



## SOD-123FL Plastic-Encapsulate Diodes

### CJSMF SERIES Transient Voltage Suppressor Diodes

#### Features

- $P_{PP}$  200W
- $V_{RWM}$  10V- 100V

#### 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	200
Peak pulse current(note 1)	$I_{PPM}$	A	with a 10/1000us waveform	See Next Table
Power dissipation	$P_D$	W	On infinite heat sink at $T_L=75^\circ\text{C}$	1.0
Peak forward surge current	$I_{FSM}$	A	8.3 ms single half sine-wave uni-directional only (note 2)	20
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 25A for uni-directional only	3.5
Thermal resistance	$R_{\theta JL}$	$^\circ\text{C}/\text{W}$	junction to lead $T_L=50^\circ\text{C}$	100
	$R_{\theta JA}$	$^\circ\text{C}/\text{W}$	junction to ambient $T_A=25^\circ\text{C}$	200

#### 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

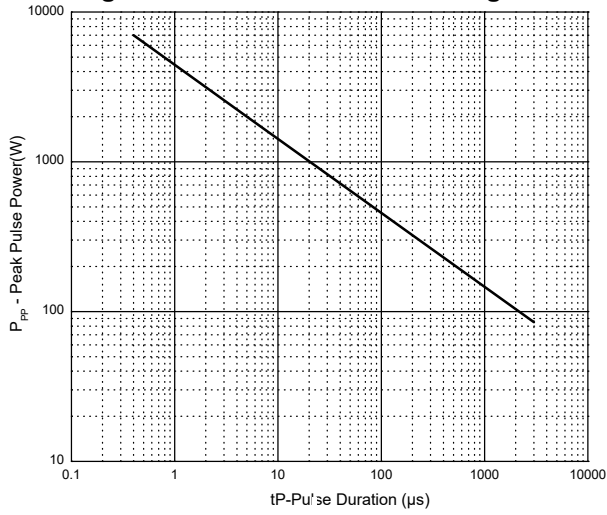
## Electrical Characteristics ( $T_A=25^\circ\text{C}$ unless otherwise noted)

Part Number		Device Marking Code		Breakdown Voltage $V_{BR}@I_T$		Test Current	Max Reverse Leakage @VRWM IR( $\mu\text{A}$ )		Reverse Standoff Voltage	Max Peak Pulse Current	Max Clamping Voltage @Ipp
UNI	BI	UNI	BI	Min.(V)	Max.(V)	IT(mA)	UNI	BI	$V_{RWM}(V)$	IPP(A)	$V_C(V)$
CJSMF10A	CJSMF10CA	F10A	F10CA	11.14	12.29	1	5	5	10	11.8	16.8
CJSMF11A	CJSMF11CA	F11A	F11CA	12.25	13.49	1	5	5	11	11	18
CJSMF12A	CJSMF12CA	F12A	F12CA	13.35	14.69	1	5	5	12	10.1	19.7
CJSMF13A	CJSMF13CA	F13A	F13CA	14.46	15.89	1	5	5	13	9.3	21.3
CJSMF14A	CJSMF14CA	F14A	F14CA	15.66	17.19	1	5	5	14	8.6	23
CJSMF15A	CJSMF15CA	F15A	F15CA	16.77	18.49	1	5	5	15	8.2	24.2
CJSMF16A	CJSMF16CA	F16A	F16CA	17.87	19.69	1	5	5	16	7.7	25.7
CJSMF17A	CJSMF17CA	F17A	F17CA	18.98	20.89	1	5	5	17	7.3	27.3
CJSMF18A	CJSMF18CA	F18A	F18CA	20.08	22.08	1	5	5	18	6.9	28.9
CJSMF20A	CJSMF20CA	F20A	F20CA	22.29	24.48	1	5	5	20	6.2	32.1
CJSMF22A	CJSMF22CA	F22A	F22CA	24.5	26.88	1	5	5	22	5.7	35.1
CJSMF24A	CJSMF24CA	F24A	F24CA	26.81	29.48	1	5	5	24	5.2	38.5
CJSMF26A	CJSMF26CA	F26A	F26CA	29.02	31.88	1	5	5	26	4.8	41.7
CJSMF28A	CJSMF28CA	F28A	F28CA	31.22	34.38	1	5	5	28	4.4	44.9
CJSMF30A	CJSMF30CA	F30A	F30CA	33.43	36.77	1	5	5	30	4.2	47.9
CJSMF33A	CJSMF33CA	F33A	F33CA	36.85	40.57	1	5	5	33	3.8	52.8
CJSMF36A	CJSMF36CA	F36A	F36CA	40.16	44.17	1	5	5	36	3.5	57.5
CJSMF40A	CJSMF40CA	F40A	F40CA	44.58	49.07	1	5	5	40	3.1	63.9
CJSMF43A	CJSMF43CA	F43A	F43CA	47.99	52.76	1	5	5	43	2.9	68.7
CJSMF45A	CJSMF45CA	F45A	F45CA	50.2	55.26	1	5	5	45	2.8	72
CJSMF48A	CJSMF48CA	F48A	F48CA	53.51	58.86	1	5	5	48	2.6	76.6
CJSMF51A	CJSMF51CA	F51A	F51CA	56.93	62.66	1	5	5	51	2.5	81.6
CJSMF54A	CJSMF54CA	F54A	F54CA	60.24	66.25	1	5	5	54	2.3	86.2
CJSMF58A	CJSMF58CA	F58A	F58CA	64.66	71.15	1	5	5	58	2.2	92.7
CJSMF60A	CJSMF60CA	F60A	F60CA	66.97	73.65	1	5	5	60	2.1	95.8
CJSMF64A	CJSMF64CA	F64A	F64CA	71.39	78.54	1	5	5	64	2	102
CJSMF70A	CJSMF70CA	F70A	F70CA	78.11	85.94	1	5	5	70	1.8	111.9
CJSMF75A	CJSMF75CA	F75A	F75CA	83.63	92.04	1	5	5	75	1.7	119.8
CJSMF78A	CJSMF78CA	F78A	F78CA	87.05	95.73	1	5	5	78	1.6	124.7
CJSMF85A	CJSMF85CA	F85A	F85CA	94.78	103.93	1	5	5	85	1.45	135.6
CJSMF90A	CJSMF90CA	F90A	F90CA	100.4	110.92	1	5	5	90	1.35	144.5
CJSMF100A	CJSMF100CA	F100A	F100CA	111.45	122.91	1	5	5	100	1.25	160.4

