

## 5.0SMCJ SERIES

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 5000 Watt

**STAND-OFF VOLTAGE**

**20 to 250 Volt**

**SMC / DO-214AB**

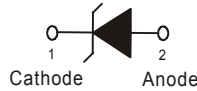
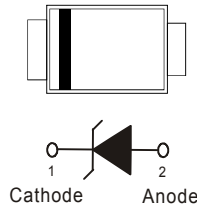
Unit : inch(mm)

#### FEATURES

- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- 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  $\pm 30$ kV, Contact  $\pm 30$ kV
- 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: 0.0082 ounce, 0.232 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 Power Dissipation (tp=10/1000μs waveform) (Notes 1)	$P_{PP}$	5000	Watts
Peak Pulse Current on (tp=10/1000μs waveform) (Notes 1)	$I_{PPM}$	See table	Amps
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	110	°C / W
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	$V_{ESD}$	$\pm 30$ $\pm 30$	kV
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load	$I_{FSM}$	300	Amps
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°C

#### NOTES :

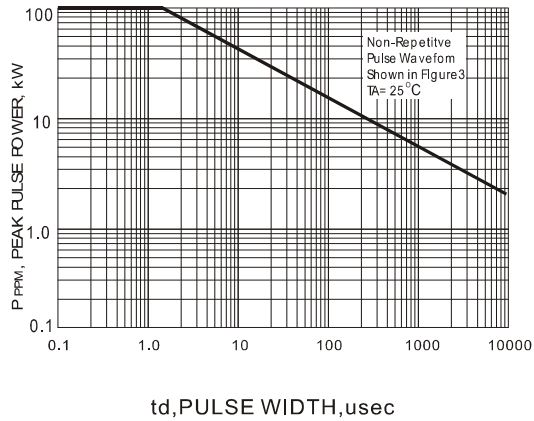
- 1.Non-repetitive current pulse.
- 2.Mounted on a FR4 PCB, single-sided copper, mini pad.
- 3.A transient suppressor is selected according to the working peak reverse voltage ( $V_{RWM}$ ), which should be equal to or greater than the DC or continuous peak operating voltage level.



