



# 1.5SMCJ5.0A ~ 1.5SMCJ220CA Series

## SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 1500 Watt

**STAND-OFF VOLTAGE**

**5 to 220 Volt**

**Recognized File # E210467 (1.5SMCJ5.0A~1.5SMCJ170CA)**

### FEATURES

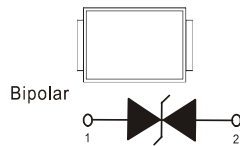
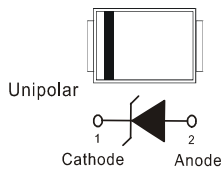
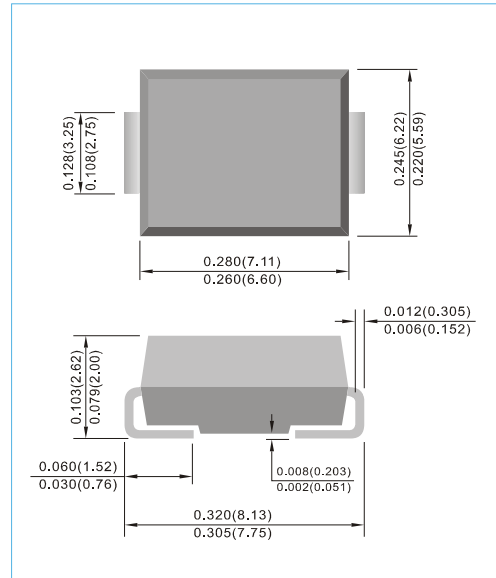
- For surface mounted applications in order to optimize board space.
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability Classification 94V-0
- High temperature soldering : 260°C /10 seconds at terminals
- ESD IEC-61000-4-2 Air  $\pm$  30kV, Contact  $\pm$  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)
- Approx. Weight : 0.2325 gram

**SMC / DO-214AB**

Unit : inch(mm)



### DEVICES FOR BIPOLAR APPLICATIONS

For Bidirectional use CA Suffix for types 1.5SMCJ5.0CA thru types 1.5SMCJ220CA  
Electrical characteristics apply in both directions.

### 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 at $T_A=25^\circ\text{C}$ , $t_p=1\text{ms}$ (Notes 1)	$P_{PP}$	1500	W
Peak Pulse Current on $t_p=10/1000\mu\text{s}$ waveform (Notes 1)	$I_{PPM}$	See table	A
Typical Thermal Resistance Junction to Air (Notes 2)	$R_{\theta JA}$	50	$^\circ\text{C} / \text{W}$
Peak Forward Surge Current, 8.3ms Single Half Sine-Wave Superimposed on Rated Load (Notes 3)	$I_{FSM}$	200	A
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	$^\circ\text{C}$

#### NOTES :

1. Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig. 2.
2. Mounted on  $2\text{mm}^2$  (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. 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.

