



# 2.0SMCJ22A SERIES

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 2000 Watt

**STAND-OFF VOLTAGE**

**22~24 Volt**

**SMC / DO-214AB**

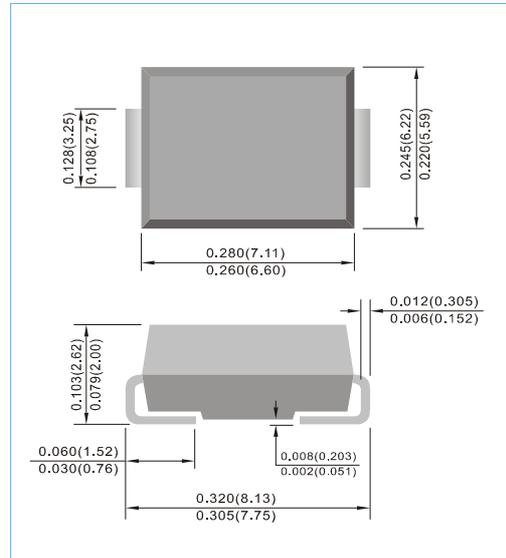
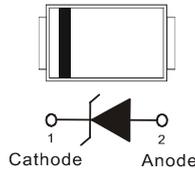
Unit : inch(mm)

### FEATURES

- For surface mounted applications in order to optimize board space.
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-O
- High temperature soldering : 260°C /10 seconds at terminals
- ESD IEC-61000-4-2 Air ± 30kV, Contact ± 30kV
- Lead free in compliance with EU RoHS 2.0
- Green molding compound as per IEC 61249 standard

### MECHANICAL DATA

- Case: JEDEC DO-214AB, Molded plastic over passivated junction.
- Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity: Color band denotes cathode end
- Standard Packaging: 16mm tape (EIA-481)
- Weight: 0.008 ounce, 0.023 gram



### MAXIMUM RATINGS AND CHARACTERISTICS

Rating at 25°C ambient temperature unless otherwise specified. Resistive or inductive load, 60Hz.  
For Capacitive load derate current by 20%.

Rating	Symbol	Value	Units
Peak Pulse Power Dissipation ( $I_{PP} \times V_{C_{MAX}}$ ) at $T_A = 25^\circ\text{C}$ ( Notes 1,2,4 )	$P_{PP}$	2000	Watts
Peak Pulse Current on $t_p = 10/1000\mu\text{s}$ waveform ( Notes 1 )	$I_{PPM}$	See table	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load ( Notes 3 )	$I_{FSM}$	200	Amps
Typical Thermal Resistance Junction to Air ( Notes 2 )	$R_{\theta JA}$	82	$^\circ\text{C} / \text{W}$
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	$^\circ\text{C}$

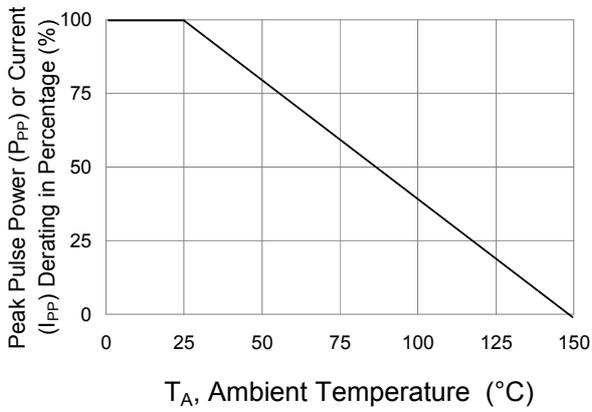
Part Number	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage 10/1000 $\mu\text{s}$	Peak Pulse Current 10/1000 $\mu\text{s}$	Marking Code
		$V_{BR} @ I_T$						
	$V_{RWM}$ (Notes 5)	Min.	Max.	$I_T$	$I_R @ V_{RWM}$	$V_C @ I_{PP}$	$I_{PP}$	
	V	V	V	mA	$\mu\text{A}$	V	A	
2.0SMCJ22A	22	24.4	28	1	1	35.5	56.3	AEX
2.0SMCJ24A	24	26.7	30.7	1	1	38.9	51.4	AEZ

#### NOTES :

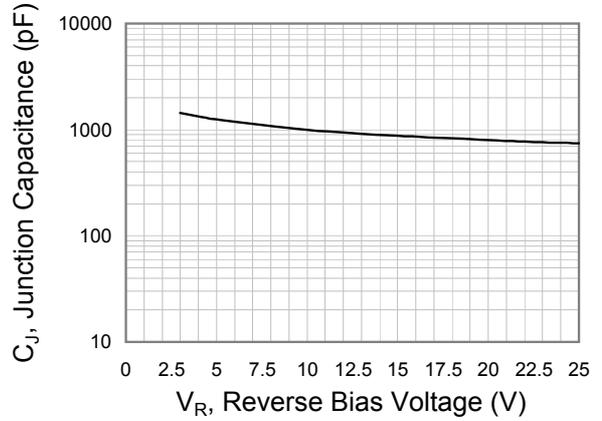
1. Non-repetitive current pulse.
2. Mounted on 2mm<sup>2</sup> ( 0.013mm thick) land areas.
3. Measured on 8.3ms , single half sine-wave or equivalent square wave , duty cycle= 4 pulses per minutes maximum.
4. Peak pulse power waveform is 10/1000 $\mu\text{s}$ .
5. A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



