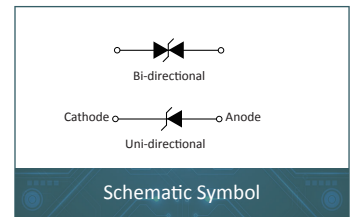


## 1. FEATURES

- Low profile package
- Ideal for automated placement
- Available in uni-directional and Bi-directional
- 5000W peak pulse power capability with a 10/1000us wave form
- For surface mounted applications to optimize board space
- Excellent clamping capability
- Very fast response time
- Low incremental surge resistance



## 2. APPLICATIONS

- TVS devices are ideal for the protection of I/O Interfaces, VCC bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

## 3. MAXIMUM RATINGS (T<sub>A</sub> = 25°C )

Rating	Symbol	Value	Unit
Peak Pulse Power Dissipation on 10/1000us waveform (Note1, Note2, Fig.2).	P <sub>PPM</sub>	5000	Watts
Steady State Power Dissipation at T <sub>A</sub> = 50°C ( Fig.5)	P <sub>M(AV)</sub>	6.5	Watts
Peak forward current, 8.3ms single half sine-wave (Note3, Fig.6)	I <sub>FSM</sub>	300	A
Operating junction Temperature Range	T <sub>J</sub>	-55 to +150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to +150	°C
Typical thermal resistance junction to ambient	P <sub>θJA</sub>	75	°C/W
NOTES: 1. Non-repetitive current pulse, per Fig.3 and derated above T <sub>A</sub> = 25°C per Fig.4. 2. Mounted on 8.0mm*8.0mm Copper Pads to each terminal. 3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle = 4 pulses per minutes maximum.			



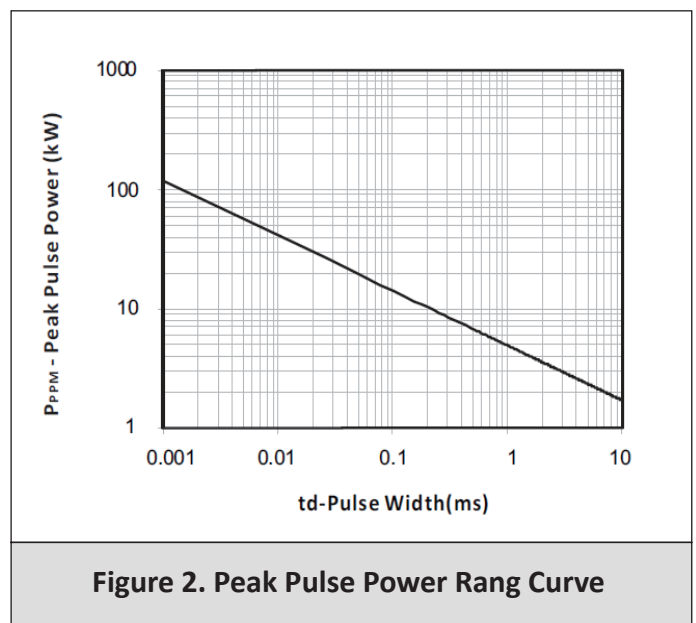
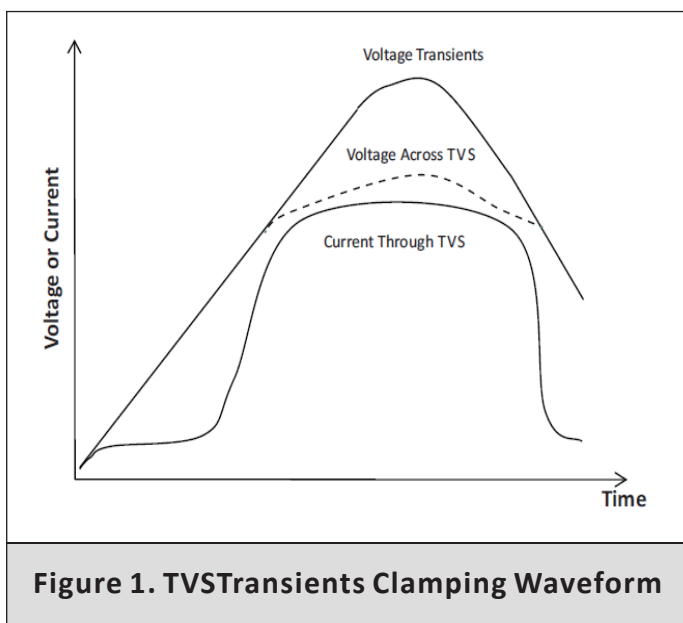
## 4. ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C)

