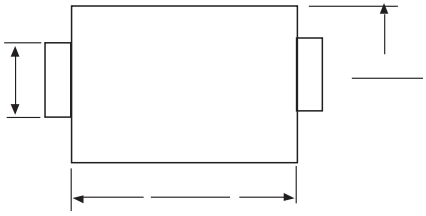
SMCJ SERIES

VOLTAGE-5.0 TO 440 Volts 1500 Watt Peak Pulse Power

FEATURES

- For surface mounted applications in order to optimize board space
- Low profile package
- Built-in strain relief
- Glass passivated junction
- Low inductance
- Excellent clamping capability
- Repetition rate (duty cycle):0.01%
- Fast response time: typically less than 1.0 ps from 0 volts to BV for unidirectional types
- Typical IR less than 1μA above 10V
- High temperature soldering: 250°C/10 seconds at terminals
- Plastic package has Underwriters Laboratory Flammability Classification 94 V-O



Dimensions in inches and (millimeters)

MECHANICAL DATA

Case: JEDEC DO214AB. Molded plastic over glass passivated junction
Terminals: Solder plated, solderable per MIL-STD-750, Method 2026
Polarity: Color band denoted positive end (cathode) except Bidirectional
Standard Packaging: 16mm tape (EIA STD RS-481)
Weight: 0.007 ounces, 0.021 grams)

For Bidirectional use C or CA Suffix for types SMCJ5.0 thru types SMCJ440 (e.g. SMCJ5.0C, SMCJ440CA)
Electrical characteristics apply in both directions.

Ratings at 25°C ambient temperature unless otherwise specified.

RATING	SYMBOL	VALUE	UNITS
Peak Pulse Power Dissipation on 10/1000 μs waveform (NOTE 1, 2, Fig.1)	P_{PPM}	Minimum 1500	Watts
Peak Pulse Current of on 10/1000 μs waveform (Note 1,Fig 3)	I_{PPM}	SEE TABLE 1	Amps
Peak Forward Surge Current, 8.3ms Single Half Sine-wave Superimposed on Rated Load, (JEDEC Method)(Note2, 3)	I_{FSM}	200	Amps
Operatings and Storage Temperature Range	T_J, T_{STG}	-55 +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above Ta=25 °C per Fig.2.
2. Mounted on Copper Pad area of 0.8x0.8" (20x20mm) per Fig.5.
3. 8.3ms single half sine-wave, or equivalent square wave, Duty cycle=4 pulses per minutes maximum.

