

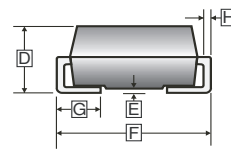
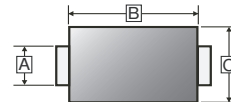
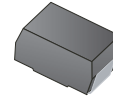
RoHS Compliant Product

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

FEATURES

- Qualified to AEC-Q101 standards for high reliability
- 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

SMC



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

PACKAGE INFORMATION

Package	MPQ	Leader Size
SMC	3K	13 inch

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

ORDER INFORMATION

Part Number	Type
SMDJ Series CR-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 ¹ @10/1000us waveform	P _{PP}	3000	W
Peak Pulsed Current ¹ @10/1000us waveform	I _{PP}	(See next table.)	A
Peak Forward Surge Current @8.3ms single half sine-wave for uni-directional only	I _{FSM}	250	A
Maximum instantaneous forward clamping voltage @100A for uni-directional only	V _F	3.5	V
Operating Junction and Storage Temperature Range	T _J , T _{STG}	-65~150	°C
Thermal Resistance Ratings			
Thermal Resistance Junction-Ambient ²	R _{θJA}	100	°C/W
Thermal Resistance Junction-Lead	R _{θJL}	20.8	

Notes:

1. Non-repetitive current pulse, on Fig. 3 and derated above T_A=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	μA
SMDJ7.0ACR-C	SMDJ7.0CACR-C	7	7.8	8.5	10	12	250	200
SMDJ7.5ACR-C	SMDJ7.5CACR-C	7.5	8.3	9.1	1	12.9	232.6	100
SMDJ8.0ACR-C	SMDJ8.0CACR-C	8	8.9	9.7	1	13.6	220.6	50
SMDJ8.5ACR-C	SMDJ8.5CACR-C	8.5	9.4	10.3	1	14.4	208.4	25
SMDJ9.0ACR-C	SMDJ9.0CACR-C	9	10	11	1	15.4	194.8	10
SMDJ10ACR-C	SMDJ10CACR-C	10	11.1	12.3	1	17	176.4	5
SMDJ11ACR-C	SMDJ11CACR-C	11	12.2	13.5	1	18.2	165	5
SMDJ12ACR-C	SMDJ12CACR-C	12	13.3	14.8	1	20	150.6	5
SMDJ13ACR-C	SMDJ13CACR-C	13	14.4	16	1	21.6	139.4	5
SMDJ14ACR-C	SMDJ14CACR-C	14	15.6	17.4	1	23.2	129.4	5
