



## SMCG Plastic-Encapsulate Diodes

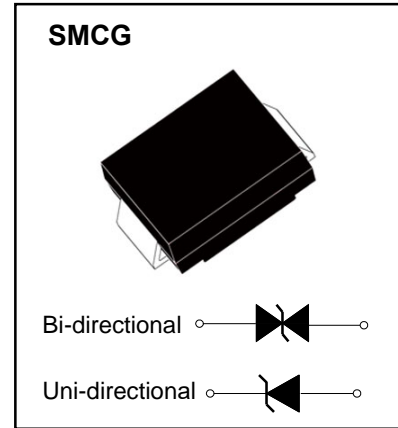
### CJSMCJ SERIES Transient Voltage Suppressor Diodes

#### Features

- $P_{PP}$  1500W
- $V_{RWM}$  10V- 100V
- Glass passivated chip

#### Applications

- Clamping Voltage



#### Limiting Values (Absolute Maximum Rating)

Item	Symbol	Unit	Conditions	Max
Peak pulse power dissipation	$P_{PPM}$	W	with a 10/1000us waveform	1500
Peak pulse current(note1)	$I_{PPM}$	A	with a 10/1000us waveform	See Next Table
Power dissipation	$P_D$	W	On infinite heat sink at $T_L=50^\circ\text{C}$	6.5
Peak forward surge current	$I_{FSM}$	A	8.3 ms single half sine-wave uni-directional only (note 2)	200
Operating junction and storage temperature range	$T_J, T_{STG}$	$^\circ\text{C}$		-55 to +150

#### Electrical Characteristics ( $T_A=25^\circ\text{C}$ Unless otherwise specified)

Item	Symbol	Unit	Conditions	Max
Maximum instantaneous forward Voltage	$V_F$	V	at 100A for uni-directional only	3.5
Thermal resistance	$R_{\theta JL}$	$^\circ\text{C}/\text{W}$	junction to lead $T_L=50^\circ\text{C}$	15
	$R_{\theta JA}$	$^\circ\text{C}/\text{W}$	junction to ambient $T_A=25^\circ\text{C}$	75

#### Notes:

- (1) Non-repetitive current pulse, per Fig. 3 and derated above  $T_A=25^\circ\text{C}$  per Fig.2
- (2) 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minutes maximum