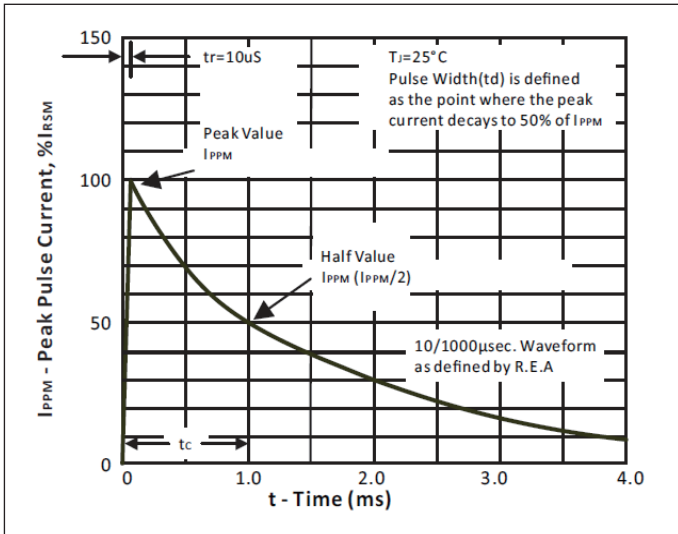
Part Number	Paramter	Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage Min.@I <sub>T</sub>	Breakdown Voltage Max.@I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>pp</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
		UNI	BI							
5.0SMDJ11A	5.0SMDJ11CA	5PEN	5BEN	11.0	12.20	13.50	10	18.2	275.0	800
5.0SMDJ12A	5.0SMDJ12CA	5PEP	5BEP	12.0	13.20	14.70	10	19.9	252.0	800
5.0SMDJ13A	5.0SMDJ13CA	5PEQ	5BEQ	13.0	14.40	15.90	10	21.5	233.0	500
5.0SMDJ14A	5.0SMDJ14CA	5PER	5BER	14.0	15.60	17.20	10	23.2	216.0	200
5.0SMDJ15A	5.0SMDJ15CA	5PES	5BES	15.0	16.70	18.50	1	24.4	205.0	100
5.0SMDJ16A	5.0SMDJ16CA	5PET	5BET	16.0	17.80	19.70	1	26.0	193.0	50
5.0SMDJ17A	5.0SMDJ17CA	5PEU	5BEU	17.0	18.90	20.90	1	27.6	181.0	20
5.0SMDJ18A	5.0SMDJ18CA	5PEV	5BEV	18.0	20.00	22.10	1	29.2	172.0	10
5.0SMDJ20A	5.0SMDJ20CA	5PEW	5BEW	20.0	22.20	24.50	1	32.4	155.0	5
5.0SMDJ22A	5.0SMDJ22CA	5PEX	5BEX	22.0	24.40	26.90	1	35.5	141.0	5
5.0SMDJ24A	5.0SMDJ24CA	5PEZ	5BEZ	24.0	26.70	29.50	1	38.9	129.0	5
5.0SMDJ26A	5.0SMDJ26CA	5PFE	5BFE	26.0	28.90	31.90	1	42.1	119.0	5
5.0SMDJ28A	5.0SMDJ28CA	5PFG	5BFG	28.0	31.10	34.40	1	45.4	110.0	5
5.0SMDJ30A	5.0SMDJ30CA	5PFK	5BFK	30.0	33.30	36.80	1	48.4	103.0	5
5.0SMDJ33A	5.0SMDJ33CA	5PFM	5BFM	33.0	36.70	40.60	1	53.3	93.9	5
5.0SMDJ36A	5.0SMDJ36CA	5PFP	5BFP	36.0	40.00	44.20	1	58.1	86.1	5
5.0SMDJ40A	5.0SMDJ40CA	5PFR	5BFR	40.0	44.40	49.10	1	64.5	77.6	5
5.0SMDJ43A	5.0SMDJ43CA	5PFT	5BFT	43.0	47.80	52.80	1	69.4	72.1	5
5.0SMDJ45A	5.0SMDJ45CA	5PFV	5BFV	45.0	50.00	55.30	1	72.7	68.8	5
5.0SMDJ48A	5.0SMDJ48CA	5PFX	5BFX	48.0	53.30	58.90	1	77.4	64.7	5
5.0SMDJ51A	5.0SMDJ51CA	5PFZ	5BFZ	51.0	56.70	62.70	1	82.4	60.7	5
5.0SMDJ54A	5.0SMDJ54CA	5PGE	5BGE	54.0	60.00	66.30	1	87.1	57.5	5
5.0SMDJ58A	5.0SMDJ58CA	5PGG	5BGG	58.0	64.40	71.20	1	93.6	53.5	5
5.0SMDJ60A	5.0SMDJ60CA	5PGK	5BGK	60.0	66.70	73.70	1	96.8	51.7	5
5.0SMDJ64A	5.0SMDJ64CA	5PGM	5BGM	64.0	71.10	78.60	1	103.0	48.6	5
5.0SMDJ70A	5.0SMDJ70CA	5PGP	5BGP	70.0	77.80	86.00	1	113.0	44.3	5
5.0SMDJ75A	5.0SMDJ75CA	5PGR	5BGR	75.0	83.30	92.10	1	121.0	41.4	5
5.0SMDJ78A	5.0SMDJ78CA	5PGT	5BGT	78.0	86.70	95.80	1	126.0	39.7	5
5.0SMDJ85A	5.0SMDJ85CA	5PGV	5BGV	85.0	94.40	104.00	1	137.0	36.5	5
5.0SMDJ90A	5.0SMDJ90CA	5PGX	5BGX	90.0	100.00	111.00	1	146.0	34.3	5
5.0SMDJ100A	5.0SMDJ100CA	5PGZ	5BGZ	100.0	111.00	123.00	1	162.0	30.9	5



