



## 3.0SMCJ5.0A ~ 3.0SMCJ220CA Series

### SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR PEAK PULSE POWER 3000 Watt

**STAND-OFF VOLTAGE**

**5 to 220 Volt**

**SMC / DO-214AB**

Unit : inch(mm)

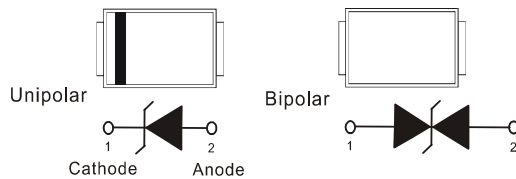
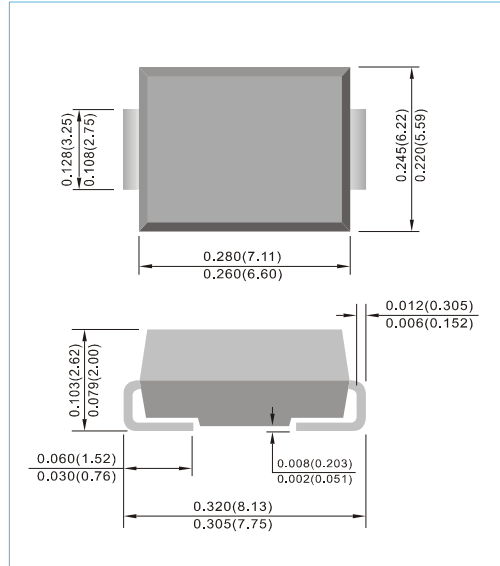
**Recongized File # E210467**

#### 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  $\pm$  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 grams



#### DEVICES FOR BIPOLARAPPLICATIONS

For Bidirectional use CA Suffix for types 3.0SMCJ5.0CA thru types 3.0SMCJ220CA.  
Electrical characteristics apply in both directions.

#### MAXIMUM RATINGSAND 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 on $t_p=10/1000\mu s$ waveform (Notes 1, Fig.1)	PPP	3000	Watts
Peak Forward Surge Current 8.3ms single half sine-wave superimposed on rated load (Notes 2)	IFSM	300	Amps
Peak Pulse Current on $t_p=10/1000\mu s$ waveform (Notes 1) Fig.3	IPPM	see Table 1	Amps
Typical Thermal Resistance Junction to Air	$R_{\theta JA}$	25	°C / W
ESD IEC-61000-4-2 (Air) ESD IEC-61000-4-2 (Contact)	VESD	$\pm 30$ $\pm 30$	kV
Operating Junction and Storage Temperature Range	$T_J, T_{STG}$	-55 to +150	°C

#### NOTES :

- 1.Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ C$  per Fig. 2.
- 2.Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.
- 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.

