



## 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

1500W peak pulse power capability at 10/1000μs waveform,

repetition rate (duty cycle): 0.01%

Fast response time

Typical IR less than 1μA above 10V

High Temperature soldering: 260C/10 seconds at terminals

Plastic package has underwriters laboratory flammability 94V-0



SMC

## Mechanical Data

**Case** : JEDEC SMC molded plastic body

**Terminals** : Solderable per MIL-STD-750, Method 2026

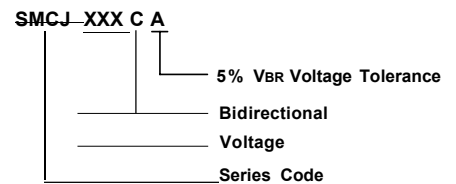
**Polarity** : Polarity symbol marking on body **Mounting**

**Position** : Any

**Weight** : 0.003 ounce, 0.095 grams

**Standard Packaging**: 12mm tape (EIA STD RS-481)

## Part Number Code



## Applications

I/O interface

AC/DC power supply

Low frequency signal transmission line (RS232, RS485, etc.)

### MAXIMUM RATINGS AND CHARACTERISTICS

Ratings at 25°C ambient temperature unless otherwise specified.

Peak pulse power dissipation at 10 / 1000 μs waveform (Note1, Note2, Fig . 1)	$P_{PPM}$	Minimum 1500	W
Peak pulse current of at 10 / 1000 μs waveform ( Note 1 , Fig . 3 )	$I_{PPM}$	See Table	A
Steady state power dissipation at $T_A = 50\text{C}$ ( Fig . 5 )	$P_{M(AV)}$	6.5	W
Peak forward surge current, 8 . 3 ms single half sine- wave superimposed on rated load, ( JEDEC Method ) ( Note3 , Fig . 6 )	$I_{FSM}$	200	A
Operating junction and Storage Temperature Range .	$T_J , T_{STG}$	-65 to +150	C
Typical thermal resistance junction to lead	$R_{\theta JL}$	15	C/ W
Typical thermal resistance junction to ambient	$R_{\theta JA}$	75	C/ W

Notes : 1. Non- repetitive current pulse, per Fig . 3 and derated above  $T_A = 25\text{C}$  per Fig . 2 .

2. Mounted on 5 . 0 mm×5 . 0 mm ( 0 . 3 mm thick ) copper pads to each terminal .

3. 8 . 3 ms single half sine- wave, or equivalent square wave, duty cycle= 4 pulses per minutes maximum .



**Electrical Characteristics (T<sub>A</sub>=25°C)**

Part Number		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @I <sub>T</sub>	Test Current	Maximum Clamping Voltage@I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
Unidirectional	Bidirectional	UNI	BI	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (pA)
SMCJ5.0A	SMCJ5.0CA	GDE	GDE	5.0	6.40~7.00	10	9.2	163.0	800
SMCJ6.0A	SMCJ6.0CA	GDG	GDG	6.0	6.67~7.37	10	10.3	145.7	800
SMCJ6.5A	SMCJ6.5CA	GDK	BDK	6.5	7.22~7.98	10	11.2	134.0	500
SMCJ7.0A	SMCJ7.0CA	GDM	GDM	7.0	7.78~8.60	10	12.0	125.0	200
SMCJ7.5A	SMCJ7.5CA	GDP	GDP	7.5	8.33~9.21	1	12.9	116.3	100
SMCJ8.0A	SMCJ8.0CA	GDR	BDR	8.0	8.89~9.83	1	13.6	110.3	50
SMCJ8.5A	SMCJ8.5CA	GDT	BDT	8.5	9.44~10.40	1	14.4	104.2	20
SMCJ9.0A	SMCJ9.0CA	GDV	BDV	9.0	10.00~11.10	1	15.4	97.4	10
SMCJ10A	SMCJ10CA	GDX	BDX	10.0	11.10~12.30	1	17.0	88.3	5
SMCJ11A	SMCJ11CA	GDZ	GDZ	11.0	12.20~13.50	1	18.2	82.5	1
SMCJ12A	SMCJ12CA	GEE	BEE	12.0	13.30~14.70	1	19.9	75.4	1
SMCJ13A	SMCJ13CA	GEG	GEG	13.0	14.40~15.90	1	21.5	69.8	1
SMCJ14A	SMCJ14CA	GEK	BEK	14.0	15.60~17.20	1	23.2	64.7	1
SMCJ15A	SMCJ15CA	GEM	BEM	15.0	16.70~18.50	1	24.4	61.5	1
SMCJ16A	SMCJ16CA	GEP	GEP	16.0	17.80~19.70	1	26.0	57.7	1
SMCJ17A	SMCJ17CA	GER	GER	17.0	18.90~20.90	1	27.6	54.4	1
SMCJ18A	SMCJ18CA	GET	BET	18.0	20.00~22.10	1	29.2	51.4	1
SMCJ20A	SMCJ20CA	GEV	BEV	20.0	22.20~24.50	1	32.4	46.3	1
SMCJ22A	SMCJ22CA	GEX	BEX	22.0	24.40~26.90	1	35.5	42.3	1
SMCJ24A	SMCJ24CA	GEZ	BEZ	24.0	26.70~29.50	1	38.9	38.6	1