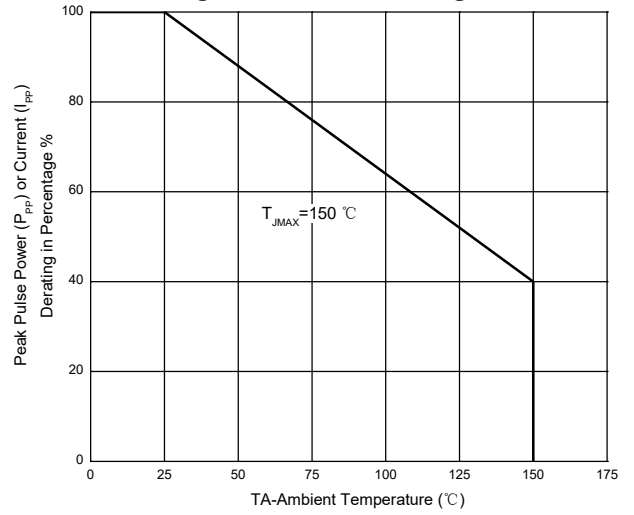
### Notes:

(1) Waveform of CJSMF10A -CJSMF100CA are defined as per fig.3

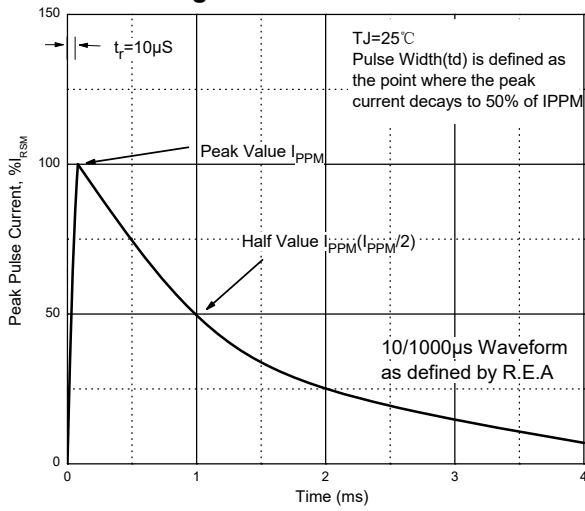
**Figure 1. Peak Pulse Power Rating Curve**