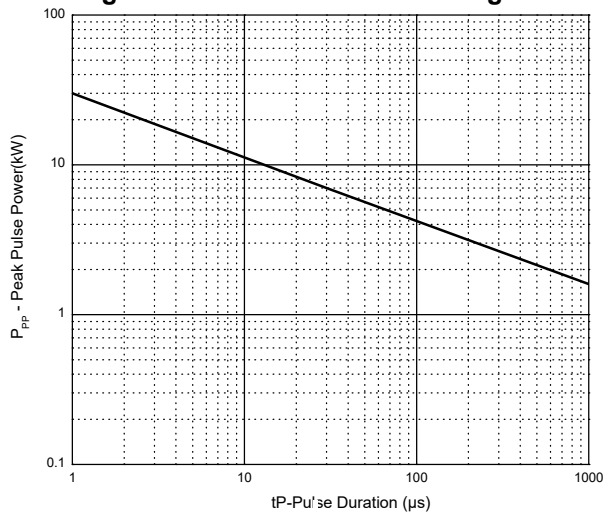
## Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Part Number		Device Marking Code		Breakdown Voltage $V_{BR}@I_T$		Test Current	Max Reverse Leakage @VRWM	Reverse Standoff Voltage	Max Peak Pulse Current	Max Clamping Voltage @Ipp
UNI	BI	UNI	BI	Min.(V)	Max.(V)	IT(mA)	IR(uA)	$V_{RWM}(V)$	IPP(A)	Vc(V)
CJSMCJ10A	CJSMCJ10CA	C10A XX <sup>(2)</sup>	C10CA XX	11.14	12.29	1	5	10	88.3	16.8
CJSMCJ11A	CJSMCJ11CA	C11A XX	C11CA XX	12.25	13.49	1	5	11	82.5	18
CJSMCJ12A	CJSMCJ12CA	C12A XX	C12CA XX	13.35	14.69	1	5	12	75.4	19.7
CJSMCJ13A	CJSMCJ13CA	C13A XX	C13CA XX	14.46	15.89	1	5	13	69.8	21.3
CJSMCJ14A	CJSMCJ14CA	C14A XX	C14CA XX	15.66	17.19	1	5	14	64.7	23
CJSMCJ15A	CJSMCJ15CA	C15A XX	C15CA XX	16.77	18.49	1	5	15	61.5	24.2
CJSMCJ16A	CJSMCJ16CA	C16A XX	C16CA XX	17.87	19.69	1	5	16	57.7	25.7
CJSMCJ17A	CJSMCJ17CA	C17A XX	C17CA XX	18.98	20.89	1	5	17	54.4	27.3
CJSMCJ18A	CJSMCJ18CA	C18A XX	C18CA XX	20.08	22.08	1	5	18	51.4	28.9
CJSMCJ20A	CJSMCJ20CA	C20A XX	C20CA XX	22.29	24.48	1	5	20	46.3	32.1
CJSMCJ22A	CJSMCJ22CA	C22A XX	C22CA XX	24.5	26.88	1	5	22	42.3	35.1
CJSMCJ24A	CJSMCJ24CA	C24A XX	C24CA XX	26.81	29.48	1	5	24	38.6	38.5
CJSMCJ26A	CJSMCJ26CA	C26A XX	C26CA XX	29.02	31.88	1	5	26	35.7	41.7
CJSMCJ28A	CJSMCJ28CA	C28A XX	C28CA XX	31.22	34.38	1	5	28	33.1	44.9
CJSMCJ30A	CJSMCJ30CA	C30A XX	C30CA XX	33.43	36.77	1	5	30	31	47.9
CJSMCJ33A	CJSMCJ33CA	C33A XX	C33CA XX	36.85	40.57	1	5	33	28.2	52.8
CJSMCJ36A	CJSMCJ36CA	C36A XX	C36CA XX	40.16	44.17	1	5	36	25.9	57.5
CJSMCJ40A	CJSMCJ40CA	C40A XX	C40CA XX	44.58	49.07	1	5	40	23.3	63.9
CJSMCJ43A	CJSMCJ43CA	C43A XX	C43CA XX	47.99	52.76	1	5	43	21.7	68.7
CJSMCJ45A	CJSMCJ45CA	C45A XX	C45CA XX	50.2	55.26	1	5	45	20.6	72
CJSMCJ48A	CJSMCJ48CA	C48A XX	C48CA XX	53.51	58.86	1	5	48	19.4	76.6
CJSMCJ51A	CJSMCJ51CA	C51A XX	C51CA XX	56.93	62.66	1	5	51	18.2	81.6
CJSMCJ54A	CJSMCJ54CA	C54A XX	C54CA XX	60.24	66.25	1	5	54	17.3	86.2
CJSMCJ58A	CJSMCJ58CA	C58A XX	C58CA XX	64.66	71.15	1	5	58	16.1	92.7
CJSMCJ60A	CJSMCJ60CA	C60A XX	C60CA XX	66.97	73.65	1	5	60	15.5	95.8
CJSMCJ64A	CJSMCJ64CA	C64A XX	C64CA XX	71.39	78.54	1	5	64	14.6	102
CJSMCJ70A	CJSMCJ70CA	C70A XX	C70CA XX	78.11	85.94	1	5	70	13.3	111.9
CJSMCJ75A	CJSMCJ75CA	C75A XX	C75CA XX	83.63	92.04	1	5	75	12.4	119.8
CJSMCJ78A	CJSMCJ78CA	C78A XX	C78CA XX	87.05	95.73	1	5	78	11.9	124.7
CJSMCJ85A	CJSMCJ85CA	C85A XX	C85CA XX	94.78	103.93	1	5	85	11	135.6
CJSMCJ90A	CJSMCJ90CA	C90A XX	C90CA XX	100.4	110.92	1	5	90	10.3	144.5
CJSMCJ100A	CJSMCJ100CA	C100A XX	C100CA XX	111.45	122.91	1	5	100	9.3	160.4

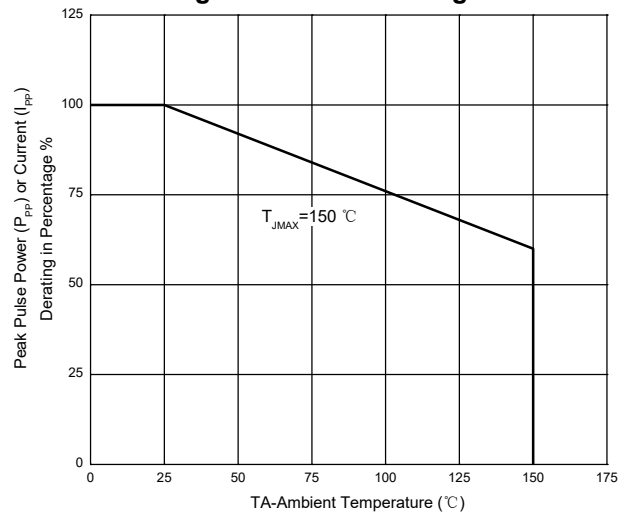
### Notes:

- (1) Waveform of CJSMCJ10A -CJSMCJ100CA are defined as per fig.3
- (2) XX=Code

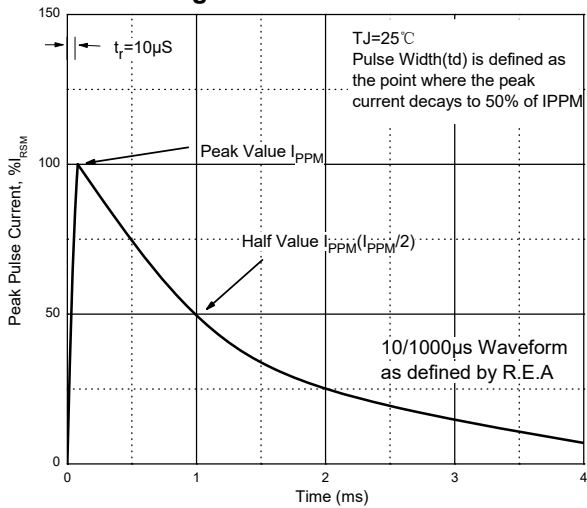
**Figure 1. Peak Pulse Power Rating Curve**



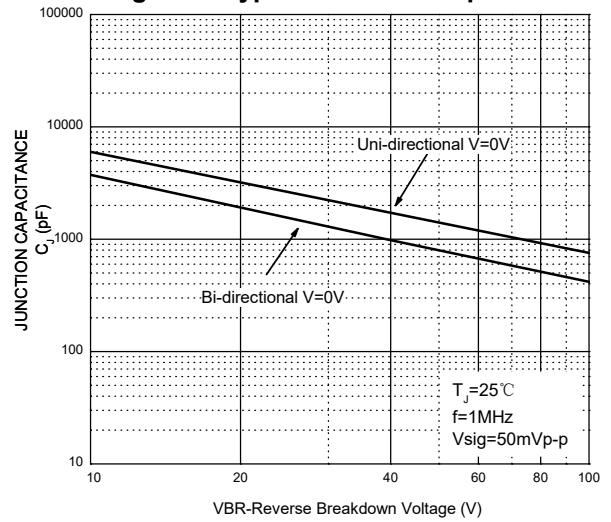
**Figure 2. Pulse Derating Curve**



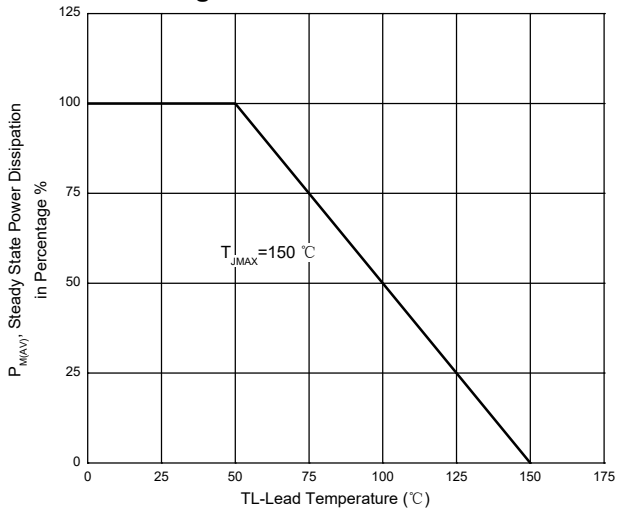
**Figure 3. Pulse Waveform**



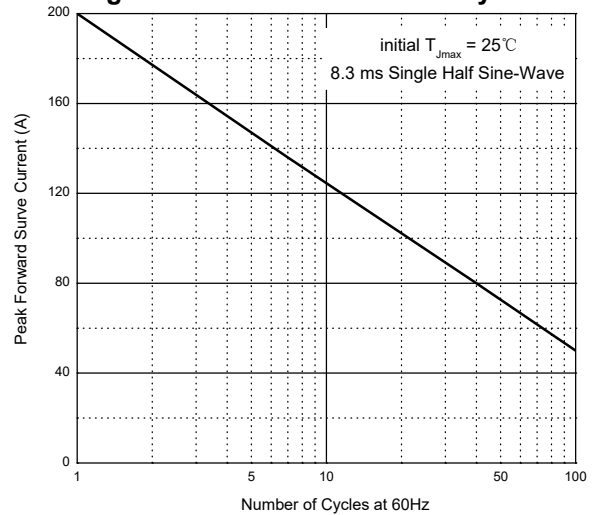
**Figure 4. Typical Junction Capacitance**