Part Number		Device Marking Code		Reverse Stand-Off Voltage	Breakdown Voltage @I <sub>T</sub>	Test Current	Maximum Clamping Voltage@I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RWM</sub>
Unidirectional	Bidirectional	UNI	BI	V <sub>RWM</sub> (V)	V <sub>BR</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (pA)
SMCJ26A	SMCJ26CA	GFE	BFE	26.0	28.90~31.90	1	42.1	35.7	1
SMCJ28A	SMCJ28CA	GFG	BFG	28.0	31.10~34.40	1	45.4	33.1	1
SMCJ30A	SMCJ30CA	GFK	BFK	30.0	33.30~36.80	1	48.4	31.0	1
SMCJ33A	SMCJ33CA	GFM	BFM	33.0	36.70~40.60	1	53.3	28.2	1
SMCJ36A	SMCJ36CA	GFP	BFP	36.0	40.00~44.20	1	58.1	25.9	1
SMCJ40A	SMCJ40CA	GFR	BFR	40.0	44.40~49.10	1	64.5	23.3	1
SMCJ43A	SMCJ43CA	GFT	BFT	43.0	47.80~52.80	1	69.4	21.7	1
SMCJ45A	SMCJ45CA	GFV	GFV	45.0	50.00~55.30	1	72.7	20.6	1
SMCJ48A	SMCJ48CA	GFX	BFX	48.0	53.30~58.90	1	77.4	19.4	1
SMCJ51A	SMCJ51CA	GFZ	GFZ	51.0	56.70~62.70	1	82.4	18.2	1
SMCJ54A	SMCJ54CA	GGE	GGE	54.0	60.00~66.30	1	87.1	17.3	1
SMCJ58A	SMCJ58CA	GGG	GGG	58.0	64.40~71.20	1	93.6	16.1	1
SMCJ60A	SMCJ60CA	GGK	GGK	60.0	66.70~73.70	1	96.8	15.5	1
SMCJ64A	SMCJ64CA	GGM	GGM	64.0	71.10~78.60	1	103.0	14.6	1
SMCJ70A	SMCJ70CA	GGP	GGP	70.0	77.80~86.00	1	113.0	13.3	1
SMCJ75A	SMCJ75CA	GGR	GGR	75.0	83.30~92.10	1	121.0	12.4	1
SMCJ78A	SMCJ78CA	GGT	GGT	78.0	86.70~95.80	1	126.0	11.9	1
SMCJ85A	SMCJ85CA	GGV	GGV	85.0	94.40~104.00	1	137.0	11.0	1
SMCJ90A	SMCJ90CA	GGX	GGX	90.0	100.00~111.00	1	146.0	10.3	1
SMCJ100A	SMCJ100CA	GGZ	GGZ	100.0	111.00~123.00	1	162.0	9.3	1
SMCJ110A	SMCJ110CA	GHE	GHE	110.0	122.00~135.00	1	177.0	8.5	1
SMCJ120A	SMCJ120CA	GHG	GHG	120.0	133.00~147.00	1	193.0	7.8	1
SMCJ130A	SMCJ130CA	GHK	BHK	130.0	144.00~159.00	1	209.0	7.2	1
SMCJ150A	SMCJ150CA	GHM	GHM	150.0	167.00~185.00	1	243.0	6.2	1
SMCJ160A	SMCJ160CA	GHP	GHP	160.0	178.00~197.00	1	259.0	5.8	1
SMCJ170A	SMCJ170CA	GHR	GHR	170.0	189.00~209.00	1	275.0	5.5	1
SMCJ188A	SMCJ188CA	GHS	GHS	180.0	201.00~222.00	1	292.0	5.1	1
SMCJ190A	SMCJ190CA	GHU	BHU	190.0	211.00~233.00	1	308.0	4.8	1
SMCJ200A	SMCJ200CA	GHV	BHV	200.0	224.00~247.00	1	324.0	4.6	1
SMCJ210A	SMCJ210CA	GHW	BHW	210.0	237.00~263.00	1	340.0	4.4	1
SMCJ220A	SMCJ220CA	GHX	BHX	220.0	246.00~272.00	1	356.0	4.2	1
SMCJ250A	SMCJ250CA	GHZ	BHZ	250.0	279.00~309.00	1	405.0	3.7	1
SMCJ300A	SMCJ300CA	GJE	BJE	300.0	335.00~371.00	1	486.0	3.1	1
SMCJ350A	SMCJ350CA	GJG	BJG	350.0	391.00~432.00	1	567.0	2.6	1
SMCJ400A	SMCJ400CA	GJK	BJK	400.0	447.00~494.00	1	648.0	2.3	1
SMCJ440A	SMCJ440CA	GJM	BJM	440.0	492.00~543.00	1	713.0	2.1	1