Certified RoHS Compliant

UNI-POLAR	BI-POLAR	REVERSE STANDOFF VOLTAGE V_{RWM} (V)	BREAKDOWN VOLTAGE V_{BR} (V) MIN. @ I_T	BREAKDOWN VOLTAGE V_{BR} (V) MAX. @ I_T	TEST CURRENT (I_T) mA	MAXIMUM CLAMPING VOLTAGE @I_{PP} V_C (V)	PEAK PULSE CURRENT I_{PP} (A)	REVERSE LEAKAGE @ V_{RWM} I_R (μA)
SMCJ5.0A	SMCJ5.0CA	5.00	6.40	7.00	10	9.2	163.0	800
SMCJ6.0A	SMCJ6.0CA	6.00	6.67	7.37	10	10.3	145.7	800
SMCJ6.5A	SMCJ6.5CA	6.50	7.22	7.98	10	11.2	134.0	500
SMCJ7.0A	SMCJ7.0CA	7.00	7.78	8.60	10	12.0	125.0	200
SMCJ7.5A	SMCJ7.5CA	7.50	8.33	9.21	1	12.9	116.3	100
SMCJ8.0A	SMCJ8.0CA	8.00	8.89	9.83	1	13.6	110.3	50
SMCJ8.5A	SMCJ8.5CA	8.50	9.44	10.40	1	14.4	104.2	20
SMCJ9.0A	SMCJ9.0CA	9.00	10.00	11.10	1	15.4	97.4	10
SMCJ10A	SMCJ10CA	10.00	11.10	12.30	1	17.0	88.3	5
SMCJ11A	SMCJ11CA	11.00	12.20	13.50	1	18.2	82.5	5
SMCJ12A	SMCJ12CA	12.00	13.30	14.70	1	19.9	75.4	5
SMCJ13A	SMCJ13CA	13.00	14.40	15.90	1	21.5	69.8	5
SMCJ14A	SMCJ14CA	14.00	15.60	17.20	1	23.2	64.7	5
SMCJ15A	SMCJ15CA	15.00	16.70	18.50	1	24.4	61.5	5
SMCJ16A	SMCJ16CA	16.00	17.80	19.70	1	26.0	57.7	5
SMCJ17A	SMCJ17CA	17.00	18.90	20.90	1	27.6	54.4	5
SMCJ18A	SMCJ18CA	18.00	20.00	22.10	1	29.2	51.4	5
SMCJ20A	SMCJ20CA	20.00	22.20	24.50	1	32.4	46.3	5
SMCJ22A	SMCJ22CA	22.00	24.40	26.90	1	35.5	42.3	5
SMCJ24A	SMCJ24CA	24.00	26.70	29.50	1	38.9	38.6	5
SMCJ26A	SMCJ26CA	26.00	28.90	31.90	1	42.1	35.7	5
SMCJ28A	SMCJ28CA	28.00	31.10	34.40	1	45.4	33.1	5
SMCJ30A	SMCJ30CA	30.00	33.30	36.80	1	48.4	31.0	5
SMCJ33A	SMCJ33CA	33.00	36.70	40.60	1	53.3	28.2	5
SMCJ36A	SMCJ36CA	36.00	40.00	44.20	1	58.1	25.9	5
SMCJ40A	SMCJ40CA	40.00	44.40	49.10	1	64.5	23.3	5
SMCJ43A	SMCJ43CA	43.00	47.80	52.80	1	69.4	21.7	5
SMCJ45A	SMCJ45CA	45.00	50.00	55.30	1	72.7	20.6	5
SMCJ48A	SMCJ48CA	48.00	53.30	58.90	1	77.4	19.4	5
SMCJ51A	SMCJ51CA	51.00	56.70	62.70	1	82.4	18.2	5
SMCJ54A	SMCJ54CA	54.00	60.00	66.30	1	87.1	17.3	5
SMCJ58A	SMCJ58CA	58.00	64.40	71.20	1	93.6	16.1	5
SMCJ60A	SMCJ60CA	60.00	66.70	73.70	1	96.8	15.5	5
SMCJ64A	SMCJ64CA	64.00	71.10	78.60	1	103.0	14.6	5
SMCJ70A	SMCJ70CA	70.00	77.80	86.00	1	113.0	13.3	5
SMCJ75A	SMCJ75CA	75.00	83.30	92.10	1	121.0	12.4	5
SMCJ78A	SMCJ78CA	78.00	86.70	95.80	1	126.0	11.9	5
SMCJ85A	SMCJ85CA	85.00	94.40	104.00	1	137.0	11.0	5
SMCJ90A	SMCJ90CA	90.00	100.00	111.00	1	146.0	10.3	5
SMCJ100A	SMCJ100CA	100.00	111.00	123.00	1	162.0	9.3	5
SMCJ110A	SMCJ110CA	110.00	122.00	135.00	1	177.0	8.5	5
SMCJ120A	SMCJ120CA	120.00	133.00	147.00	1	193.0	7.8	5
SMCJ130A	SMCJ130CA	130.00	144.00	159.00	1	209.0	7.2	5
SMCJ150A	SMCJ150CA	150.00	167.00	185.00	1	243.0	6.2	5
SMCJ160A	SMCJ160CA	160.00	178.00	197.00	1	259.0	5.8	5
SMCJ170A	SMCJ170CA	170.00	189.00	209.00	1	275.0	5.5	5
SMCJ180A	SMCJ180CA	180.00	201.00	222.00	1	292.0	5.1	5
SMCJ200A	SMCJ200CA	200.00	224.00	247.00	1	324.0	4.6	5
SMCJ220A	SMCJ220CA	220.00	246.00	272.00	1	356.0	4.2	5
SMCJ250A	SMCJ250CA	250.00	279.00	309.00	1	405.0	3.7	5
SMCJ300A	SMCJ300CA	300.00	335.00	371.00	1	486.0	3.1	5
SMCJ350A	SMCJ350CA	350.00	391.00	432.00	1	567.0	2.6	5
SMCJ400A	SMCJ400CA	400.00	447.00	494.00	1	648.0	2.3	5
SMCJ440A	SMCJ440CA	440.00	492.00	543.00	1	713.0	2.1	5

