

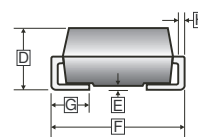
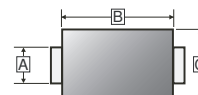
RoHS Compliant Product

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

FEATURES

- Glass passivated chip
- 5000W peak pulse power capability with a 10/1000 μ
- Low leakage
- Uni and Bidirectional unit
- Very fast response time
- Excellent clamping capability

SMC



MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Terminals: Lead free Plating (Tin Finish) Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Mounting position: Any
- Weight: 0.21 grams

REF.	Millimeter		REF.	Millimeter	
	Min.	Max.		Min.	Max.
A	2.75	3.15	E	-	.203
B	6.6	7.11	F	7.75	8.13
C	5.59	6.22	G	0.76	1.27
D	2.00	2.62	H	0.15	0.31

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMC	3K	13 inch

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%.)

Ratings	Symbol	Value	Units
Peak Power Dissipation @ $T_A=25^\circ\text{C}$, $T_P=1\text{ms}$	P_{PK}	5000 (Min.)	W
Peak Forward Surge Current @ 8.3ms single Half Sine-Wave superimposed on rated load (JEDEC method) ¹	I_{FSM}	300	A
Maximum Instantaneous Forward voltage @ 35A for unidirectional only ²	V_F	3.5	V
Operating and Storage Temperature Range	T_J, T_{STG}	-55~150	°C

Notes:

1. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum
2. $V_F < 3.5\text{V}$ for devices of $V_{BR} < 200\text{V}$

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

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Peak Pulse Current	Reverse Leakage
			$V_{BR}@I_T$					
			V_{RWM}	Min.	Max.	I_T	$V_C@I_{PP}$	I_{PP}
Uni-direction	Bi-direction	V	V	V	mA	V	A	μA
5SMDJ11A	5SMDJ11CA	11	12.2	13.5	1	18.2	277.47	800
5SMDJ12A	5SMDJ12CA	12	13.3	14.7	1	19.9	253.77	800
5SMDJ13A	5SMDJ13CA	13	14.4	15.9	1	21.5	234.88	500
5SMDJ14A	5SMDJ14CA	14	15.6	17.2	1	23.2	217.67	200
5SMDJ15A	5SMDJ15CA	15	16.7	18.5	1	24.4	206.97	100
5SMDJ16A	5SMDJ16CA	16	17.8	19.7	1	26	194.23	50
5SMDJ17A	5SMDJ17CA	17	18.9	20.9	1	27.6	182.97	20
5SMDJ18A	5SMDJ18CA	18	20	22.1	1	29.2	172.95	10
5SMDJ19A	5SMDJ19CA	19	21.1	23.3	1	30.8	164.07	10
5SMDJ20A	5SMDJ20CA	20	22.2	24.5	1	32.4	155.86	5
5SMDJ22A	5SMDJ22CA	22	24.4	26.9	1	35.5	142.25	5
5SMDJ24A	5SMDJ24CA	24	26.7	29.5	1	38.9	129.82	5
5SMDJ26A	5SMDJ26CA	26	28.9	31.9	1	42.1	119.95	5
5SMDJ28A	5SMDJ28CA	28	31.1	34.4	1	45.4	111.23	5
5SMDJ30A	5SMDJ30CA	30	33.3	36.8	1	48.4	104.34	5
5SMDJ33A	5SMDJ33CA	33	36.7	40.6	1	53.3	94.75	5
5SMDJ36A	5SMDJ36CA	36	40	44.2	1	58.1	86.92	5
5SMDJ40A	5SMDJ40CA	40	44.4	49.1	1	64.5	78.29	5
5SMDJ43A	5SMDJ43CA	43	47.8	52.8	1	69.4	72.77	5
5SMDJ45A	5SMDJ45CA	45	50	55.3	1	72.7	69.46	5
5SMDJ48A	5SMDJ48CA	48	53.3	58.9	1	77.4	65.25	5
5SMDJ51A	5SMDJ51CA	51	56.7	62.7	1	82.4	61.29	5
5SMDJ54A	5SMDJ54CA	54	60	66.3	1	87.1	57.98	5
5SMDJ58A	5SMDJ58CA	58	64.4	71.2	1	93.6	53.95	5
5SMDJ60A	5SMDJ60CA	60	66.7	73.7	1	96.8	52.17	5
5SMDJ64A	5SMDJ64CA	64	71.1	78.6	1	103	49.03	5
5SMDJ70A	5SMDJ70CA	70	77.8	86	1	113	44.69	5
5SMDJ75A	5SMDJ75CA	75	83.3	92.1	1	121	41.74	5
5SMDJ78A	5SMDJ78CA	78	86.7	95.8	1	126	40.08	5
5SMDJ80A	5SMDJ80CA	80	88.8	97.6	1	129.6	38.97	5
5SMDJ85A	5SMDJ85CA	85	94.4	104	1	137	36.86	5

Note :

1. Suffix 'A' denotes 5% tolerance device. Without 'A' denotes 10% tolerance device.
2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.