Notes: For bidirectional type having V<sub>RWM</sub> of 10V and less, the I<sub>R</sub> limit is double.



**Ratings and Characteristic Curves ( $T_A=25^{\circ}\text{C}$  unless otherwise noted)**

Figure 1. Peak Pulse Power Rating Curve

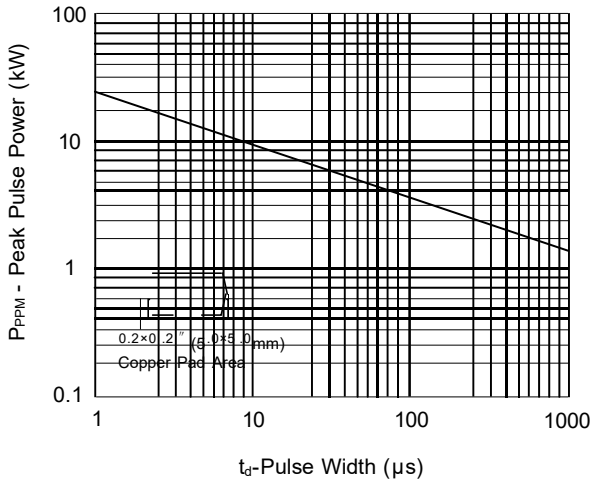