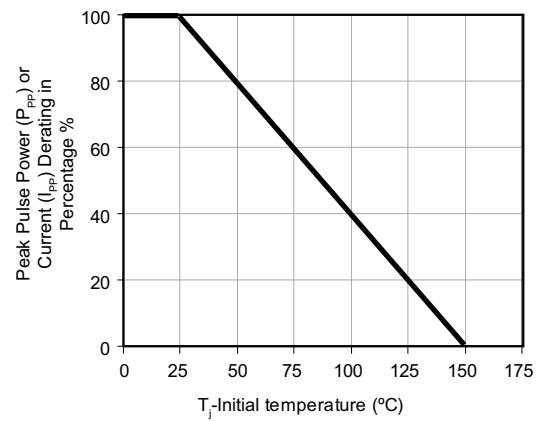
## 5.0SMCJ SERIES

Part Number	Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage	Max.Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code
	V <sub>RWM</sub> (Notes 3)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>	
		Min.	Max.					
	V	V	V	mA	µA	V	A	
5.0SMCJ20A	20	22.2	25.5	1	3	32.4	155	5HEV
5.0SMCJ22A	22	24.4	28	1	3	35.5	141	5HEX
5.0SMCJ24A	24	26.7	30.7	1	3	38.9	129	5HEZ
5.0SMCJ26A	26	28.9	33.2	1	3	42.1	119	5HFE
5.0SMCJ28A	28	31.1	35.8	1	3	45.4	110	5HFG
5.0SMCJ30A	30	33.3	38.3	1	3	48.4	103	5HFK
5.0SMCJ33A	33	36.7	42.2	1	3	53.3	93.9	5HFM
5.0SMCJ36A	36	40	46	1	3	58.1	86.1	5HFP
5.0SMCJ40A	40	44.4	51.1	1	3	64.5	77.6	5HFR
5.0SMCJ43A	43	47.8	54.9	1	3	69.4	72.1	5HFT
5.0SMCJ45A	45	50	57.5	1	3	72.7	68.8	5HFV
5.0SMCJ48A	48	53.3	61.3	1	3	77.4	64.7	5HFX
5.0SMCJ51A	51	56.7	65.2	1	3	82.4	60.7	5HFZ
5.0SMCJ54A	54	60	69	1	3	87.1	57.5	5HGE
5.0SMCJ58A	58	64.4	74.1	1	3	93.6	53.5	5HGG
5.0SMCJ60A	60	66.7	76.7	1	3	96.8	51.7	5HGK
5.0SMCJ64A	64	71.1	81.8	1	3	103	48.6	5HGM
5.0SMCJ70A	70	77.8	89.5	1	3	113	44.3	5HGP
5.0SMCJ75A	75	83.3	95.8	1	3	121	41.4	5HGR
5.0SMCJ78A	78	86.7	99.7	1	3	126	39.7	5HGT
5.0SMCJ85A	85	94.4	108.2	1	3	137	36.5	5HGV
5.0SMCJ90A	90	100	115.5	1	3	146	34.3	5HGX
5.0SMCJ100A	100	111	128	1	3	162	30.9	5HGZ
5.0SMCJ110A	110	122	135	1	3	177	28.8	5HHE
5.0SMCJ120A	120	133	147	1	3	193	26.4	5HHG
5.0SMCJ130A	130	144	159	1	3	209	24.4	5HHK
5.0SMCJ150A	150	167	185	1	3	243	21	5HHM
5.0SMCJ160A	160	178	197	1	3	259	19.7	5HHP
5.0SMCJ170A	170	189	209	1	3	275	18.5	5HHR
5.0SMCJ180A	180	200	221	1	3	292	17.5	5HHT
5.0SMCJ190A	190	211	233	1	3	310	16.5	5HHV
5.0SMCJ200A	200	222	246	1	3	329.2	15.5	5HHX
5.0SMCJ210A	210	233	258	1	3	349.5	14.6	5HHZ
5.0SMCJ220A	220	244	270	1	3	371.1	13.7	5HIE
5.0SMCJ250A	250	277	306	1	3	400	12.5	5HIG

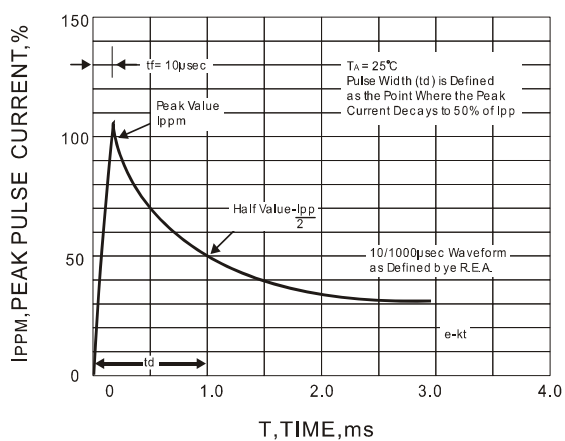
## 5.0SMCJ SERIES



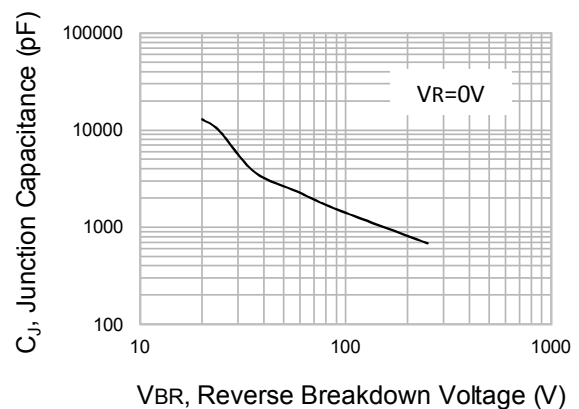
**Fig.1 PEAK PULSE POWER RATING VERSUS PULSE TIME CURVE**



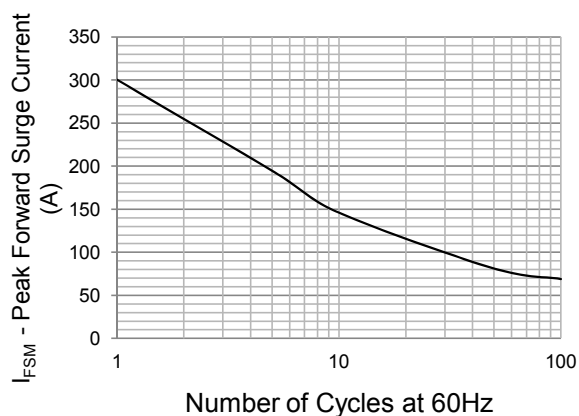
**Fig.2 PEAK PULSE POWER OR CURRENT DERATING CURVE**