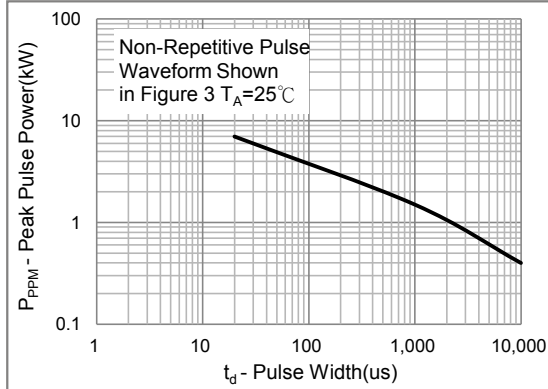


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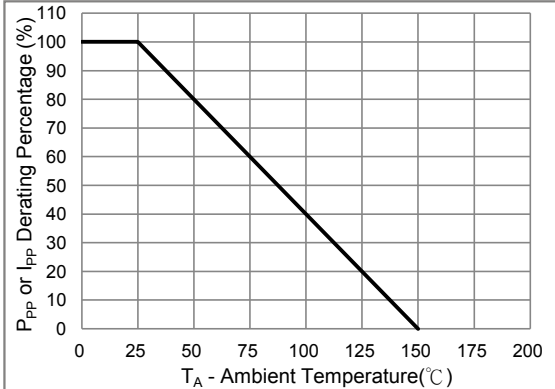
Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000µs	Peak Pulse Current 10/1000µs	Marking Code	
		V <sub>RWM</sub> (Notes 4)	V <sub>BR</sub> @ I <sub>T</sub>		I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>		V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>		
			Min.	Max.		UNI	BI				
UNI	BI	V	V	V	mA	µA	µA	V	A	UNI	BI
1500W Transient Voltage Suppressor											
1.5SMCJ5.0A	1.5SMCJ5.0CA	5	6.4	7.25	10	1000	2000	9.2	163	GDE	BDE
1.5SMCJ6.0A	1.5SMCJ6.0CA	6	6.67	7.67	10	1000	2000	10.3	145.6	GDG	BDG
1.5SMCJ6.5A	1.5SMCJ6.5CA	6.5	7.22	8.3	10	500	1000	11.2	133.9	GDK	BDK
1.5SMCJ7.0A	1.5SMCJ7.0CA	7	7.78	8.95	10	200	400	12	125	GDM	BDM
1.5SMCJ7.5A	1.5SMCJ7.5CA	7.5	8.33	9.58	1	100	200	12.9	116.3	GDP	BDP
1.5SMCJ8.0A	1.5SMCJ8.0CA	8	8.89	10.23	1	50	100	13.6	110.3	GDR	BDR
1.5SMCJ8.5A	1.5SMCJ8.5CA	8.5	9.44	10.82	1	25	50	14.4	104.2	GDT	BDT
1.5SMCJ9.0A	1.5SMCJ9.0CA	9	10	11.5	1	10	20	15.4	97.4	GDV	BDV
1.5SMCJ10A	1.5SMCJ10CA	10	11.1	12.8	1	5	5	17	88.2	GDX	BDX
1.5SMCJ11A	1.5SMCJ11CA	11	12.2	14	1	1	1	18.2	82.4	GDZ	BDZ
1.5SMCJ12A	1.5SMCJ12CA	12	13.3	15.3	1	1	1	19.9	75.3	GEE	BEE
1.5SMCJ13A	1.5SMCJ13CA	13	14.4	16.5	1	1	1	21.5	69.7	GEG	BEG
1.5SMCJ14A	1.5SMCJ14CA	14	15.6	17.9	1	1	1	23.2	64.7	GEK	BEK
1.5SMCJ15A	1.5SMCJ15CA	15	16.7	19.2	1	1	1	24.4	61.5	GEM	BEM
1.5SMCJ16A	1.5SMCJ16CA	16	17.8	20.5	1	1	1	26	57.7	GEP	BEP
1.5SMCJ17A	1.5SMCJ17CA	17	18.9	21.7	1	1	1	27.6	53.3	GER	BER
1.5SMCJ18A	1.5SMCJ18CA	18	20	23.3	1	1	1	29.2	51.4	GET	BET
1.5SMCJ20A	1.5SMCJ20CA	20	22.2	25.5	1	1	1	32.4	46.3	GEV	BEV
1.5SMCJ22A	1.5SMCJ22CA	22	24.4	28	1	1	1	35.5	42.2	GEX	BEX
1.5SMCJ24A	1.5SMCJ24CA	24	26.7	30.7	1	1	1	38.9	38.6	GEZ	BEZ
1.5SMCJ26A	1.5SMCJ26CA	26	28.9	33.2	1	1	1	42.1	35.6	GFE	BFE
1.5SMCJ28A	1.5SMCJ28CA	28	31.1	35.8	1	1	1	45.4	33	GFG	BFG
1.5SMCJ30A	1.5SMCJ30CA	30	33.3	38.3	1	1	1	48.4	31	GFK	BFK
1.5SMCJ33A	1.5SMCJ33CA	33	36.7	42.2	1	1	1	53.3	28.1	GFM	BFM
1.5SMCJ36A	1.5SMCJ36CA	36	40	46	1	1	1	58.1	25.8	GFP	BFP
1.5SMCJ40A	1.5SMCJ40CA	40	44.4	51.1	1	1	1	64.5	23.2	GFR	BFR
1.5SMCJ43A	1.5SMCJ43CA	43	47.8	55	1	1	1	69.4	21.6	GFT	BFT
1.5SMCJ45A	1.5SMCJ45CA	45	50	57.5	1	1	1	72.7	20.6	GFV	BFV
1.5SMCJ48A	1.5SMCJ48CA	48	53.3	61.3	1	1	1	77.4	19.4	GFX	BFX
1.5SMCJ51A	1.5SMCJ51CA	51	56.7	65.2	1	1	1	82.4	18.2	GFZ	BFZ
1.5SMCJ54A	1.5SMCJ54CA	54	60	69	1	1	1	87.1	17.2	GGE	BGE
1.5SMCJ58A	1.5SMCJ58CA	58	64.4	74.1	1	1	1	93.6	16	GGG	BGG
1.5SMCJ60A	1.5SMCJ60CA	60	66.7	76.7	1	1	1	96.8	15.5	GGK	BGK
1.5SMCJ64A	1.5SMCJ64CA	64	71.1	81.8	1	1	1	103	14.6	GGM	BGM
1.5SMCJ70A	1.5SMCJ70CA	70	77.8	89.5	1	1	1	113	13.3	GGP	BGP
1.5SMCJ75A	1.5SMCJ75CA	75	83.3	95.8	1	1	1	121	12.4	GGR	BGR
1.5SMCJ78A	1.5SMCJ78CA	78	86.7	99.7	1	1	1	126	11.4	GGT	BGT
1.5SMCJ85A	1.5SMCJ85CA	85	94.4	108.2	1	1	1	137	10.4	GGV	BGV
1.5SMCJ90A	1.5SMCJ90CA	90	100	115.5	1	1	1	146	10.3	GGX	BGX
1.5SMCJ100A	1.5SMCJ100CA	100	111	128	1	1	1	162	9.3	GGZ	BGZ
1.5SMCJ110A	1.5SMCJ110CA	110	122	140.5	1	1	1	177	8.4	GHE	BHE
1.5SMCJ120A	1.5SMCJ120CA	120	133	153	1	1	1	193	7.9	GHG	BHG
1.5SMCJ130A	1.5SMCJ130CA	130	144	165.5	1	1	1	209	7.2	GHK	BHK
1.5SMCJ150A	1.5SMCJ150CA	150	167	192.5	1	1	1	243	6.2	GHM	BHM
1.5SMCJ160A	1.5SMCJ160CA	160	178	205	1	1	1	259	5.8	GHP	BHP
1.5SMCJ170A	1.5SMCJ170CA	170	189	217.5	1	1	1	275	5.5	GHR	BHR
1.5SMCJ180A	1.5SMCJ180CA	180	198	230.4	1	1	1	292	5.1	GHT	BHT
1.5SMCJ190A	1.5SMCJ190CA	190	209	243.2	1	1	1	308	4.8	GHV	BHV
1.5SMCJ200A	1.5SMCJ200CA	200	220	256	1	1	1	324	4.6	GHX	BHX
1.5SMCJ210A	1.5SMCJ210CA	210	231	268.8	1	1	1	340	4.4	GHZ	BHZ
1.5SMCJ220A	1.5SMCJ220CA	220	242	281.6	1	1	1	356	4.2	GIE	BIE