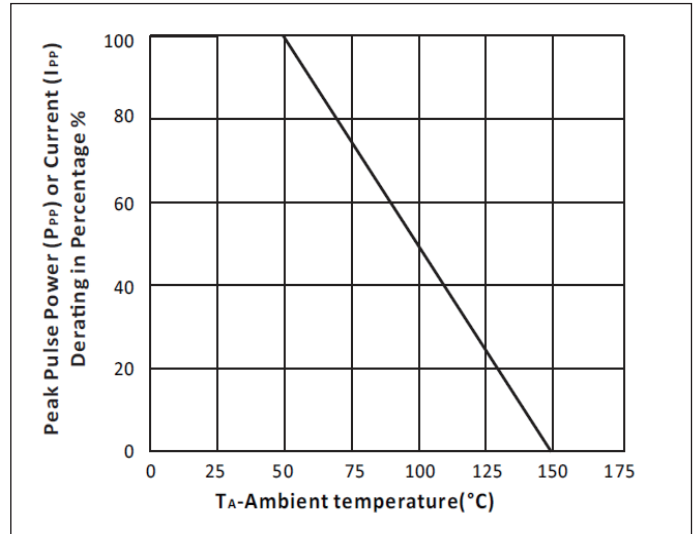
Part Number	Paramter	Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage Min.@I <sub>T</sub>	Breakdown Voltage Max.@I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
		UNI	BI							
Unidirectional	Bidirectional			V <sub>RWM</sub> (V)	V <sub>BR</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)
5.0AMDJ110A	5.0AMDJ110CA	5PHE	5BHE	110.0	122.00	135.00	1	177.0	28.3	5
5.0AMDJ120A	5.0AMDJ120CA	5PHG	5BHG	120.0	133.00	147.00	1	193.0	26.0	5
5.0AMDJ130A	5.0AMDJ130CA	5PHK	5BHK	130.0	144.00	159.00	1	209.0	24.0	5
5.0AMDJ150A	5.0AMDJ150CA	5PHM	5BHM	150.0	155.00	171.00	1	226.8	22.3	5
5.0AMDJ160A	5.0AMDJ160CA	5PHP	5BHP	160.0	167.00	185.00	1	243.0	20.8	5
5.0AMDJ170A	5.0AMDJ170CA	5PHR	5BHR	170.0	178.00	197.00	1	259.0	19.5	5
5.0AMDJ180A	5.0AMDJ180CA	5PHT	5BHT	180.0	189.00	209.00	1	275.0	18.4	5
5.0AMDJ190A	5.0AMDJ190CA	5PHV	5DHV	190.0	200.00	220.00	1	291.6	17.3	5
5.0AMDJ200A	5.0AMDJ200CA	5PHX	5DHX	200.0	211.00	232.00	1	307.8	16.4	5
5.0AMDJ210A	5.0AMDJ210CA	5PHZ	5DHZ	210.0	224.00	247.00	1	324.0	15.6	5
5.0AMDJ220A	5.0AMDJ220CA	5PIE	5DIE	220.0	246.00	272.00	1	356.0	14.2	5
5.0AMDJ250A	5.0AMDJ250CA	5PIG	5DIG	250.0	279.00	309.00	1	405.0	12.5	5
5.0AMDJ300A	5.0AMDJ300CA	5PIK	5DIK	300.0	335.00	371.00	1	486.0	10.4	5
5.0AMDJ350A	5.0AMDJ350CA	5PIM	5DIM	350.0	391.00	432.00	1	567.0	8.9	5
5.0AMDJ400A	5.0AMDJ400CA	5PIP	5DIP	400.0	447.00	494.00	1	648.0	7.8	5