**Fig.3 PULSE WAVEFORM**



**Fig.4 TYPICAL JUNCTION CAPACITANCE**



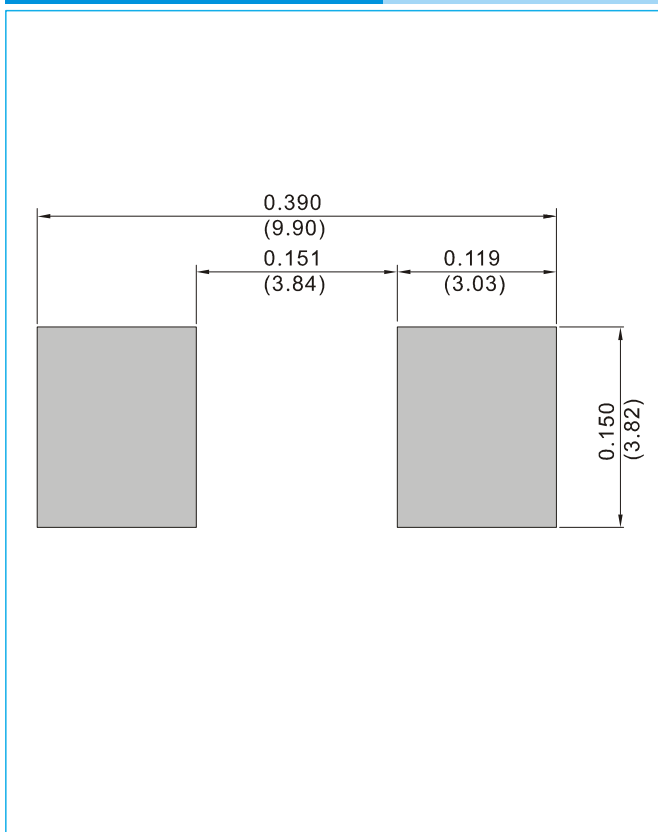
**Fig.5 MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT**

## 5.0SMCJ SERIES

### MOUNTING PAD LAYOUT

**SMC / DO-214AB**

Unit : inch(mm)



### ORDER INFORMATION

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

## 5.0SMCJ SERIES

### Part No\_packing code\_Version

5.0SMCJ20A\_R1\_00001

5.0SMCJ20A\_R2\_00001

For example :

RB500V-40\_R2\_00001

Part No.

Serial number

Version code means HF

Packing size code means 13"

Packing type means T/R

Packing Code XX				Version Code XXXXX		
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)	A	N/A	0	HF	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS	1	serial number
Bulk Packing (B/P)	B	13"	2			
Tube Packing (T/P)	T	26mm	X			
Tape and Reel (Right Oriented) (TRR)	S	52mm	Y			
Tape and Reel (Left Oriented) (TRL)	L	PANASERT T/B CATHODE UP (PBCU)	U			
FORMING	F	PANASERT T/B CATHODE DOWN (PBCD)	D			



## 5.0SMCJ SERIES

### Disclaimer

- Reproducing and modifying information of the document is prohibited without permission from Panjit International Inc..
- Panjit International Inc. reserves the rights to make changes of the content herein the document anytime without notification. Please refer to our website for the latest document.
- Panjit International Inc. disclaims any and all liability arising out of the application or use of any product including damages incidentally and consequentially occurred.
- Panjit International Inc. does not assume any and all implied warranties, including warranties of fitness for particular purpose, non-infringement and merchantability.
- Applications shown on the herein document are examples of standard use and operation. Customers are responsible in comprehending the suitable use in particular applications. Panjit International Inc. makes no representation or warranty that such applications will be suitable for the specified use without further testing or modification.
- The products shown herein are not designed and authorized for equipments requiring high level of reliability or relating to human life and for any applications concerning life-saving or life-sustaining, such as medical instruments, transportation equipment, aerospace machinery et cetera. Customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Panjit International Inc. for any damages resulting from such improper use or sale.
- Since Panjit uses lot number as the tracking base, please provide the lot number for tracking when complaining.

# Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

Panjit:

[5.0SMCJ170A\\_R1\\_00001](#)