

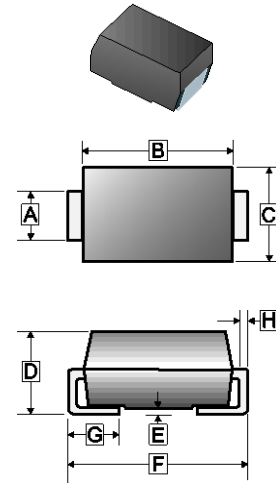
RoHS Compliant Product

A suffix of "-C" specifies halogen-free and lead-free

FEATURES

- Glass passivated junction
- Very fast response time
- Plastic package Underwriters Laboratory Flammability Classification 94V-0
- Low incremental surge resistance, Excellent clamping capability
- 1500W peak pulse power capability with a 10/1000us waveform, repetition rate (duty cycle): 0.01%
- High temperature soldering guaranteed: 260°C/10 seconds

SMC



MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-202, Method 208 Guaranteed
- Polarity: Color band denotes cathode end except Bidirectional

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMC	3K	13 inch

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.75	3.27	E	-	0.203
B	6.52	7.11	F	7.64	8.17
C	5.50	6.22	G	0.75	1.60
D	1.98	2.62	H	0.23 TYP.	

ORDER INFORMATION

Part Number	Type
SMCJ Series-C	Lead (Pb)-free and Halogen-free

MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating 25°C ambient temperature unless otherwise specified. Single phase half wave, 60Hz, resistive or inductive load.
For capacitive load, de-rate current by 20%.)

Parameter	Symbol	Ratings	Unit
Peak Pulse Power Dissipation ^{1 2} @10/1000us waveform	P _{PP}	1500	W
Peak Pulsed Current ¹ @10/1000us waveform	I _{PP}	(See next table.)	A
Peak Forward Surge Current ³ @8.3ms single Half Sine-Wave	I _{FSM}	200	A
Operating and Storage Temperature Range	T _J , T _{STG}	-55~150	°C
Thermal Resistance Ratings			
Thermal Resistance Junction-Ambient ²	R _{θJA}	75	°C/W
Thermal Resistance Junction-Lead ²	R _{θJL}	15	

Notes:

1. Non-repetitive current pulse, on Fig. 3 and derated above T_A=25°C per Fig. 2.
2. Mounted on copper pad area of 0.31 x 0.31" (8.0 x 8.0mm) to each terminal.
3. Measured on 8.3ms single half sine-wave or equivalent square wave for unidirectional device only.

ELECTRICAL CHARACTERISTICS ($T_A=25^\circ\text{C}$ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Peak Pulse Current	Max. Reverse Leakage Current
			Min.	Max.				
Uni	Bi	V_{RWM}	$V_{BR} @ I_T$		I_T	$V_C @ I_{PP}$	I_{PP}	$I_R @ V_{RWM}$
		V	V		mA	V	A	μA
SMCJ5.0A-C	-	5	6.4	7.07	10	9.2	163	1000
-	SMCJ5.0CA-C	5	6.4	7.25	10	9.2	163	1000
SMCJ6.0A-C	SMCJ6.0CA-C	6	6.67	7.37	10	10.3	145.6	1000
SMCJ6.5A-C	SMCJ6.5CA-C	6.5	7.22	7.98	10	11.2	133.9	500
SMCJ7.0A-C	SMCJ7.0CA-C	7	7.78	9.6	10	12	125	200
SMCJ7.5A-C	SMCJ7.5CA-C	7.5	8.33	9.21	1	12.9	116.3	100
SMCJ8.0A-C	SMCJ8.0CA-C	8	8.89	9.83	1	13.6	110.3	50
SMCJ8.5A-C	SMCJ8.5CA-C	8.5	9.44	10.4	1	14.4	104.2	20
SMCJ9.0A-C	SMCJ9.0CA-C	9	10	11.1	1	15.4	97.4	10
SMCJ10A-C	SMCJ10CA-C	10	11.1	12.3	1	17	88.2	5
SMCJ11A-C	SMCJ11CA-C	11	12.2	13.5	1	18.2	82.4	5
SMCJ12A-C	SMCJ12CA-C	12	13.3	14.7	1	19.9	75.4	5
SMCJ13A-C	SMCJ13CA-C	13	14.4	15.9	1	21.5	69.8	1
SMCJ14A-C	SMCJ14CA-C	14	15.6	17.2	1	23.2	64.7	1
SMCJ15A-C	SMCJ15CA-C	15	16.7	18.5	1	24.4	61.5	1
SMCJ16A-C	SMCJ16CA-C	16	17.8	19.7	1	26	57.7	1
SMCJ17A-C	SMCJ17CA-C	17	18.9	20.9	1	27.6	54.3	1
SMCJ18A-C	SMCJ18CA-C	18	20	22.1	1	29.2	51.4	1
SMCJ20A-C	SMCJ20CA-C	20	22.2	24.5	1	32.4	46.3	1
SMCJ22A-C	SMCJ22CA-C	22	24.4	26.9	1	35.5	42.3	1
SMCJ24A-C	SMCJ24CA-C	24	26.7	29.5	1	38.9	38.6	1
SMCJ26A-C	SMCJ26CA-C	26	28.9	31.9	1	42.1	35.6	1
SMCJ28A-C	SMCJ28CA-C	28	31.1	34.4	1	45.4	33	1
SMCJ30A-C	SMCJ30CA-C	30	33.3	36.8	1	48.4	31	1
SMCJ33A-C	SMCJ33CA-C	33	36.7	40.6	1	53.3	28.1	1
SMCJ36A-C	SMCJ36CA-C	36	40	44.4	1	58.1	25.8	1
SMCJ40A-C	SMCJ40CA-C	40	44.4	49.1	1	64.5	23.3	1
SMCJ43A-C	SMCJ43CA-C	43	47.8	52.8	1	69.4	21.6	1
SMCJ45A-C	SMCJ45CA-C	45	50	55.3	1	72.7	20.6	1
SMCJ48A-C	SMCJ48CA-C	48	53.3	58.9	1	77.4	19.4	1
SMCJ51A-C	SMCJ51CA-C	51	56.7	62.7	1	82.4	18.2	1

