

RoHS Compliant Product

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

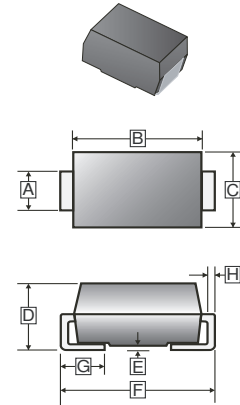
## FEATURES

- Available in uni-directional polarity only
- Moisture sensitivity: level 1, per J-STD-020
- Excellent clamping capability and Fast response time
- 3000W peak pulse power capability with a 10/1000us waveform
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC

## MECHANICAL DATA

- Case: Molded Plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solder-able per MIL-STD-750, method 2026 guaranteed
- Polarity: Color band denotes cathode end except Bidirectional

**SMC**



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	1.52
D	2.00	2.62	H	0.15	0.31

## PACKAGE INFORMATION

Package	MPQ	Leader Size
SMC	3K	13 inch

## ORDER INFORMATION

Part Number	Type
SMDJ Series	Lead (Pb)-free
SMDJ 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%.)

Ratings	Symbol	Value	Units
Peak Pulse Power Dissipation <sup>1</sup> @10/1000us waveform	P <sub>PP</sub>	3000	W
Peak Pulsed Current <sup>1</sup> @10/1000us waveform	I <sub>PP</sub>	(See next table.)	A
Peak Forward Surge Current @8.3ms single half sine-wave for uni-directional only	I <sub>FSM</sub>	250	A
Maximum instantaneous forward clamping voltage @100A for uni-directional only	V <sub>F</sub>	3.5	V
Operating Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>STG</sub>	-65~150	°C
Thermal Resistance Ratings			
Thermal Resistance Junction-Ambient <sup>2</sup>	R <sub>θJA</sub>	100	°C/W
Thermal Resistance Junction-Lead	R <sub>θJL</sub>	20.8	

Notes:

1. Non-repetitive current pulse, on Fig. 3 and derated above T<sub>A</sub>=25°C per Fig. 2.
2. Mounted on recommended pad layout.

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

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Maximum Clamping Voltage $V_C$ @ $I_{PP}$	Peak Pulse Current	Max Reverse Leakage Current $I_R$ @ $V_{RWM}$
			Min.	Max.				
Directional		$V_{RWM}$	$V_{BR}$		$I_T$	$V_C$	$I_{PP}$	$I_R$
Uni	Bi	V	V		mA	V	A	$\mu\text{A}$
SMDJ7.0A	SMDJ7.0CA	7	7.8	8.5	10	12	250	200
SMDJ7.5A	SMDJ7.5CA	7.5	8.3	9.1	1	12.9	232.6	100
SMDJ8.0A	SMDJ8.0CA	8	8.9	9.7	1	13.6	220.6	50
SMDJ8.5A	SMDJ8.5CA	8.5	9.4	10.3	1	14.4	208.4	25
SMDJ9.0A	SMDJ9.0CA	9	10	11	1	15.4	194.8	10
SMDJ10A	SMDJ10CA	10	11.1	12.3	1	17	176.4	5
SMDJ11A	SMDJ11CA	11	12.2	13.5	1	18.2	165	5
SMDJ12A	SMDJ12CA	12	13.3	14.8	1	20	150.6	5
SMDJ13A	SMDJ13CA	13	14.4	16	1	21.6	139.4	5
SMDJ14A	SMDJ14CA	14	15.6	17.4	1	23.2	129.4	5
SMDJ15A	SMDJ15CA	15	16.7	18.7	1	24.4	123	5
SMDJ16A	SMDJ16CA	16	17.8	20	1	26	115.4	5
SMDJ17A	SMDJ17CA	17	18.9	21.2	1	28.2	106.6	5
SMDJ18A	SMDJ18CA	18	20	22.8	1	29.2	102.8	5
SMDJ20A	SMDJ20CA	20	22.2	25	1	32.4	92.6	5
SMDJ22A	SMDJ22CA	22	24.4	27.5	1	35.7	84.4	5
SMDJ24A	SMDJ24CA	24	26.7	30.2	1	38.9	77.2	5
SMDJ26A	SMDJ26CA	26	28.9	32.7	1	42.3	71.2	5
SMDJ28A	SMDJ28CA	28	31.1	35.3	1	45.6	66	5
SMDJ30A	SMDJ30CA	30	33.3	37.8	1	48.4	62	5
SMDJ33A	SMDJ33CA	33	36.7	41.7	1	53.7	56.2	5
SMDJ36A	SMDJ36CA	36	40	45.5	1	58.2	51.6	5
SMDJ40A	SMDJ40CA	40	44.4	50.6	1	64.7	46.4	5
SMDJ43A	SMDJ43CA	43	47.8	54.4	1	69.5	43.2	5
SMDJ45A	SMDJ45CA	45	50	57	1	72.9	41.2	5
SMDJ48A	SMDJ48CA	48	53.3	60.8	1	77.4	38.8	5
SMDJ51A	SMDJ51CA	51	56.7	64.7	1	82.5	36.4	5
SMDJ54A	SMDJ54CA	54	60	68.5	1	87.5	34.4	5
SMDJ58A	SMDJ58CA	58	64.4	73.6	1	94	32	5
SMDJ60A	SMDJ60CA	60	66.7	76.2	1	97	31	5

