

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 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

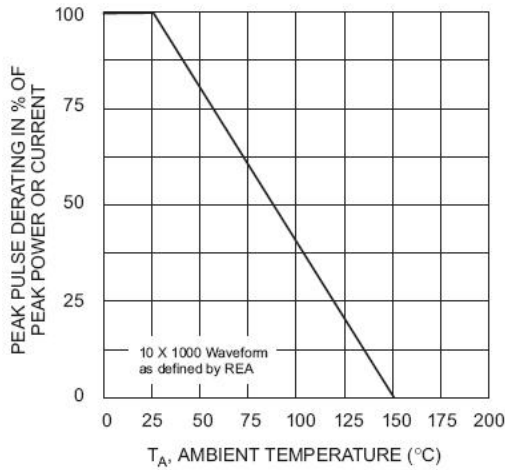


Fig. 1 Pulse Derating Curve

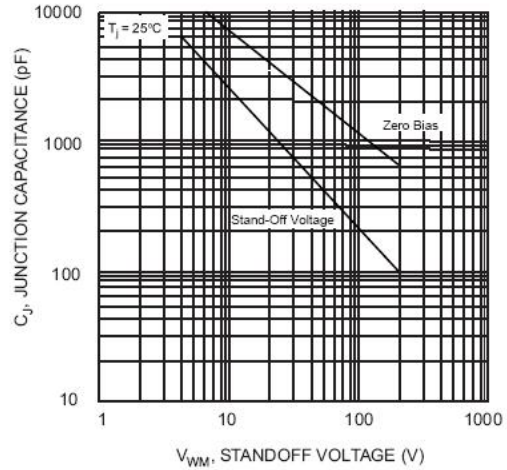


Fig. 2 Typical Junction Capacitance

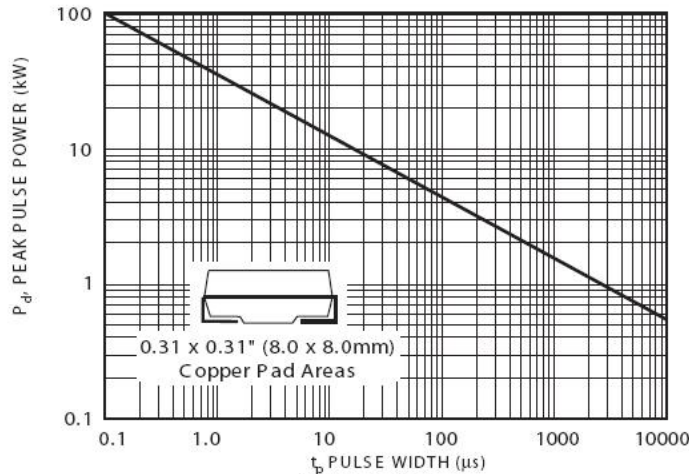


Fig. 3 Pulse Rating Curve

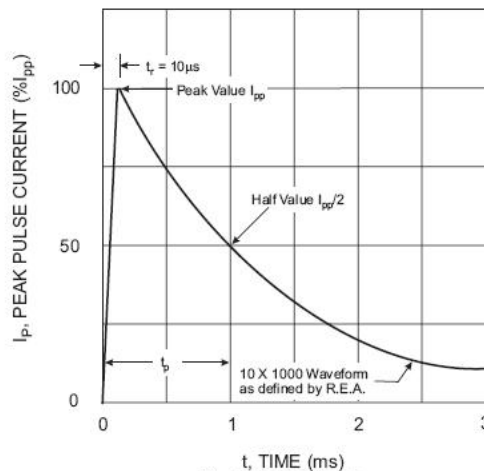
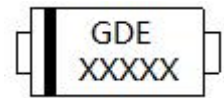


Fig. 4 Pulse Waveform

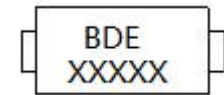
Ordering Information **Marking Diagram**

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.



SMCJ5.0A



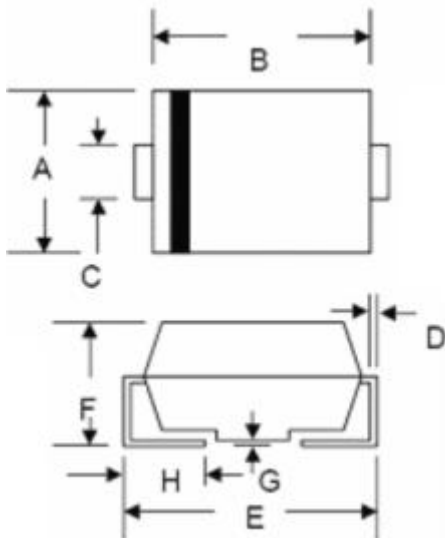
SMCJ5.0CA

Where XXXXX is YYWWL

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

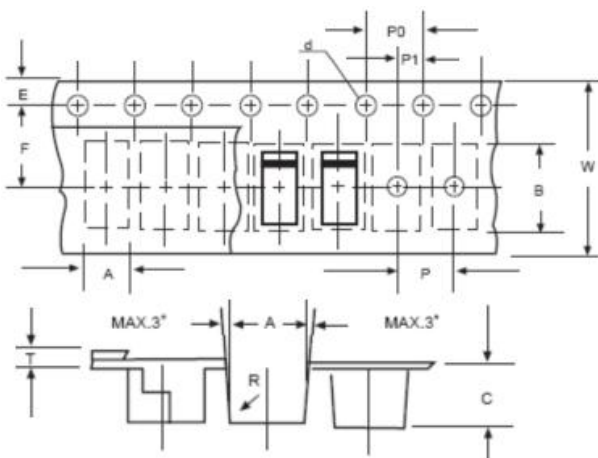
Cautions: Molding resin
Epoxy resin UL:94V-0

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	2.95	0.079	0.116
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



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