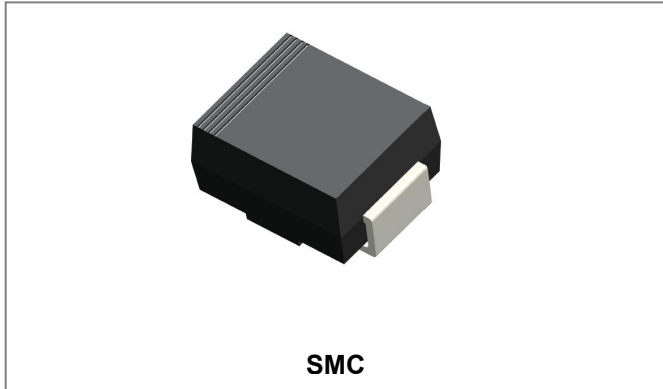


SMCJ SERIES SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSOR



Features

- Glass Passivated Die Construction
- 1500W Peak Pulse Power Dissipation
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Case Material has UL Flammability Classification Rating 94V-0
- “-A” is an AEC-Q101 qualified device
- This is a Pb – Free Device
- All SMC Parts are Traceable to the Wafer Lot
- Additional testing can be offered upon request

Circuit Diagram



Unipolar



Bipolar

Mechanical Data

- Case: SMC Low Profile Molded Plastic
- Terminals: Solder Plated , Solderable per MIL-STD 750, Method 2026
- Polarity: Color band denoted positive end (cathode) except Bidirectional
- Weight:0.21 grams(approx.)

Maximum Ratings and Thermal Characteristics@T_A=25°C unless otherwise specified

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us waveform (NOTE 1, 2, Fig.1)	P _{PPM}	1500	W
Peak Pulse Current of on 10/1000 us waveform (Note 1, Fig 3)	I _{PPM}	SEE TABLE 1	A
Peak Forward Surge Current, 8.3ms Single Half Sine Wave (Note 2),(Note 3)	I _{FSM}	200	A
Typical Thermal Resistance Junction to Lead	R _{θJL}	15	°C/W
Typical Thermal Resistance Junction to Ambient	R _{θJA}	75	°C/W
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 TA = 25°C per Fig. 2.
 2. Mounted on 8.0x8.0mm Copper Pads to each terminal.
 3. Measured on 8.3ms single half sine wave or equivalent square wave, duty cycle=4pulses per minute maximum.