## 5. CHARACTERISTIC CURVES

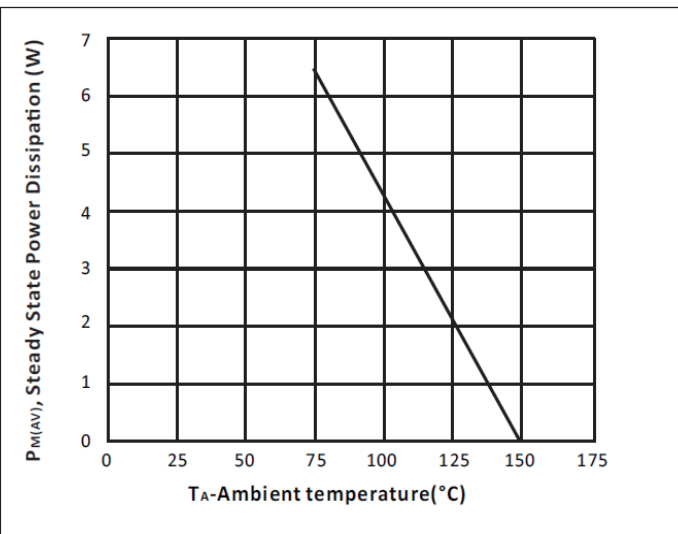




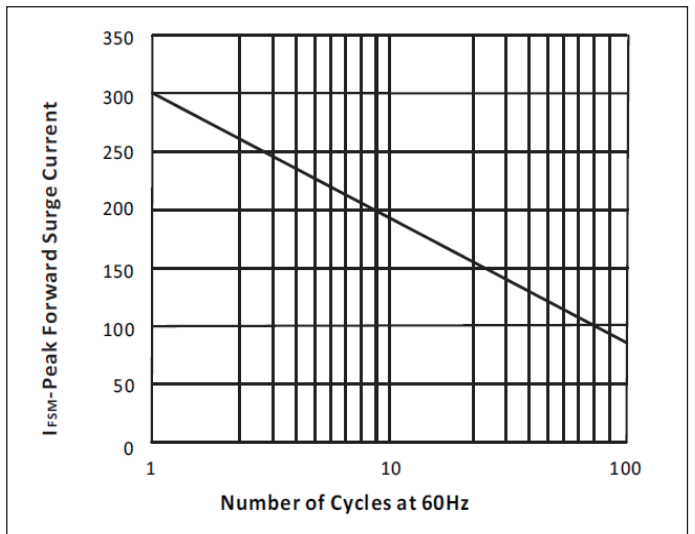
**Figure 3. Peak Pulse Power Derating Curve**