Figure 2. Pulse Derating Curve

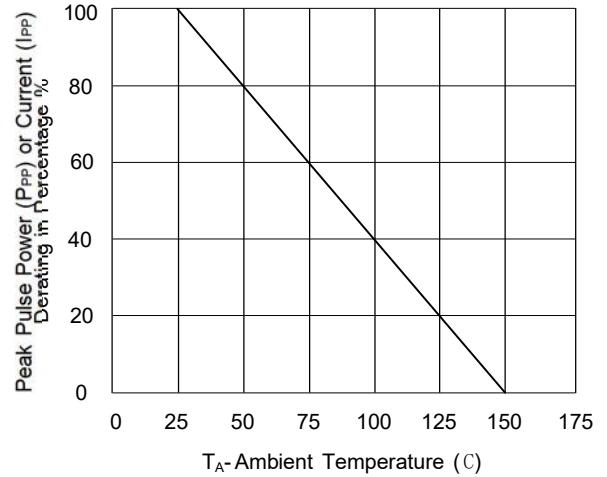


Figure 3. Pulse Waveform

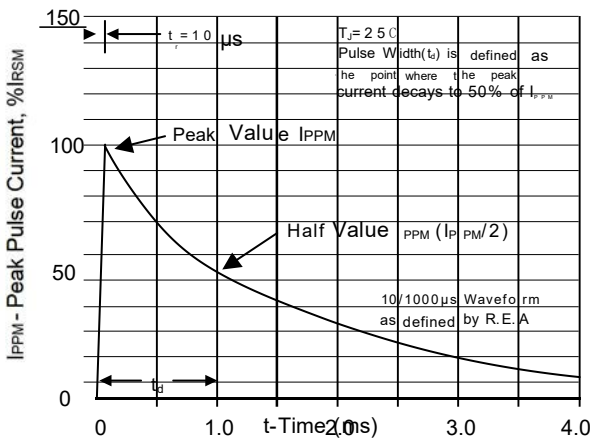


Figure 4. Typical Junction Capacitance

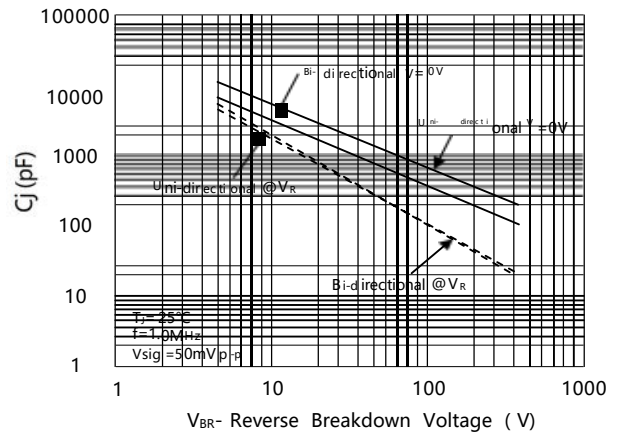


Figure 5. Steady State Power Dissipation Derating Curve

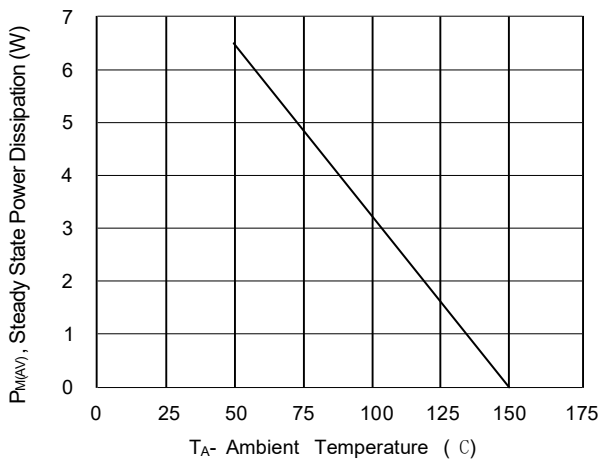