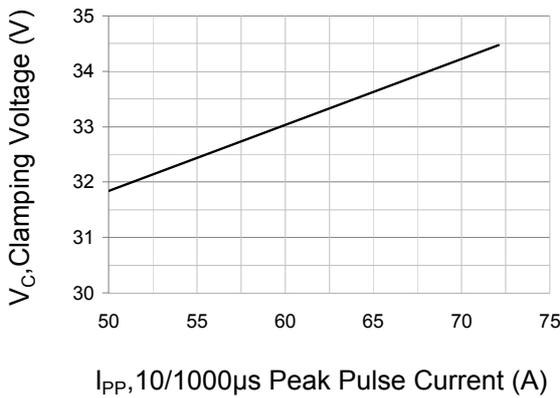
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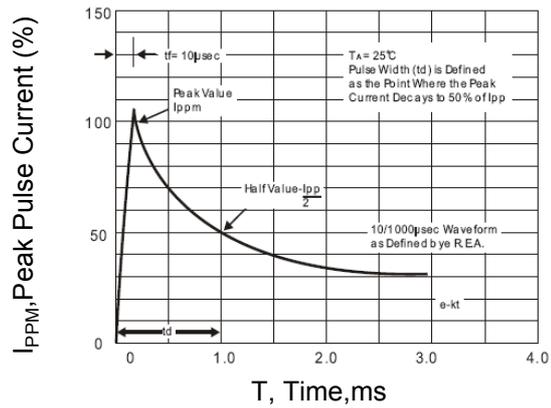
**Fig.1 Forward Current Derating Curve**



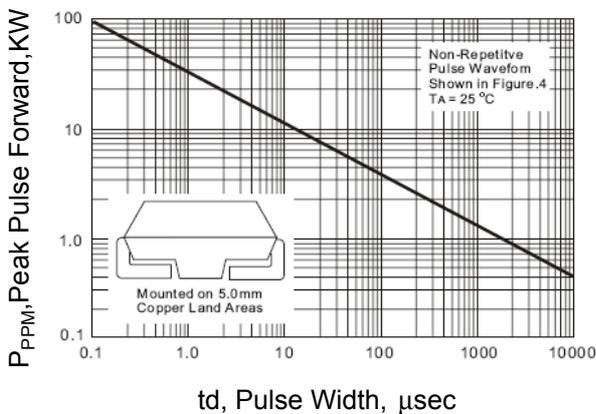
**Fig.2 Typical Junction Capacitance**



**Fig.3 Typical Peak Clamping Voltage**



**Fig.4 Pulse Waveform**

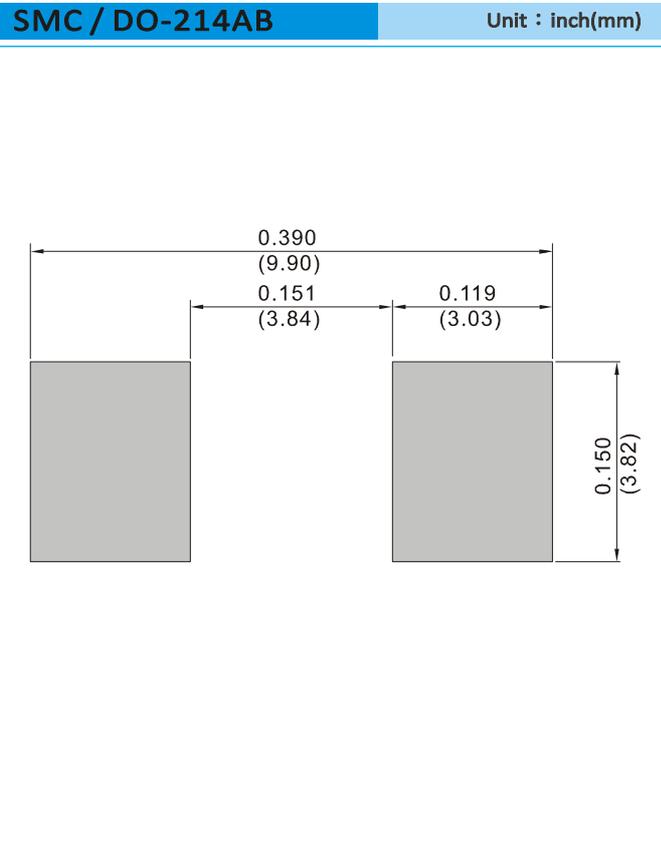


**Fig.5 Peak Pulse Power Rating Curve**



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### MOUNTING PAD LAYOUT



### ORDER INFORMATION

- Packing information
  - T/R - 3K per 13" plastic Reel
  - T/R - 0.8K per 7" plastic Reel



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### Part No\_packing code\_Version

2.0SMCJ22A\_R1\_00001

2.0SMCJ22A\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



Packing Code <b>XX</b>				Version Code <b>XXXXX</b>		
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HF or RoHS	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	<b>A</b>	N/A	<b>0</b>	<b>HF</b>	<b>0</b>	serial number
Tape and Reel (T/R)	<b>R</b>	7"	<b>1</b>	<b>RoHS</b>	<b>1</b>	serial number
Bulk Packing (B/P)	<b>B</b>	13"	<b>2</b>			
Tube Packing (T/P)	<b>T</b>	26mm	<b>X</b>			
Tape and Reel (Right Oriented) (TRR)	<b>S</b>	52mm	<b>Y</b>			
Tape and Reel (Left Oriented) (TRL)	<b>L</b>	PANASERT T/B CATHODE UP (PBCU)	<b>U</b>			
FORMING	<b>F</b>	PANASERT T/B CATHODE DOWN (PBCD)	<b>D</b>			



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