SMDJ15ACR-C	SMDJ15CACR-C	15	16.7	18.7	1	24.4	123	5
SMDJ16ACR-C	SMDJ16CACR-C	16	17.8	20	1	26	115.4	5
SMDJ17ACR-C	SMDJ17CACR-C	17	18.9	21.2	1	28.2	106.6	5
SMDJ18ACR-C	SMDJ18CACR-C	18	20	22.8	1	29.2	102.8	5
SMDJ20ACR-C	SMDJ20CACR-C	20	22.2	25	1	32.4	92.6	5
SMDJ22ACR-C	SMDJ22CACR-C	22	24.4	27.5	1	35.7	84.4	5
SMDJ24ACR-C	SMDJ24CACR-C	24	26.7	30.2	1	38.9	77.2	5
SMDJ26ACR-C	SMDJ26CACR-C	26	28.9	32.7	1	42.3	71.2	5
SMDJ28ACR-C	SMDJ28CACR-C	28	31.1	35.3	1	45.6	66	5
SMDJ30ACR-C	SMDJ30CACR-C	30	33.3	37.8	1	48.4	62	5
SMDJ33ACR-C	SMDJ33CACR-C	33	36.7	41.7	1	53.7	56.2	5
SMDJ36ACR-C	SMDJ36CACR-C	36	40	45.5	1	58.2	51.6	5
SMDJ40ACR-C	SMDJ40CACR-C	40	44.4	50.6	1	64.7	46.4	5
SMDJ43ACR-C	SMDJ43CACR-C	43	47.8	54.4	1	69.5	43.2	5
SMDJ45ACR-C	SMDJ45CACR-C	45	50	57	1	72.9	41.2	5
SMDJ48ACR-C	SMDJ48CACR-C	48	53.3	60.8	1	77.4	38.8	5
SMDJ51ACR-C	SMDJ51CACR-C	51	56.7	64.7	1	82.5	36.4	5
SMDJ54ACR-C	SMDJ54CACR-C	54	60	68.5	1	87.5	34.4	5
SMDJ58ACR-C	SMDJ58CACR-C	58	64.4	73.6	1	94	32	5
SMDJ60ACR-C	SMDJ60CACR-C	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	μA
SMDJ64ACR-C	SMDJ64CACR-C	64	71.1	81.3	1	103	29.2	5
SMDJ70ACR-C	SMDJ70CACR-C	70	77.8	89	1	112.1	26.8	5
SMDJ75ACR-C	SMDJ75CACR-C	75	83.3	95.3	1	121	24.8	5
SMDJ78ACR-C	SMDJ78CACR-C	78	86.7	99.2	1	132	22.8	5
SMDJ85ACR-C	SMDJ85CACR-C	85	94.4	107.7	1	145	20.8	5
SMDJ90ACR-C	SMDJ90CACR-C	90	100	115	1	146	20.6	5
SMDJ100ACR-C	SMDJ100CACR-C	100	111	127.5	1	162	18.6	5
SMDJ110ACR-C	SMDJ110CACR-C	110	122	140	1	179	16.8	5
SMDJ120ACR-C	SMDJ120CACR-C	120	133	152.5	1	193	15.6	5
SMDJ130ACR-C	SMDJ130CACR-C	130	144	165	1	209	14.4	5
SMDJ150ACR-C	SMDJ150CACR-C	150	167	192	1	243	12.4	5
SMDJ160ACR-C	SMDJ160CACR-C	160	178	205	1	259	11.6	5
SMDJ170ACR-C	SMDJ170CACR-C	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