For bidirectional type having Vrwm of 10 volts and less, the IR limit is double

For parts without A , the V_{BR} is $\pm$ 10%

RATING AND CHARACTERISTIC CURVES SMCJ SERIES

Fig. 1 - Peak Pulse Power Rating

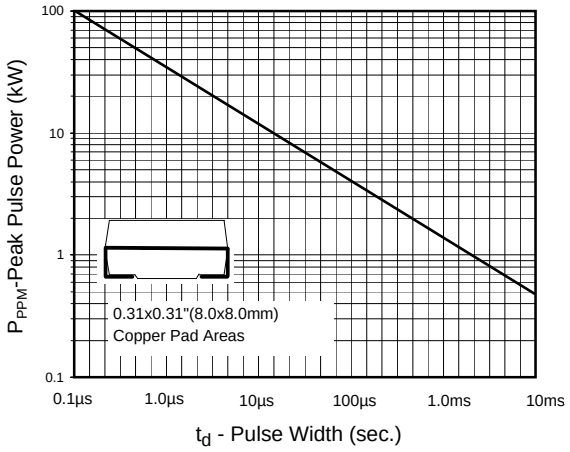


Fig.2 - Pulse Derating Curve

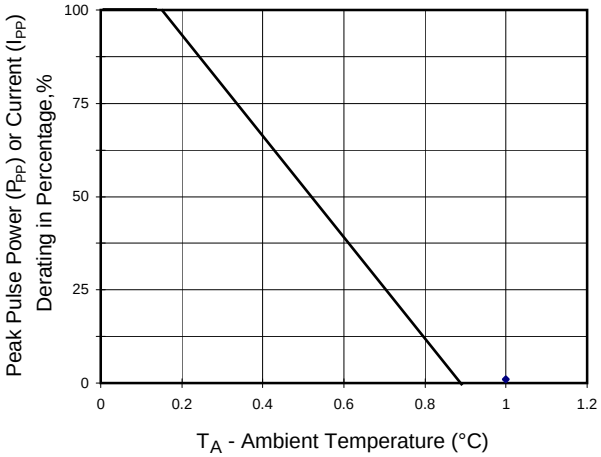


Fig.3 - Pulse Waveform

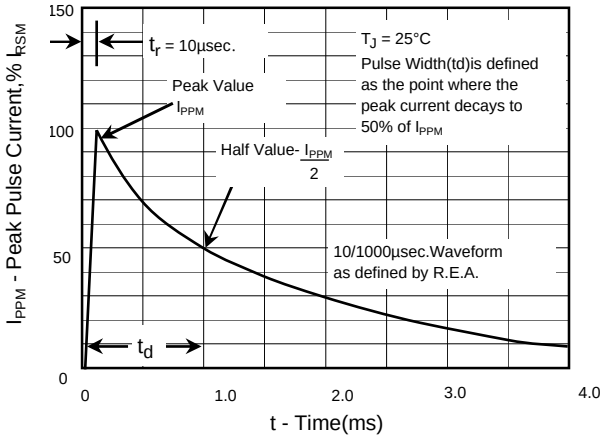


Fig.4 - Typical Junction Capacitance Uni-Directional

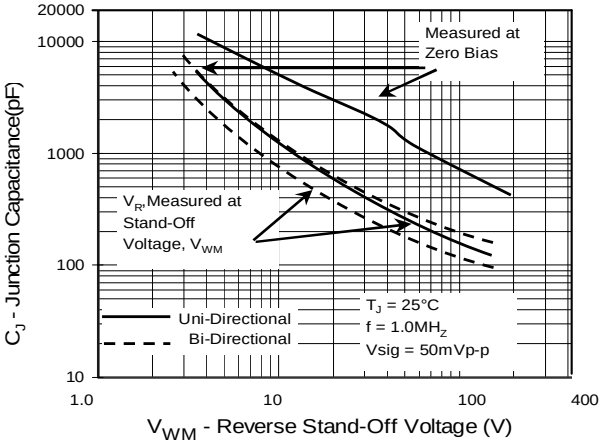


Fig. 5 - Typ.Transient Thermal Impedance

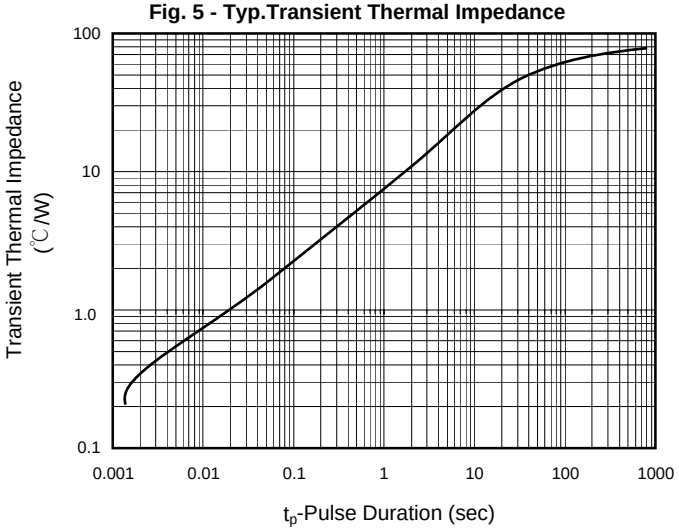


Fig.6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Use Only