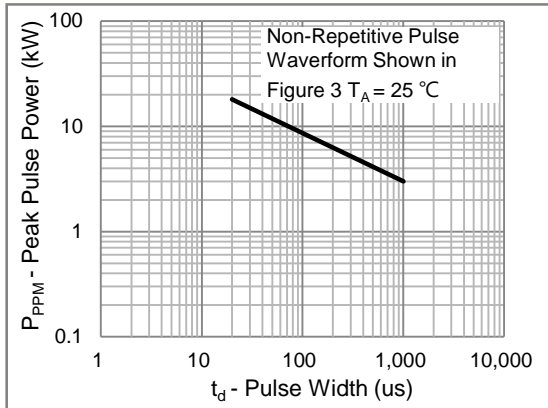


## 3.0SMCJ5.0~3.0SMCJ220CA

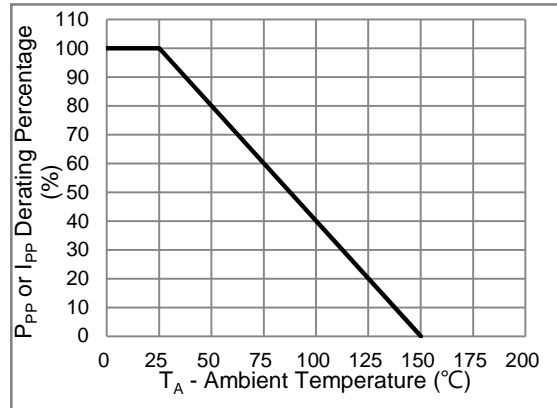
Part Number		Reverse Stand-off Voltage	Breakdown Voltage		Test Current	Reverse Leakage		Max. Clamp Voltage 10/1000us	Peak Pulse Current 10/1000us	Marking Code	
			$V_{BR} @ I_T$			$I_R @ V_{RWM}$					
UNI	BI	$V_{RWM}$ (Notes 3)	Min.	Max.	$I_T$	UNI	BI	$V_C @ I_{PP}$	$I_{PP}$	UNI	BI
			V	V		mA	uA				
<b>3000W Transient Voltage Suppressor</b>											
3.0SMCJ5.0A	3.0SMCJ5.0CA	5	6.4	7.25	10	1000	2000	9.2	326	HDE	IDE
3.0SMCJ6.0A	3.0SMCJ6.0CA	6	6.67	7.67	10	1000	2000	10.3	291.3	HDG	IDG
3.0SMCJ6.5A	3.0SMCJ6.5CA	6.5	7.22	8.3	10	500	1000	11.2	267.9	HDK	IDK
3.0SMCJ7.0A	3.0SMCJ7.0CA	7	7.78	8.95	10	200	400	12	250	HDM	IDM
3.0SMCJ7.5A	3.0SMCJ7.5CA	7.5	8.33	9.6	1	100	200	12.9	232.6	HDP	IDP
3.0SMCJ8.0A	3.0SMCJ8.0CA	8	8.89	10.23	1	50	100	13.6	220.6	HDR	IDR
3.0SMCJ8.5A	3.0SMCJ8.5CA	8.5	9.44	10.82	1	25	50	14.4	208.4	HDT	IDT
3.0SMCJ9.0A	3.0SMCJ9.0CA	9	10	11.5	1	10	20	15.4	194.8	HDV	IDV
3.0SMCJ10A	3.0SMCJ10CA	10	11.1	12.8	1	3	3	17	176.4	HDX	IDX
3.0SMCJ11A	3.0SMCJ11CA	11	12.2	14	1	3	3	18.2	184.8	HDZ	IDZ
3.0SMCJ12A	3.0SMCJ12CA	12	13.3	15.3	1	3	3	19.9	150.6	HEE	IEE
3.0SMCJ13A	3.0SMCJ13CA	13	14.4	16.5	1	3	3	21.5	139.4	HEG	IEG
3.0SMCJ14A	3.0SMCJ14CA	14	15.6	17.9	1	3	3	23.2	129.4	HEK	IEK
3.0SMCJ15A	3.0SMCJ15CA	15	16.7	19.2	1	3	3	24.4	123	HEM	IEM
3.0SMCJ16A	3.0SMCJ16CA	16	17.8	20.5	1	3	3	26	115.4	HEP	IEP
3.0SMCJ17A	3.0SMCJ17CA	17	18.9	21.7	1	3	3	27.6	106.6	HER	IER
3.0SMCJ18A	3.0SMCJ18CA	18	20	23.3	1	3	3	29.2	102.8	HET	IET
3.0SMCJ20A	3.0SMCJ20CA	20	22.2	25.5	1	3	3	32.4	92.6	HEV	IEV
3.0SMCJ22A	3.0SMCJ22CA	22	24.4	28	1	3	3	35.5	84.4	HEX	IEX
3.0SMCJ24A	3.0SMCJ24CA	24	26.7	30.7	1	3	3	38.9	77.2	HEZ	IEZ
3.0SMCJ26A	3.0SMCJ26CA	26	28.9	33.2	1	3	3	42.1	71.2	HFE	IFE