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

Part Number		Reverse Stand-Off Voltage	Breakdown Voltage $V_{BR}$ @ $I_T$		Test Current	Maximum Clamping Voltage $V_C$ @ $I_{PP}$	Peak Pulse Current	Max Reverse Leakage Current $I_R$ @ $V_{RWM}$
			Min.	Max.				
Directional		$V_{RWM}$	$V_{BR}$		$I_T$	$V_C$	$I_{PP}$	$I_R$
Uni	Bi	V	V		mA	V	A	$\mu\text{A}$
SMDJ64A	SMDJ64CA	64	71.1	81.3	1	103	29.2	5
SMDJ70A	SMDJ70CA	70	77.8	89	1	112.1	26.8	5
SMDJ75A	SMDJ75CA	75	83.3	95.3	1	121	24.8	5
SMDJ78A	SMDJ78CA	78	86.7	99.2	1	132	22.8	5
SMDJ85A	SMDJ85CA	85	94.4	107.7	1	145	20.8	5
SMDJ90A	SMDJ90CA	90	100	115	1	146	20.6	5
SMDJ100A	SMDJ100CA	100	111	127.5	1	162	18.6	5
SMDJ110A	SMDJ110CA	110	122	140	1	179	16.8	5
SMDJ120A	SMDJ120CA	120	133	152.5	1	193	15.6	5
SMDJ130A	SMDJ130CA	130	144	165	1	209	14.4	5
SMDJ150A	SMDJ150CA	150	167	192	1	243	12.4	5
SMDJ160A	SMDJ160CA	160	178	205	1	259	11.6	5
SMDJ170A	SMDJ170CA	170	189	217	1	273	11	5

Note:  
1. For bi-directional types having  $V_{RWM}$  of 10 Volts and less, the  $I_D$  limit is doubled.