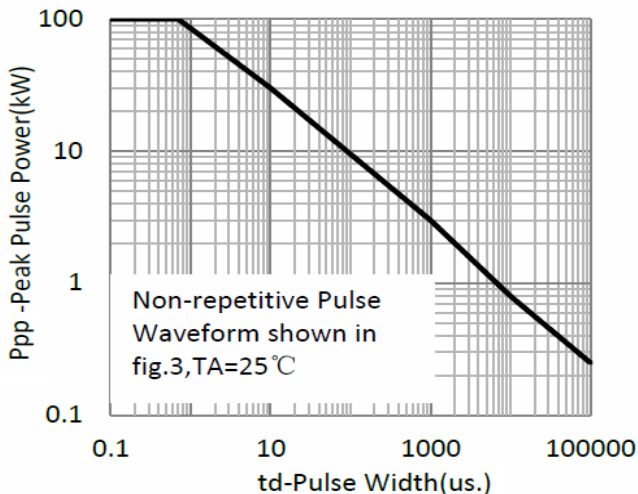


Figure 1. Peak Pulse Power Derating Curve

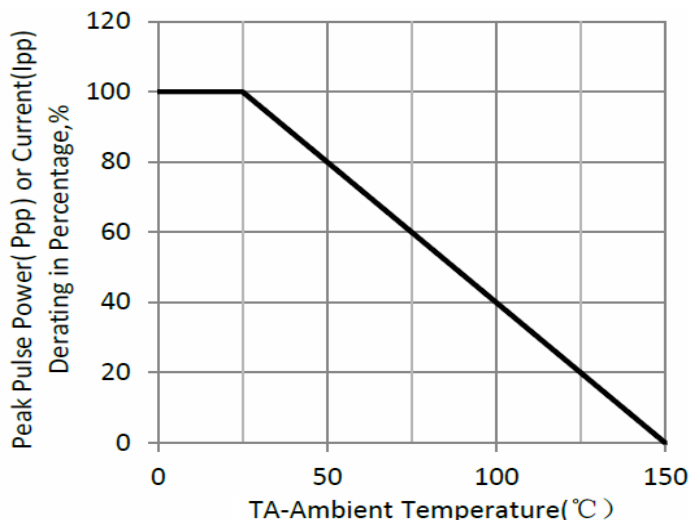


Figure 2. Peak Pulse Power Derating Curve

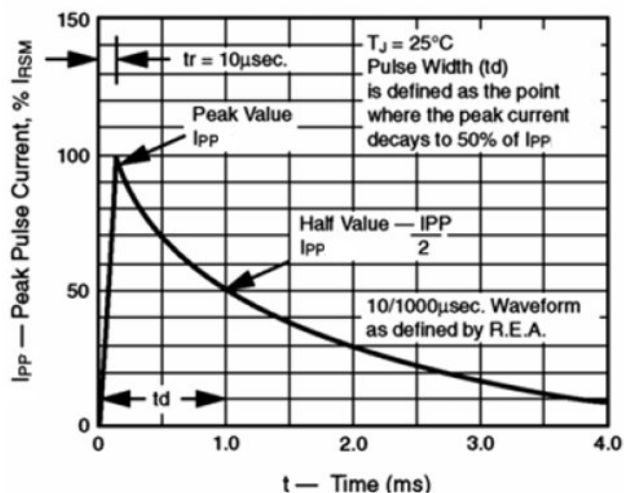


Figure 3. Pulse Waveform

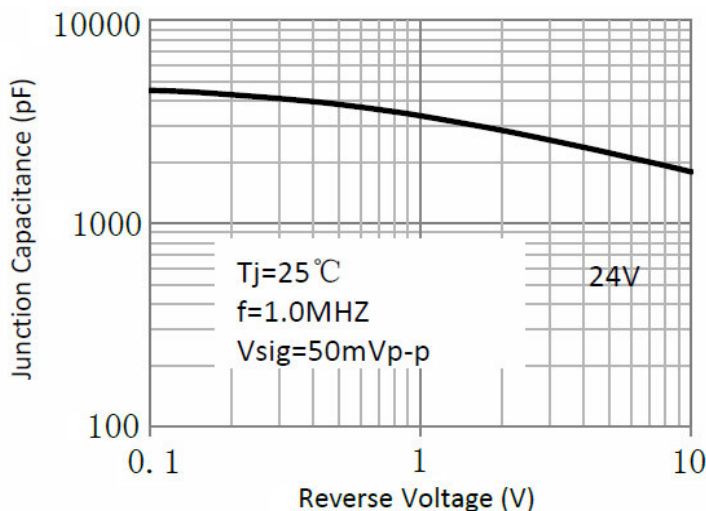


Figure 4. Typical Junction Capacitance

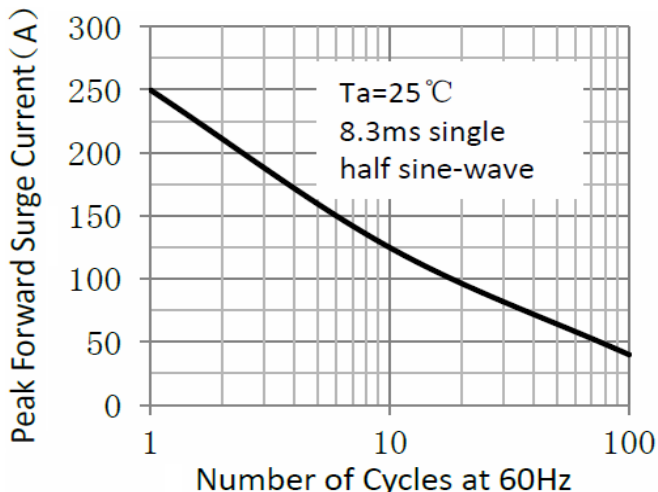


Figure 5 - Maximum Non-Repetitive Peak Forward Surge Current Uni-Directional Only