Outline Dimensions



*Dimensions in inches and (millimeters)*



### Attention

- Any and all HUA XUAN YANG ELECTRONICS products described or contained herein do not have specifications that can handle applications that require extremely high levels of reliability, such as life-support systems, aircraft's control systems, or other applications whose failure can be reasonably expected to result in serious physical and/or material damage. Consult with your HUA XUAN YANG ELECTRONICS representative nearest you before using any HUA XUAN YANG ELECTRONICS products described or contained herein in such applications.
- HUA XUAN YANG ELECTRONICS assumes no responsibility for equipment failures that result from using products at values that exceed, even momentarily, rated values (such as maximum ratings, operating condition ranges, or other parameters) listed in products specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein.
- Specifications of any and all HUA XUAN YANG ELECTRONICS products described or contained herein stipulate the performance, characteristics, and functions of the described products in the independent state, and are not guarantees of the performance, characteristics, and functions of the described products as mounted in the customer's products or equipment. To verify symptoms and states that cannot be evaluated in an independent device, the customer should always evaluate and test devices mounted in the customer's products or equipment.
- HUA XUAN YANG ELECTRONICS CO.,LTD. strives to supply high-quality high-reliability products. However, any and all semiconductor products fail with some probability. It is possible that these probabilistic failures could give rise to accidents or events that could endanger human lives, that could give rise to smoke or fire, or that could cause damage to other property. When designing equipment, adopt safety measures so that these kinds of accidents or events cannot occur. Such measures include but are not limited to protective circuits and error prevention circuits for safe design, redundant design, and structural design.
- In the event that any or all HUA XUAN YANG ELECTRONICS products(including technical data, services) described or contained herein are controlled under any of applicable local export control laws and regulations, such products must not be exported without obtaining the export license from the authorities concerned in accordance with the above law.
- No part of this publication may be reproduced or transmitted in any form or by any means, electronic or mechanical, including photocopying and recording, or any information storage or retrieval system, or otherwise, without the prior written permission of HUA XUAN YANG ELECTRONICS CO.,LTD.
- Information (including circuit diagrams and circuit parameters) herein is for example only ; it is not guaranteed for volume production. HUA XUAN YANG ELECTRONICS believes information herein is accurate and reliable, but no guarantees are made or implied regarding its use or any infringements of intellectual property rights or other rights of third parties.
- Any and all information described or contained herein are subject to change without notice due to product/technology improvement, etc. When designing equipment, refer to the "Delivery Specification" for the HUA XUAN YANG ELECTRONICS product that you intend to use.

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [HXY MOS](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE8.2A](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#)  
[SMBJ33CATR](#) [SMBJ6.5A](#) [SMBJ8.0A](#) [ESD101-B1-02ELS](#) [E6327](#) [ESD112-B1-02EL](#) [E6327](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-](#)  
[HF](#) [3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [JANTX1N6126A](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [SCM1293A-04SO](#)  
[ESD200-B1-CSP0201](#) [E6327](#) [SM12-7](#) [CEN955](#) [W/DATA](#) [VESD12A1A-HD1-GS08](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [ESD101-B1-02EL](#)  
[E6327](#) [AOZ8808DI-03](#) [5KP15A](#) [5KP48A](#) [5KP90A](#) [ESD3V3D7-TP](#) [15KPA36A-LF](#) [P4KE56CA](#) [P4KE68A](#) [P4KE91CATR](#) [P6KE120A](#)  
[P6KE13CA](#) [P6KE43CA](#) [P6KE6.8CA](#) [P6KE8.2](#) [P6SMBJ20CA](#) [JANTX1N6072A](#) [SR2835ESKG](#) [SA90CA](#)