3.0SMCJ28A	3.0SMCJ28CA	28	31.1	35.8	1	3	3	45.4	66	HFG	IFG
3.0SMCJ30A	3.0SMCJ30CA	30	33.3	38.3	1	3	3	48.4	62	HFK	IFK
3.0SMCJ33A	3.0SMCJ33CA	33	36.7	42.2	1	3	3	53.3	56.2	HFM	IFM
3.0SMCJ36A	3.0SMCJ36CA	36	40	46	1	3	3	58.1	51.6	HFP	IFP
3.0SMCJ40A	3.0SMCJ40CA	40	44.4	51.1	1	3	3	64.5	46.4	HFR	IFR
3.0SMCJ43A	3.0SMCJ43CA	43	47.8	54.9	1	3	3	69.4	43.2	HFT	IFT
3.0SMCJ45A	3.0SMCJ45CA	45	50	57.5	1	3	3	72.7	41.2	HFV	IFV
3.0SMCJ48A	3.0SMCJ48CA	48	53.3	61.3	1	3	3	77.4	38.8	HFX	IFX
3.0SMCJ51A	3.0SMCJ51CA	51	56.7	65.2	1	3	3	82.4	36.4	HFZ	IFZ
3.0SMCJ54A	3.0SMCJ54CA	54	60	69	1	3	3	87.1	34.4	HGE	IGE
3.0SMCJ58A	3.0SMCJ58CA	58	64.4	74.1	1	3	3	93.6	32	HGG	IGG
3.0SMCJ60A	3.0SMCJ60CA	60	66.7	76.7	1	3	3	96.8	31	HGK	IGK
3.0SMCJ64A	3.0SMCJ64CA	64	71.1	81.8	1	3	3	103	29.2	HGM	IGM
3.0SMCJ70A	3.0SMCJ70CA	70	77.8	89.5	1	3	3	113	26.6	HGP	IGP
3.0SMCJ75A	3.0SMCJ75CA	75	83.3	95.8	1	3	3	121	24.8	HGR	IGR
3.0SMCJ78A	3.0SMCJ78CA	78	86.7	99.7	1	3	3	126	22.8	HGT	IGT
3.0SMCJ85A	3.0SMCJ85CA	85	94.4	108.2	1	3	3	137	20.8	HGV	IGV
3.0SMCJ90A	3.0SMCJ90CA	90	100	115.5	1	3	3	146	20.6	HGX	IGX
3.0SMCJ100A	3.0SMCJ100CA	100	111	128	1	3	3	162	18.6	HGZ	IGZ
3.0SMCJ110A	3.0SMCJ110CA	110	122	140.5	1	3	3	177	16.8	HHE	IHE
3.0SMCJ120A	3.0SMCJ120CA	120	133	153	1	3	3	193	15.6	HHG	IHG
3.0SMCJ130A	3.0SMCJ130CA	130	144	165.5	1	3	3	209	14.4	HHK	IHK
3.0SMCJ150A	3.0SMCJ150CA	150	167	192.5	1	3	3	243	12.4	HHM	IHM
3.0SMCJ160A	3.0SMCJ160CA	160	178	205	1	3	3	259	11.6	HHP	IHP
3.0SMCJ170A	3.0SMCJ170CA	170	189	217.5	1	3	3	275	11	HHR	IHR
3.0SMCJ180A	3.0SMCJ180CA	180	198	230.4	1	3	3	292	10.3	HHT	IHT
3.0SMCJ190A	3.0SMCJ190CA	190	209	243.2	1	3	3	308	9.7	HHV	IHV
3.0SMCJ200A	3.0SMCJ200CA	200	220	256	1	3	3	324	9.3	HHX	IHX
3.0SMCJ210A	3.0SMCJ210CA	210	231	268.8	1	3	3	340	8.8	HHZ	IHZ
3.0SMCJ220A	3.0SMCJ220CA	220	242	281.6	1	3	3	356	8.4	HIE	IEE