Electrical Characteristics @T_A=25°C unless otherwise specified

UNI-POLAR	BI-POLAR	DEVICE MARKING CODE		REVERSE STAND-OFF VOLTAGE VRWM (V)	BREAKDOWN VOLTAGE VBR (V) MIN. @IT	BREAKDOWN VOLTAGE VBR (V) MAX. @IT	TEST CURRENT IT(MA)	MAXIMUM CLAMPING VOLTAGE @IPP VC(V)	PEAK PULSE CURRENT IPP(A)	REVERSE LEAKAGE @VRWM IR(μA)
		UNI	BI							
SMCJ5.0A	SMCJ5.0CA	GDE	BDE	5	6.4	7	10	9.2	163	800
SMCJ6.0A	SMCJ6.0CA	GDG	BDG	6	6.67	7.37	10	10.3	145.7	800
SMCJ6.5A	SMCJ6.5CA	GDK	BDK	6.5	7.22	7.98	10	11.2	134	500
SMCJ7.0A	SMCJ7.0CA	GDM	BDM	7	7.78	8.6	10	12	125	200
SMCJ7.5A	SMCJ7.5CA	GDP	BDP	7.5	8.33	9.21	1	12.9	116.3	100
SMCJ8.0A	SMCJ8.0CA	GDR	BDR	8	8.89	9.83	1	13.6	110.3	50
SMCJ8.5A	SMCJ8.5CA	GDT	BDT	8.5	9.44	10.4	1	14.4	104.2	20
SMCJ9.0A	SMCJ9.0CA	GDV	BDV	9	10	11.1	1	15.4	97.4	10
SMCJ10A	SMCJ10CA	GDX	BDX	10	11.1	12.3	1	17	88.3	5
SMCJ11A	SMCJ11CA	GDZ	BDZ	11	12.2	13.5	1	18.2	82.5	5
SMCJ12A	SMCJ12CA	GEE	BEE	12	13.3	14.7	1	19.9	75.4	5
SMCJ13A	SMCJ13CA	GEG	BEG	13	14.4	15.9	1	21.5	69.8	5
SMCJ14A	SMCJ14CA	GEK	BEK	14	15.6	17.2	1	23.2	64.7	5
SMCJ15A	SMCJ15CA	GEM	BEM	15	16.7	18.5	1	24.4	61.5	5
SMCJ16A	SMCJ16CA	GEP	BEP	16	17.8	19.7	1	26	57.7	5
SMCJ17A	SMCJ17CA	GER	BER	17	18.9	20.9	1	27.6	54.4	5
SMCJ18A	SMCJ18CA	GET	BET	18	20	22.1	1	29.2	51.4	5
SMCJ20A	SMCJ20CA	GEV	BEV	20	22.2	24.5	1	32.4	46.3	5
SMCJ22A	SMCJ22CA	GEX	BEX	22	24.4	26.9	1	35.5	42.3	5
SMCJ24A	SMCJ24CA	GEZ	BEZ	24	26.7	29.5	1	38.9	38.6	5
SMCJ26A	SMCJ26CA	GFE	BFE	26	28.9	31.9	1	42.1	35.7	5
SMCJ28A	SMCJ28CA	GFG	BFG	28	31.1	34.4	1	45.4	33.1	5
SMCJ30A	SMCJ30CA	GFK	BFK	30	33.3	36.8	1	48.4	31	5
SMCJ33A	SMCJ33CA	GFM	BFM	33	36.7	40.6	1	53.3	28.2	5
SMCJ36A	SMCJ36CA	GFP	BFP	36	40	44.2	1	58.1	25.9	5
SMCJ40A	SMCJ40CA	GFR	BFR	40	44.4	49.1	1	64.5	23.3	5
SMCJ43A	SMCJ43CA	GFT	BFT	43	47.8	52.8	1	69.4	21.7	5
SMCJ45A	SMCJ45CA	GFV	BFV	45	50	55.3	1	72.7	20.6	5
SMCJ48A	SMCJ48CA	GFY	BFY	48	53.3	58.9	1	77.4	19.4	5
SMCJ51A	SMCJ51CA	GFZ	BFZ	51	56.7	62.7	1	82.4	18.2	5
SMCJ54A	SMCJ54CA	GGE	BGE	54	60	66.3	1	87.1	17.3	5
SMCJ58A	SMCJ58CA	GGG	BGG	58	64.4	71.2	1	93.6	16.1	5
SMCJ60A	SMCJ60CA	GGK	BGK	60	66.7	73.7	1	96.8	15.5	5
SMCJ64A	SMCJ64CA	GGM	BGM	64	71.1	78.6	1	103	14.6	5
SMCJ70A	SMCJ70CA	GGP	BGP	70	77.8	86	1	113	13.3	5
SMCJ75A	SMCJ75CA	GGR	BGR	75	83.3	92.1	1	121	12.4	5
SMCJ78A	SMCJ78CA	GGT	BGT	78	86.7	95.8	1	126	11.9	5
SMCJ85A	SMCJ85CA	GGV	BGV	85	94.4	104	1	137	11	5
SMCJ90A	SMCJ90CA	GGX	BGX	90	100	111	1	146	10.3	5
SMCJ100A	SMCJ100CA	GGZ	BGZ	100	111	123	1	162	9.3	5
SMCJ110A	SMCJ110CA	GHE	BHE	110	122	135	1	177	8.5	5
SMCJ120A	SMCJ120CA	GHG	BHG	120	133	147	1	193	7.8	5
SMCJ130A	SMCJ130CA	GHK	BHK	130	144	159	1	209	7.2	5
SMCJ150A	SMCJ150CA	GHM	BHM	150	167	185	1	243	6.2	5
SMCJ160A	SMCJ160CA	GHP	BHP	160	178	197	1	259	5.8	5
SMCJ170A	SMCJ170CA	GHR	BHR	170	189	209	1	275	5.5	5