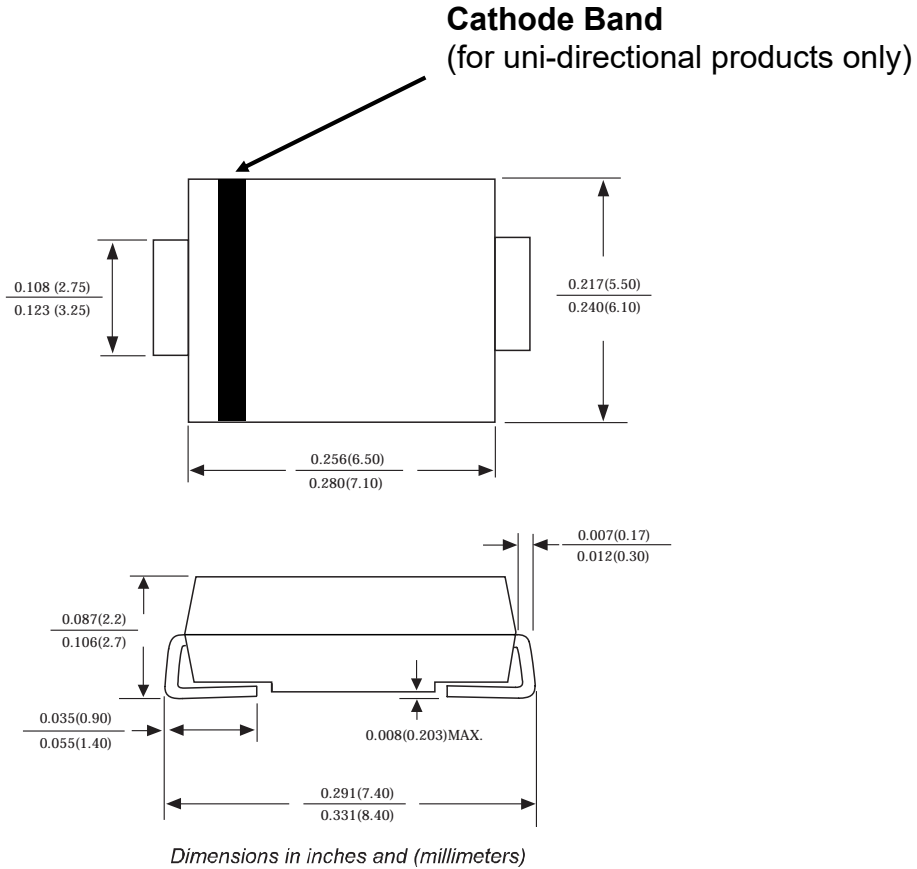
**Figure 5. Steady State Power Dissipation Derating Curve**



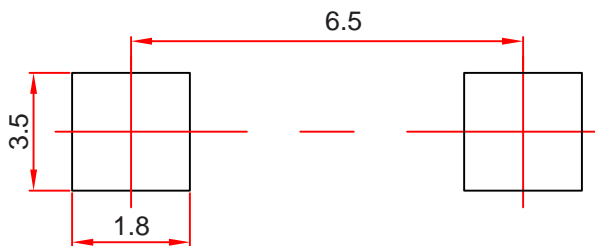
**Figure 6. Maximum Non-Repetitive Forward Surge Current Uni-Directional Only**