**RATINGS AND CHARACTERISTIC CURVES**

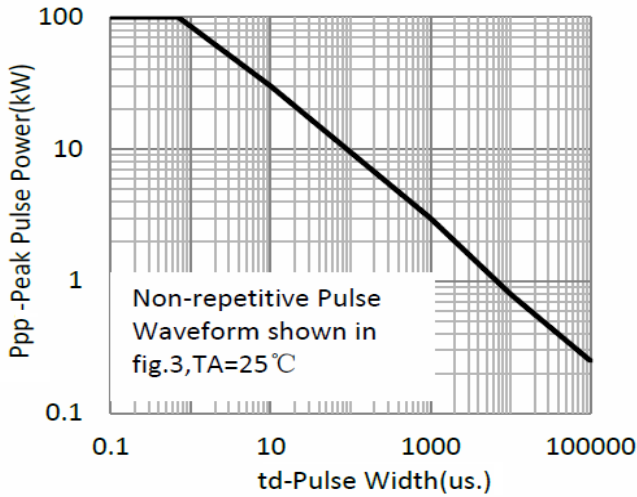


Figure 1. Peak Pulse Power Derating Curve

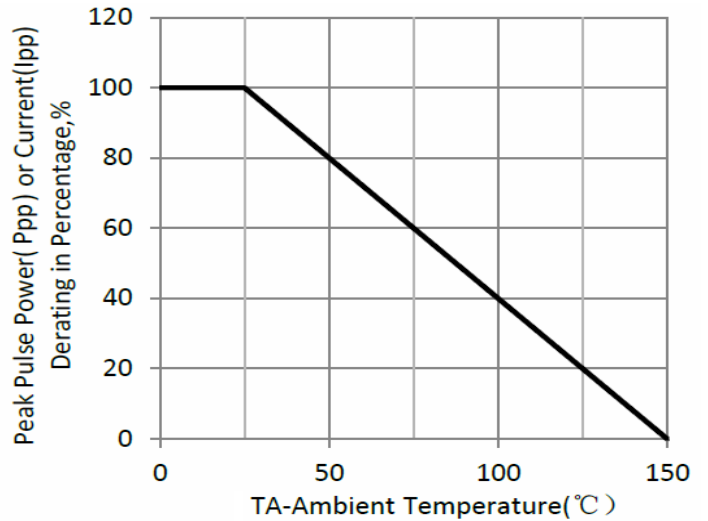


Figure 2. Peak Pulse Power Derating Curve

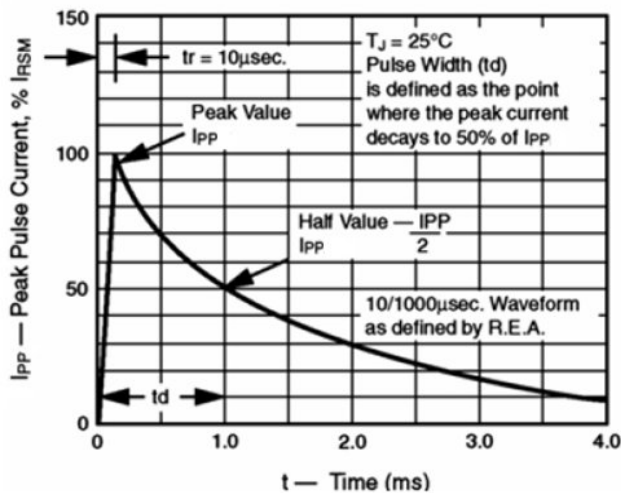


Figure 3. Pulse Waveform

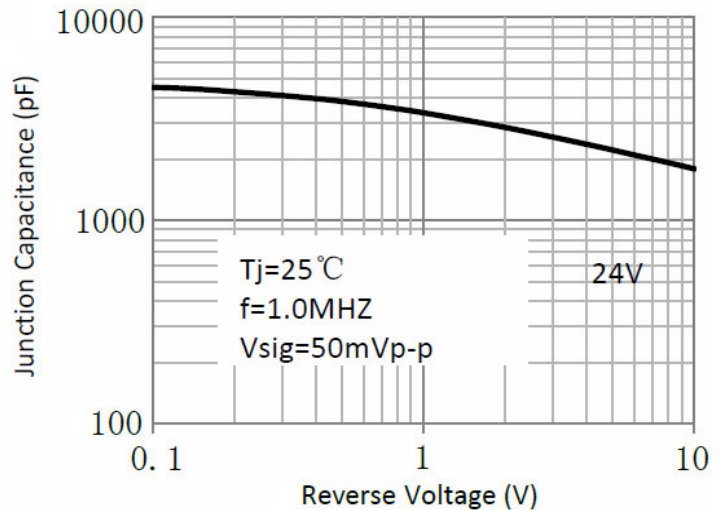


Figure 4. Typical Junction Capacitance

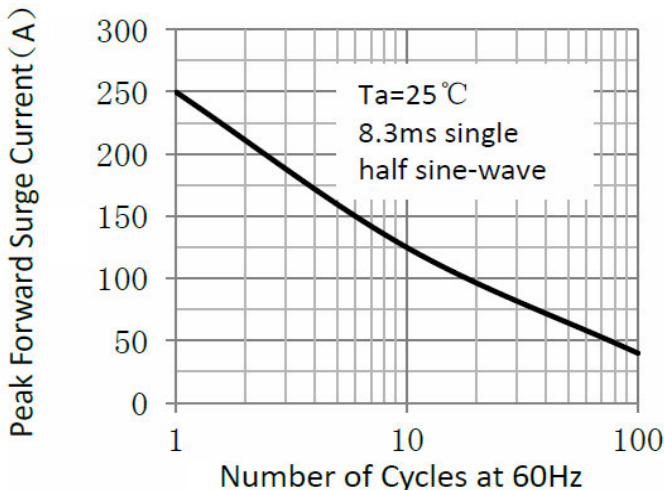


Figure 5 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only