Ratings and Characteristics Curves

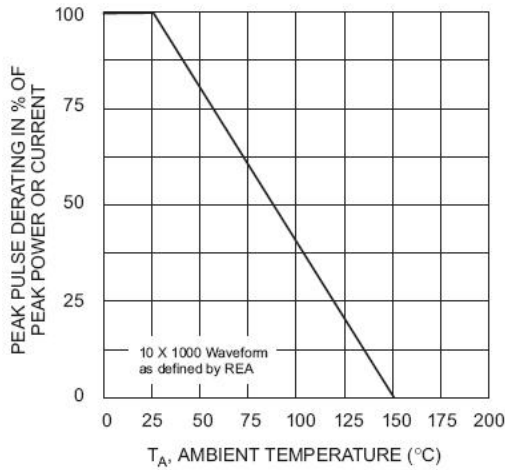


Fig. 1 Pulse Derating Curve

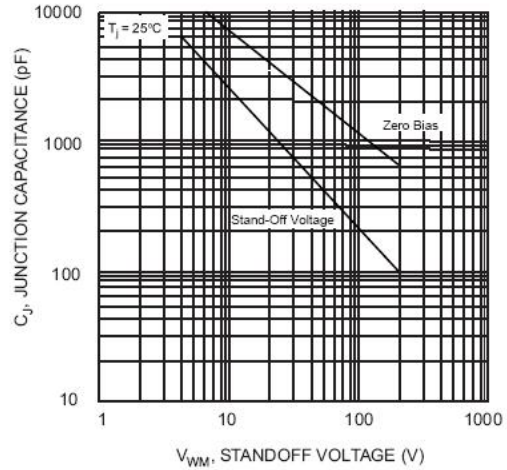


Fig. 2 Typical Junction Capacitance

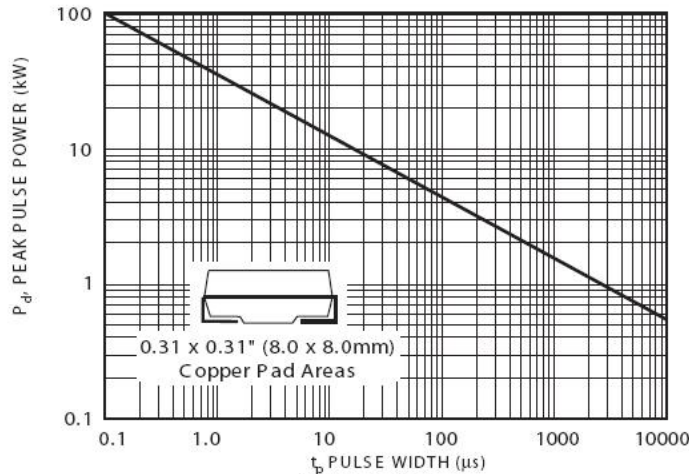


Fig. 3 Pulse Rating Curve

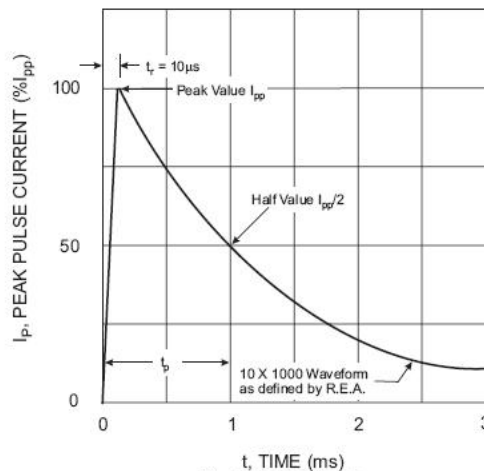


Fig. 4 Pulse Waveform

Ordering Information

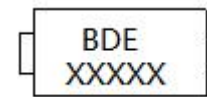
Device	Package	Shipping
SMCJ SERIES	SMC (Pb-Free)	3000pcs / reel
SMCJ SERIES TR	SMC (Pb-Free)	3000pcs / reel

For information on tape and reel specifications, including part orientation and tape sizes, please refer to our tape and reel packaging specification.