## SMCG Package Outline Dimensions



## SMCG Suggested Pad Layout



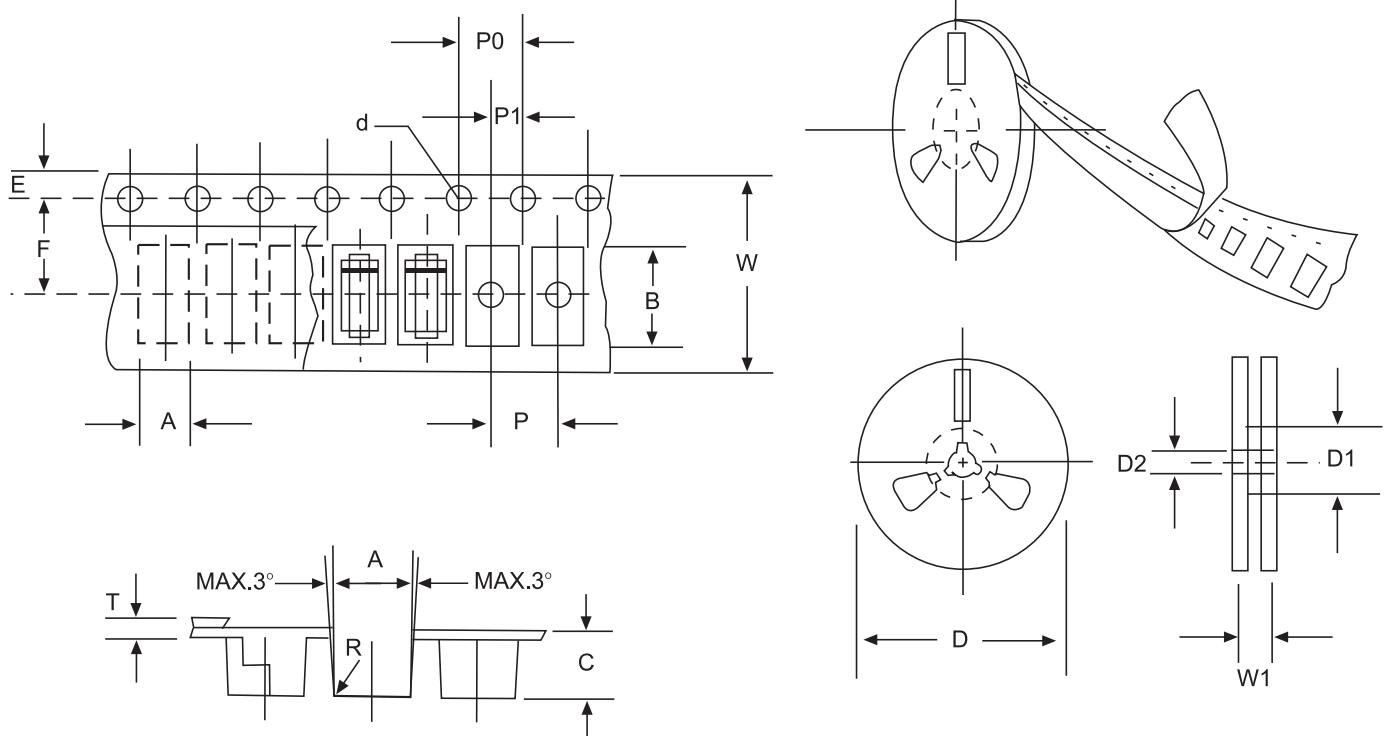
**Note:**

1. Controlling dimension: in millimeters.
2. General tolerance:  $\pm 0.05$ mm.
3. The pad layout is for reference purposes only.

**NOTICE**

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## Reel Taping Specifications For Surface Mount Devices- SMCG



**FIG: CONFIGURATION OF SURFACE MOUNTED DEVICES TAPING**

ITEM	SYMBOL	SMCG mm(inch)
Carrier width	A	6.05±0.1(0.238±0.004)
Carrier length	B	8.31±0.1(0.327±0.004)
Carrier depth	C	2.70±0.1(0.106±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	330±2.0(13±0.079)
Reel inner diameter	D1	75 ±1.0 ( 2.95 ±0.039)
Feed hole diameter	D2	13±0.5(0.512±0.020)
Sprocket hole position	E	1.75±0.1(0.069±0.004)
Punch hole position	F	7.65±0.05(0.301±0.002)
Punch hole pitch	P	8.0±0.1(0.315±0.004)
Sprocket hole pitch	P0	4.0±0.1(0.157±0.004)
Embossment center	P1	2.0±0.1(0.079±0.004)
Total tape thickness	T	0.3±0.1(0.012±0.004)
Tape width	W	16.0±0.2(0.630±0.008)
Reel width	W1	24.0±2.0(0.945±0.079)

NOTE: Devices are packed in accordance with EIA standard RS-481-A and specification given above.

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