ELECTRICAL CHARACTERISTICS ($T_A=25^{\circ}\text{C}$ unless otherwise specified)

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Peak Pulse Current	Max. Reverse Leakage Current
			Min.	Max.				
Uni	Bi	V_{RWM}	$V_{BR} @ I_T$		I_T	$V_C @ I_{PP}$	I_{PP}	$I_R @ V_{RWM}$
		V	V		mA	V	A	μA
SMCJ54A-C	SMCJ54CA-C	54	60	66.3	1	87.1	17.2	1
SMCJ58A-C	SMCJ58CA-C	58	64.4	71.2	1	93	16	1
SMCJ60A-C	SMCJ60CA-C	60	66.7	73.7	1	96	15.5	1
SMCJ64A-C	SMCJ64CA-C	64	71.1	78.6	1	103	14.6	1
SMCJ70A-C	SMCJ70CA-C	70	77.8	86	1	113	13.3	1
SMCJ75A-C	SMCJ75CA-C	75	83.3	92.1	1	121	12.4	1
SMCJ78A-C	SMCJ78CA-C	78	86.7	95.8	1	126	11.9	1
SMCJ85A-C	SMCJ85CA-C	85	94.4	104	1	137	10.9	1
SMCJ90A-C	SMCJ90CA-C	90	100	111	1	146	10.3	1
SMCJ100A-C	SMCJ100CA-C	100	111	123	1	162	9.3	1
SMCJ110A-C	SMCJ110CA-C	110	122	135	1	177	8.5	1
SMCJ120A-C	SMCJ120CA-C	120	133	147	1	193	7.8	1
SMCJ130A-C	SMCJ130CA-C	130	144	159	1	209	7.2	1
SMCJ150A-C	SMCJ150CA-C	150	167	185	1	243	6.2	1
SMCJ160A-C	SMCJ160CA-C	160	178	197	1	259	5.8	1
SMCJ170A-C	SMCJ170CA-C	170	189	209	1	275	5.5	1
SMCJ180A-C	SMCJ180CA-C	180	201	222	1	292	5	1
SMCJ200A-C	SMCJ200CA-C	200	224	247	1	324	4.6	1
SMCJ220A-C	SMCJ220CA-C	220	246	272	1	356	4.2	1
SMCJ250A-C	SMCJ250CA-C	250	279	309	1	405	3.7	1
SMCJ300A-C	SMCJ300CA-C	300	335	371	1	486	3.1	1
SMCJ350A-C	SMCJ350CA-C	350	391	432	1	567	2.6	1
SMCJ400A-C	SMCJ400CA-C	400	447	494	1	648	2.3	1
SMCJ440A-C	SMCJ440CA-C	440	492	543	1	713	2.1	1

Notes:

1. V_{BR} measure after I_T applied for 10-50ms square wave pulse or equivalent.
2. Surge current waveform per Fig. 3 and de-rate per Fig. 2.