Marking Diagram



SMCJ5.0A



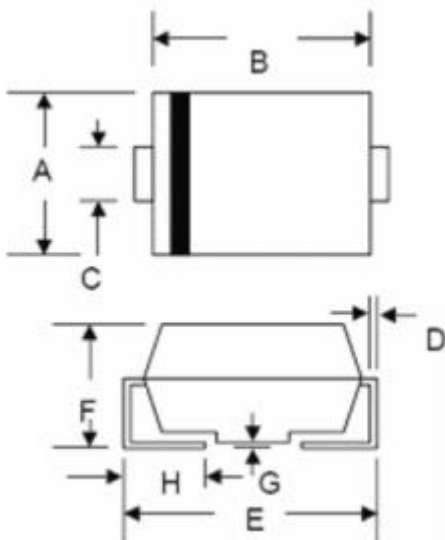
SMCJ5.0CA

Where XXXXX is YYWWL

GDE/BDE = Marking code
YY = Year
WW = Week
L = Lot Number

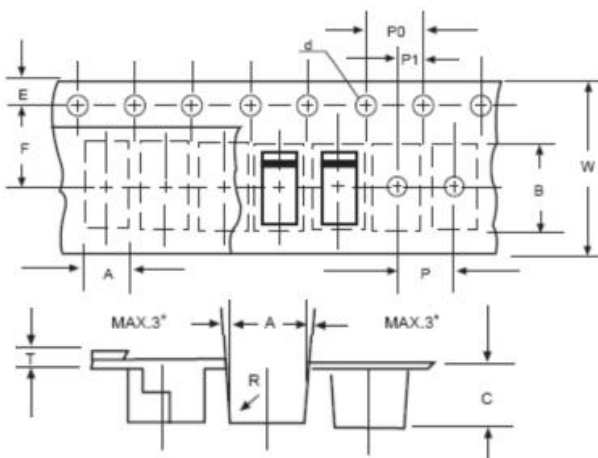
Cautions: Molding resin
Epoxy resin UL:94V-0

Mechanical Dimensions SMC



Dim.	SMC/DO-214AB				
	Min.	Max.	Min.	Max.	
A	5.59	6.22	0.220	0.245	
B	6.60	7.11	0.260	0.280	
C	2.90	3.20	0.114	0.126	
D	0.152	0.305	0.006	0.012	
E	7.75	8.13	0.305	0.320	
F	2.00	2.62	0.079	0.103	
G	-	0.203	-	0.008	
H	0.76	1.52	0.030	0.060	
		In Millimeters		In inches	

Carrier Tape Specification SMC



SYMBOL	Millimeters	
	Min.	Max.
A	5.90	6.10
B	8.20	8.40
C	2.40	2.60
d	1.40	1.60
E	1.40	1.60
F	7.60	7.70
P	7.90	8.10
P0	3.90	4.10
P1	3.90	4.10
T	-	0.600
W	15.80	16.20



DISCLAIMER:

- 1- The information given herein, including the specifications and dimensions, is subject to change without prior notice to improve product characteristics. Before ordering, purchasers are advised to contact the SMC Diode Solutions sales department for the latest version of the datasheet(s).
- 2- In cases where extremely high reliability is required (such as use in nuclear power control, aerospace and aviation, traffic equipment, medical equipment, and safety equipment), safety should be ensured by using semiconductor devices that feature assured safety or by means of users' fail-safe precautions or other arrangement.
- 3- In no event shall SMC Diode Solutions be liable for any damages that may result from an accident or any other cause during operation of the user's units according to the datasheet(s). SMC Diode Solution assumes no responsibility for any intellectual property claims or any other problems that may result from applications of information, products or circuits described in the datasheets.
- 4- In no event shall SMC Diode Solutions be liable for any failure in a semiconductor device or any secondary damage resulting from use at a value exceeding the absolute maximum rating.
- 5- No license is granted by the datasheet(s) under any patents or other rights of any third party or SMC Diode Solutions.
- 6- The datasheet(s) may not be reproduced or duplicated, in any form, in whole or part, without the expressed written permission of SMC Diode Solutions.
- 7- The products (technologies) described in the datasheet(s) are not to be provided to any party whose purpose in their application will hinder maintenance of international peace and safety nor are they to be applied to that purpose by their direct purchasers or any third party. When exporting these products (technologies), the necessary procedures are to be taken in accordance with related laws and regulations..