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

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage		Test Current	Maximum Clamping Voltage	Peak Pulse Current	Reverse Leakage
			$V_{BR}@I_T$					
		V_{RWM}	Min.	Max.	I_T	$V_C@I_{PP}$	I_{PP}	$I_R @V_{RWM}$
Uni-direction	Bi-direction	V	V	V	mA	V	A	μA
5SMDJ90A	5SMDJ90CA	90	100	111	1	146	34.59	5
5SMDJ100A	5SMDJ100CA	100	111	123	1	162	31.17	5
5SMDJ110A	5SMDJ110CA	110	122	135	1	177	28.53	5
5SMDJ120A	5SMDJ120CA	120	133	147	1	193	26.17	5
5SMDJ130A	5SMDJ130CA	130	144	159	1	209	24.16	5
5SMDJ140A	5SMDJ140CA	140	155	171	1	226.8	22.27	5
5SMDJ150A	5SMDJ150CA	150	167	185	1	243	20.78	5
5SMDJ160A	5SMDJ160CA	160	178	197	1	259	19.5	5
5SMDJ170A	5SMDJ170CA	170	189	209	1	275	18.36	5
5SMDJ180A	5SMDJ180CA	180	200	220	1	291.6	17.32	5
5SMDJ190A	5SMDJ190CA	190	211	232	1	307.8	16.41	5

Note :

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2. Add suffix 'C' or 'CA' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double .

CHARACTERISTIC CURVE

Fig. 1 - Pulse Derating Curve

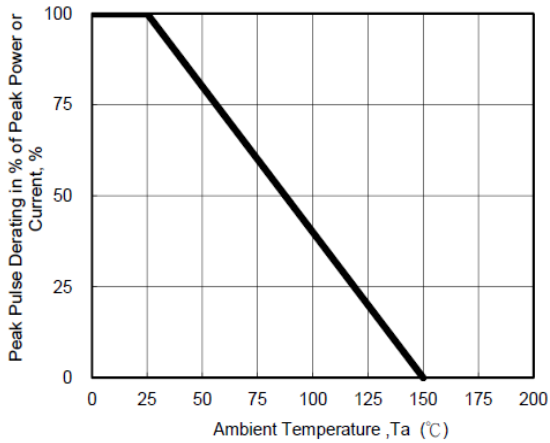


Fig. 2 - Maximum Non-Repetitive Surge Current

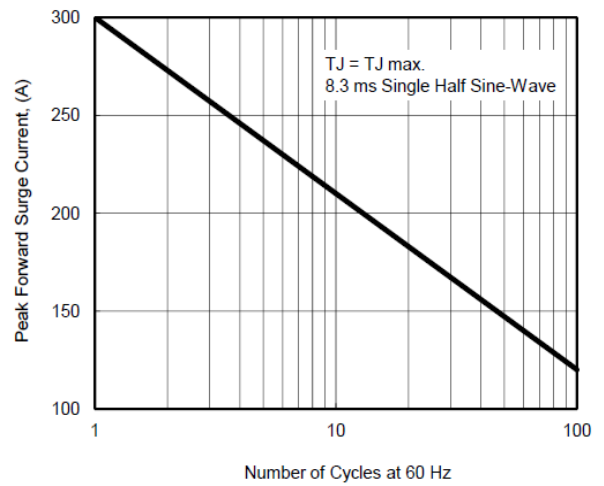


Fig. 3 - Steady State Power Derating Curve

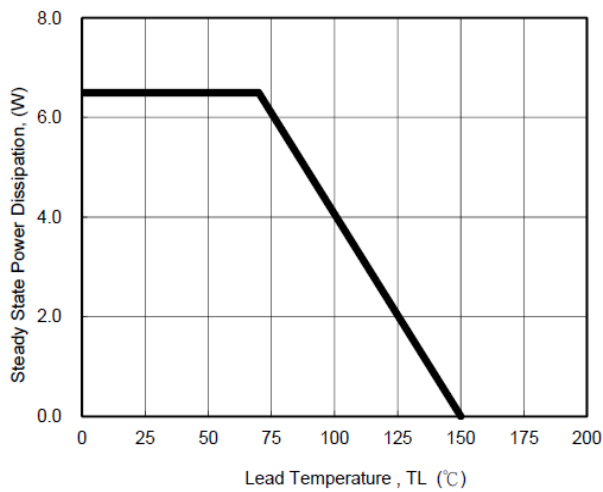


Fig. 4 - Peak Pulse Power Rating Curve

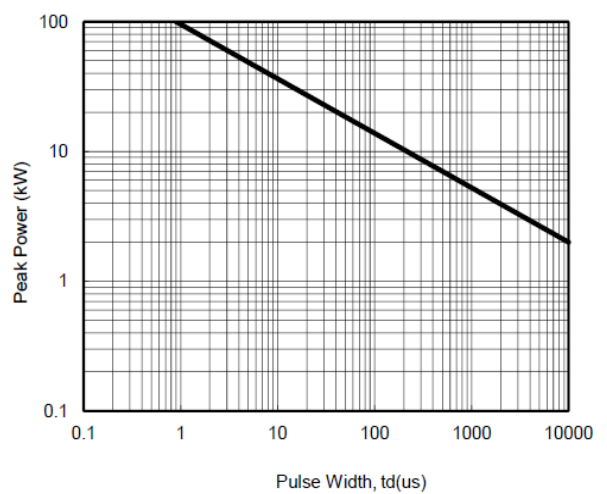


Fig. 5 - Pulse Waveform