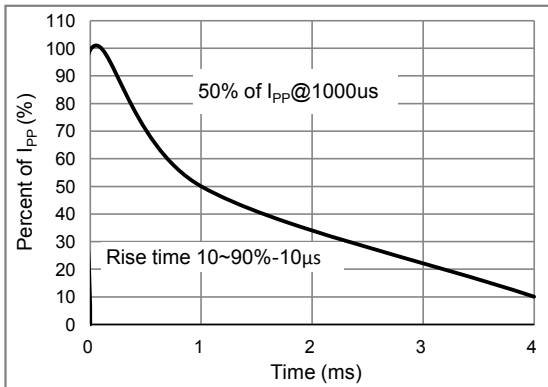
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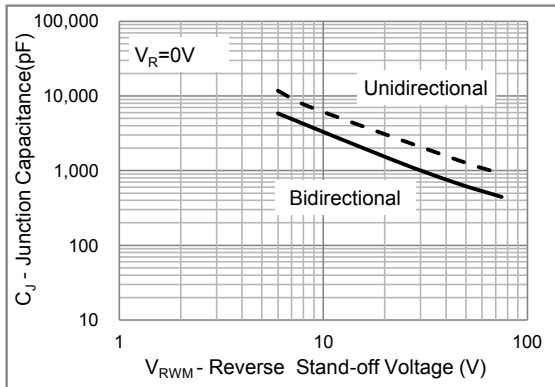
**Fig.1 Peak Pulse Power Rating Curve**