CHARACTERISTIC CURVE

Figure 1 - Peak Pulse Power Rating

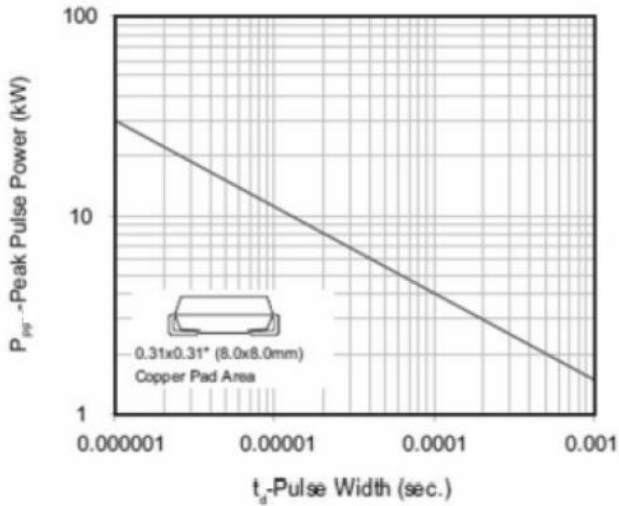


Figure 2 - Pulse Derating Curve

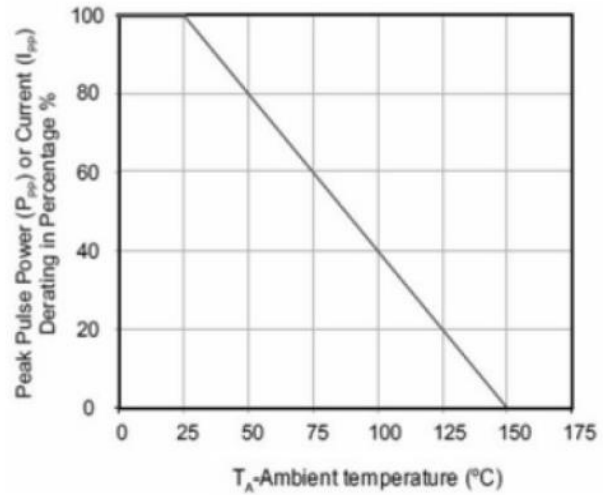


Figure 3 - Pulse Waveform

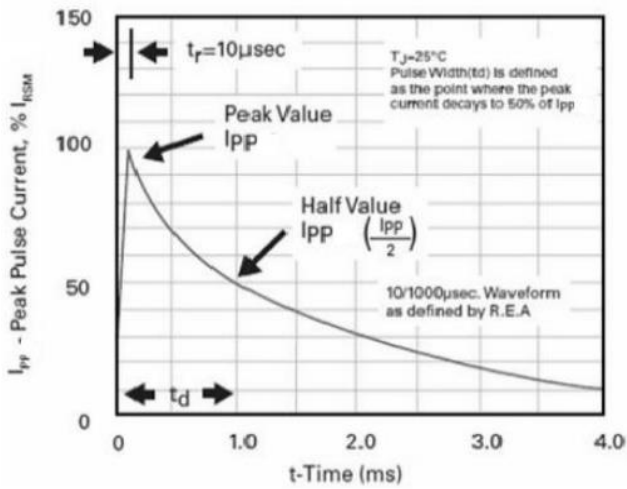


Figure 4 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only

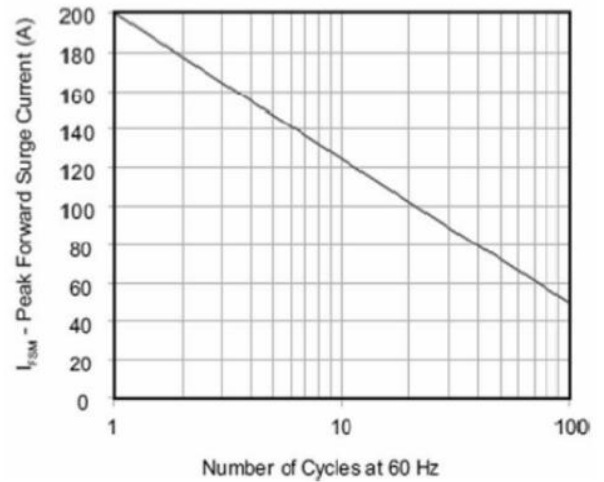
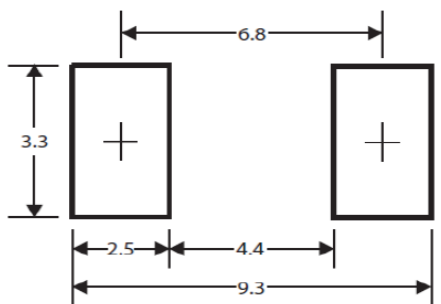


Figure 5 - Mounting Pad Layout



*Dimensions in millimeters