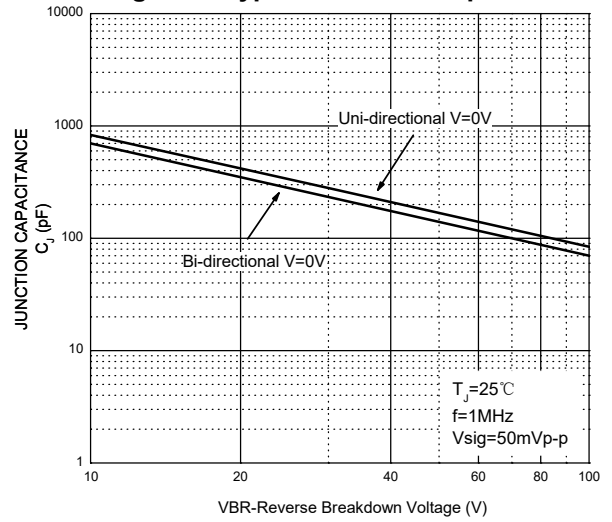
**Figure 2. Pulse Derating Curve**



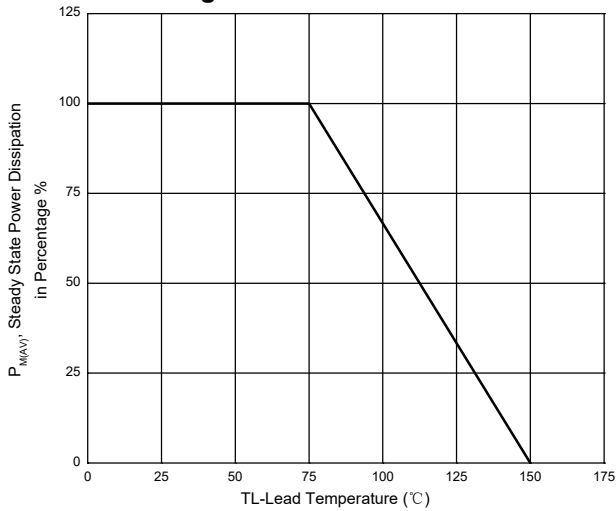
**Figure 3. Pulse Waveform**



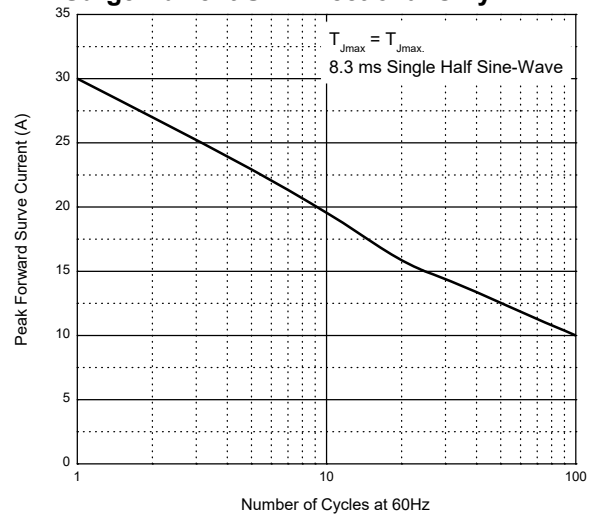
**Figure 4. Typical Junction Capacitance**



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



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



## SOD-123FL Package Outline Dimensions



Dimensions in millimeters

## SOD-123FL 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-SOD-123FL



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

ITEM	SYMBOL	SOD-123FLmm(inch)
Carrier width	A	2.05±0.1(0.081±0.004)
Carrier length	B	3.95±0.1(0.156±0.004)
Carrier depth	C	1.45±0.1(0.057±0.004)
Sprocket hole	d	1.55±0.05(0.061±0.002)
Reel outside diameter	D	178±2.0(7.0±0.079)
Reel inner diameter	D1	54±1.0(2.13±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	3.50±0.1(0.138±0.002)
Punch hole pitch	P	4.0±0.1(0.157±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	0.21±0.25(0.008±0.010)
Tape width	W	8.0±0.2(0.315±0.008)
Reel width	W1	10.0±2.0(0.394±0.079)

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

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