**Figure 4. Pulse Waveform**



**Figure 5. Typical Junction Capacitance**

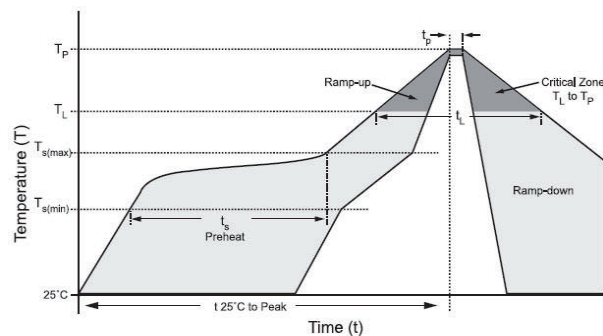


**Figure 6. Steady State Power Dissipation Derating Curve**



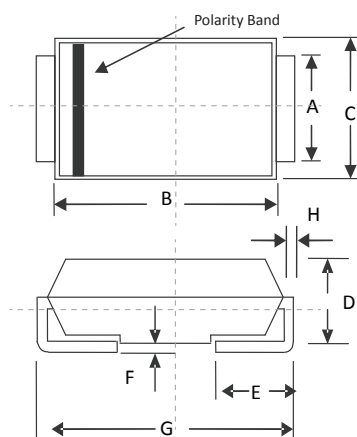
## 6. SOLDERING PARAMETERS

Reflow Condition		Lead-free assembly
Pre Heat	Temperature Min ( $T_{s(min)}$ )	150°C
	Temperature Max ( $T_{s(max)}$ )	200°C
	Time (min to max) ( $t_s$ )	60 – 180 secs
Average ramp up rate (Liquidus Temp ( $T_L$ ) to peak)		3°C/second max
$T_{s(max)}$ to $T_L$ - Ramp-up Rate		3°C/second max
Reflow	Temperature ( $T_L$ ) (Liquidus)	217°C
	Time (min to max) ( $t_l$ )	60 – 150 seconds
Peak Temperature ( $T_P$ )		260°C
Time within 5°C of actual peak Temperature ( $t_p$ )		20 – 40 seconds
Ramp-down Rate		6°C/second max
Time 25°C to peak Temperature ( $T_P$ )		8 minutes Max.
Do not exceed		260°C

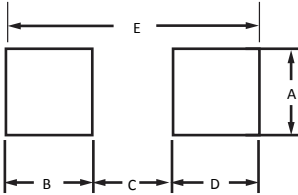


## 7. DO-214AB(SMC) PACKAGE INFORMATION

DIM	Millimeters		Inches	
	Min.	Max.	Min.	Max.
A	2.90	3.20	0.114	0.126
B	6.60	7.15	0.260	0.281
C	5.55	6.04	0.219	0.238
D	1.98	2.53	0.078	0.100
E	0.75	1.51	0.030	0.059
F	0.00	0.20	0.000	0.008
G	7.75	7.95	0.305	0.313
H	0.15	0.30	0.006	0.012



## 8. DO-214AB(SMC) PACKAGE INFORMATION

	DIM	Millimeters		Inches	
		Min	Max	Min	Max
	A	3.30	-	0.129	-
	B	2.40	-	0.094	-
	C	-	4.20	-	0.165
	D	2.40	-	0.094	-
	E	8.13REF		0.320REF	

## 9. ORDERING INFORMATION

Part Number	Size	QTY/Reel	Reel Size
5.0SMDJxx(C)A	DO-214AB(SMC)	3000PCS	13"



## CONTACT US

### Headquarters

No.3387 Shendu Road Pujiang I&E Park Minhang Shanghai China

### Hotline

400-021-5756

### Web

[Http://www.semiware.com](http://www.semiware.com)

### By Telephone

General:86-21-3463-7172

Sales:86-21-3463-7345

Technical Support:86-21-3463-7654

### By Fax

General:86-21-3965-0654

Sales:86-21-3463-7458

### By Email

General:china@semiware.com

Sales:sales@semiware.com

Technical Support:fae@semiware.com

### By QR Code



Website



Wechat

COPYRIGHT©Semiware 2009-This literature is subject to all applicable copyright laws and is not for resale in any manner.

SPECIFICATIONS:Semiware reserves the right to change the electrical and or mechanical characteristics described here in without notice.

DESIGN CHANGES:Semiware reserves the right to discontinue product lines without notice and that the final judgement concerning selection and specifications is the buyer's and that in furnishing engineering and technical assistance.Semiware assumes no responsibility with respect to the selection or specifications of such products.Semiware makes no warranty,representation or guarantee regarding the suitability of its products for any particular prupose,nor does Semiware assume any liability arising out of the application or use of any product or circuit and specifically disclaims any and all liability without limitation special,consequential or incidental damages.

LIFE SUPPORT POLITY:Semiware products are not authorized for use in life support systems without written consent from the factory.



## 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 [SEMIWARE](#) 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](#)