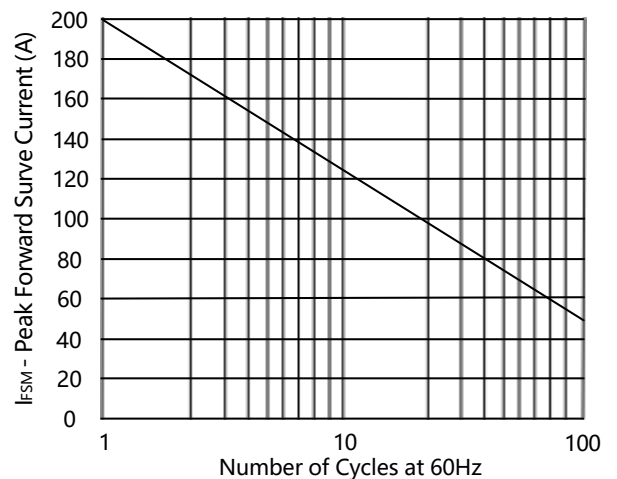
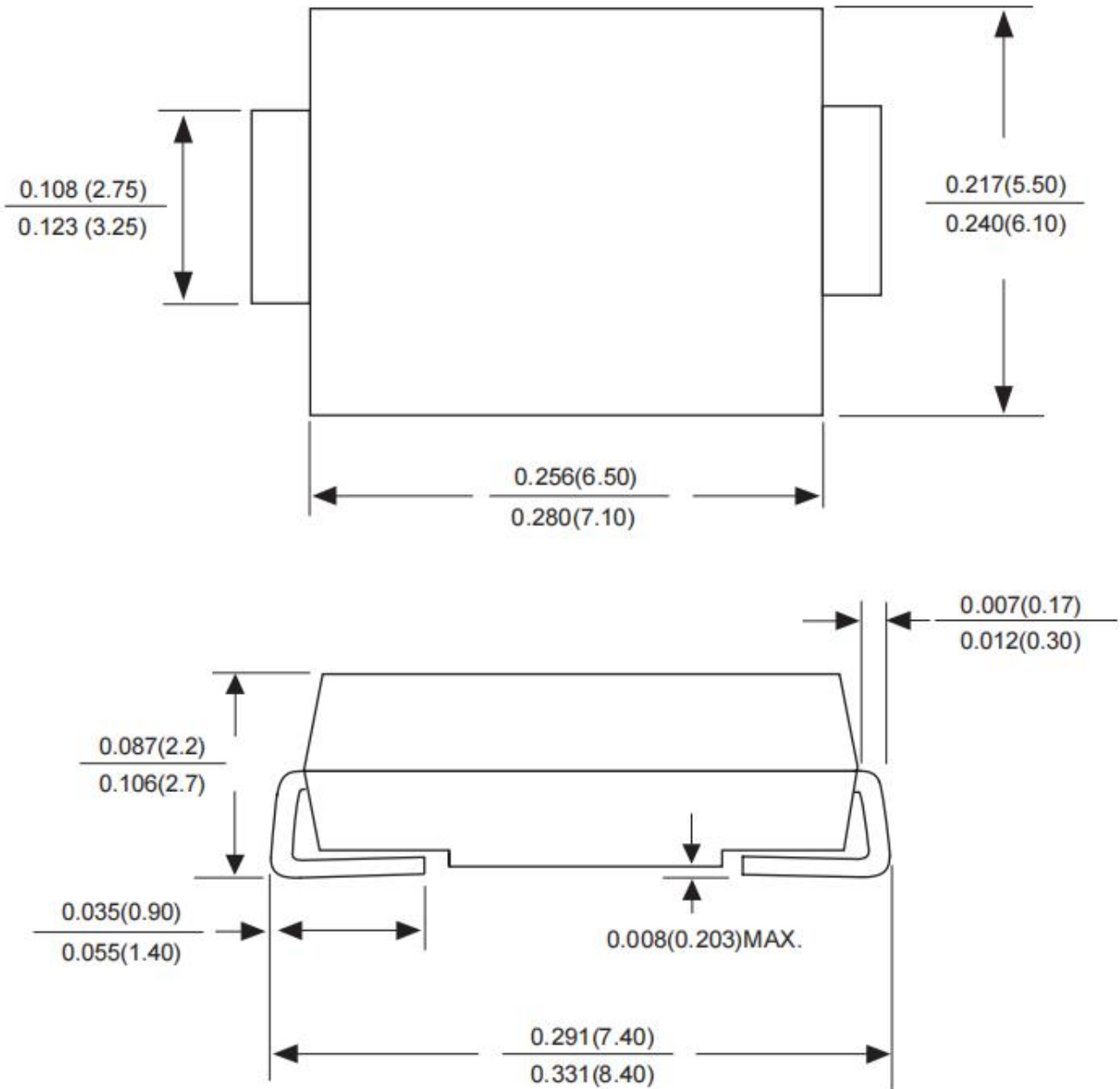


Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only





### SMC Package Outline Dimensions



Dimensions in inches and (millimeters)



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