**Fig.2 Derating Curve**



**Fig.3 10/1000us Pulse Waveform**



**Fig.4 Typical Capacitance**

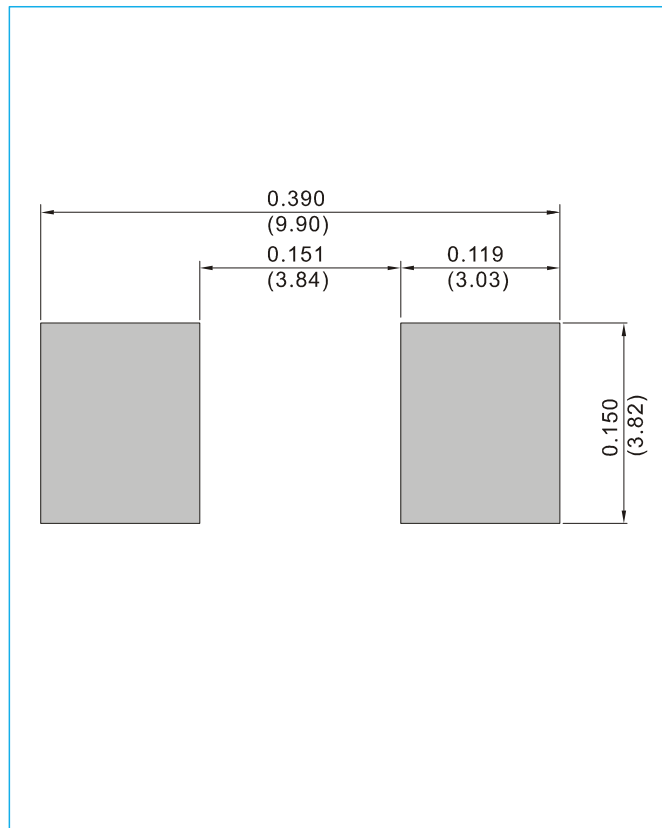


## 1.5SMCJ5.0A ~ 1.5SMCJ220CA Series

### 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



## 1.5SMCJ5.0A ~ 1.5SMCJ220CA Series

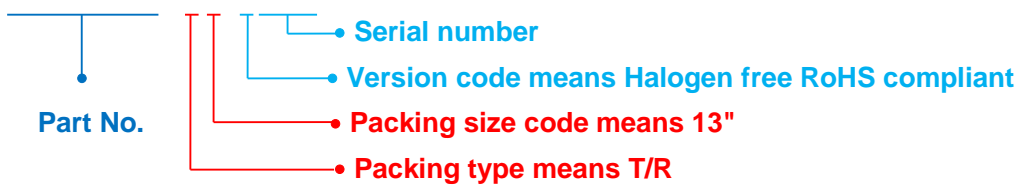
### Part No.\_packing code\_Version

1.5SMCJ5.0A\_R1\_00001

1.5SMCJ5.0A\_R2\_00001

For example :

RB500V-40\_R2\_00001



Packing Code XX				Version Code X		Serial number XXXX
Packing type	1 <sup>st</sup> Code	Packing size code	2 <sup>nd</sup> Code	HSF Level	1 <sup>st</sup> Code	2 <sup>nd</sup> ~5 <sup>th</sup> Code
Tape and Ammunition Box (T/B)	A	N/A	0	Halogen free RoHS compliant	0	serial number
Tape and Reel (T/R)	R	7"	1	RoHS compliant	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			



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