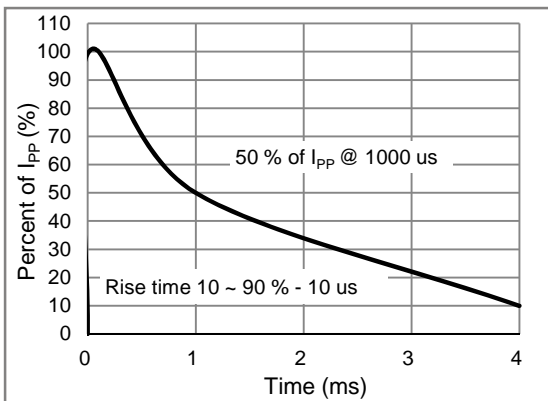
## 3.0SMCJ5.0~3.0SMCJ220CA



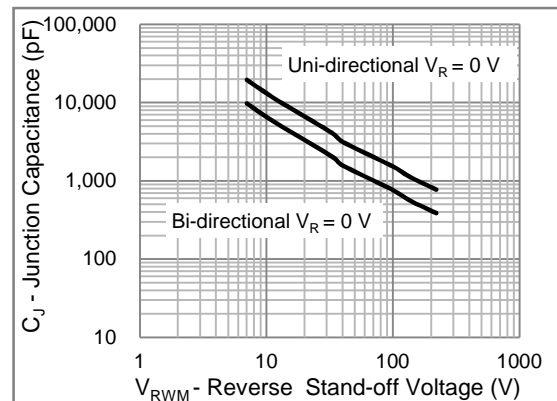
**Fig.1 Peak Pulse Power Rating**



**Fig.2 Derating Curve**



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



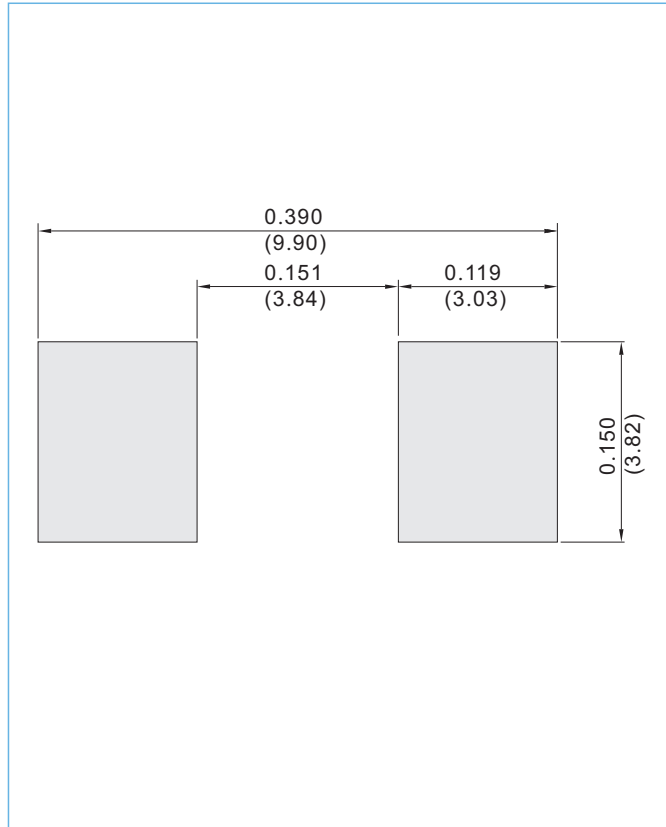
**Fig.4 Typical Capacitance**



## 3.0SMCJ5.0~3.0SMCJ220CA

### 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



## 3.0SMCJ5.0~3.0SMCJ220CA

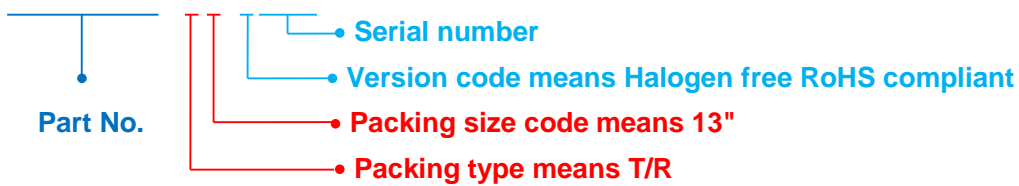
### Part No.\_packing code\_Version

3.0SMCJ5.0A\_R1\_00001

3.0SMCJ5.0A\_R2\_00001

For example :

**RB500V-40\_R2\_00001**



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



## 3.0SMCJ5.0~3.0SMCJ220CA

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