

DESCRIPTION

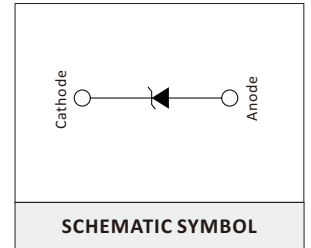
The TPSMF High Reliability series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.

FEATURES

- > Glass passivated chip
- > 200 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- > High reliability application and automotive grade
- > AEC Q101 qualified
- > Low leakage
- > Uni and Bidirectional unit
- > Excellent clamping capability
- > Very fast response time
- > RoHS compliant

MECHANICAL DATA

- > Case: Molded plastic
- > Epoxy: UL 94V-0 rate flame retardant
- > Lead: Solderable per MIL-STD-750, method 2026
- > Polarity: Color band denotes cathode end except Bipolar
- > Mounting position: Any



MAXIMUM RATINGS($T_A=25^\circ\text{C}$ HERWISE NOTED)

PARAMETER	SYMBOL	VALUE	UNIT
Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾	P_{PP}	200	W
Peak pulse current with a 10/1000 μ s waveform ⁽¹⁾	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at $T_L = 75^\circ\text{C}$	P_D	0.4	W
Operating junction and storage temperature range	T_J, T_{STG}	-55 ~ +150	$^\circ\text{C}$
Maximum instantaneous forward voltage at 50 A for unidirectional only	V_F	3.5	V
Note: (1) Non-repetitive current pulse per Fig.4 and derated above $T_A = 25^\circ\text{C}$ per Fig.1			



ELECTRICAL CHARACTERISTICS

PART NUMBER	DEVICE MARKING CODE	BREAKDOWN VOLTAGE $V_{BR}@I_T$			MAXIMUM REVERSE LEAKAGE $I_R@V_{RWM}$ (uA)	WORKING PEAK REVERSE VOLTAGE V_{RWM} (V)	MAXIMUM REVERSE SURGE CURRENT I_{PP} (A)	MAXIMUM CLAMPING VOLTAGE $V_C@I_{PP}$ (V)
		Min.(V)	Max.(V)	I_T (mA)				
TPSMF13A	HGA	14.40	15.90	1	1	13.0	9.30	21.50
TPSMF14A	HKA	15.60	17.20	1	1	14.0	8.62	23.20
TPSMF15A	HMA	16.70	18.50	1	1	15.0	8.20	24.40
TPSMF16A	HPA	17.80	19.70	1	1	16.0	7.69	26.00
TPSMF18A	HTA	20.00	22.10	1	1	18.0	6.85	29.20
TPSMF20A	HVA	22.20	24.50	1	1	20.0	6.17	32.40
TPSMF22A	HXA	24.40	26.90	1	1	22.0	5.63	35.50
TPSMF24A	HZA	26.70	29.50	1	1	24.0	5.14	38.90
TPSMF26A	JEA	28.90	31.90	1	1	26.0	4.75	42.10
TPSMF28A	JGA	31.10	34.40	1	1	28.0	4.41	45.40
TPSMF30A	JKA	33.30	36.80	1	1	30.0	4.13	48.40
TPSMF33A	JMA	36.70	40.60	1	1	33.0	3.75	53.30
TPSMF36A	JPA	40.00	44.20	1	1	36.0	3.44	58.10
TPSMF40A	JRA	44.40	49.10	1	1	40.0	3.10	64.50
TPSMF43A	JTA	47.80	52.80	1	1	43.0	2.88	69.40
TPSMF45A	JVA	50.00	55.30	1	1	45.0	2.75	72.70
TPSMF48A	JXA	53.30	58.90	1	1	48.0	2.58	77.40
TPSMF51A	JZA	56.70	62.70	1	1	51.0	2.43	82.40
TPSMF54A	XEA	60.00	66.30	1	1	54.0	2.30	87.10
TPSMF58A	XGA	64.40	71.20	1	1	58.0	2.14	93.60

Note:
1. Suffix 'A' denotes 5% tolerance device.



RATINGS AND CHARACTERISTICS CURVES ($T_A=25^{\circ}\text{C}$ UNLESS OTHERWISE NOTED)

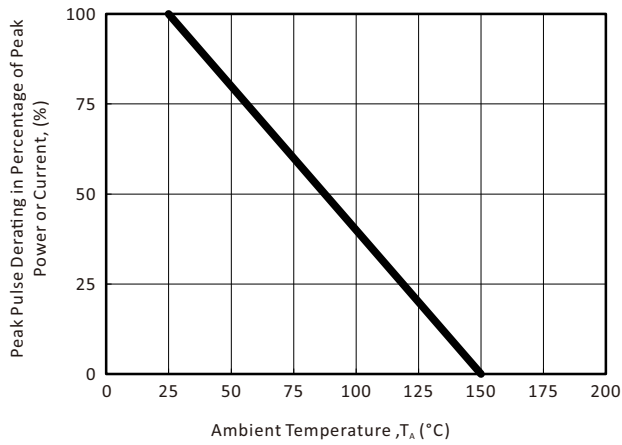


Fig. 1 - Pulse Derating Curve

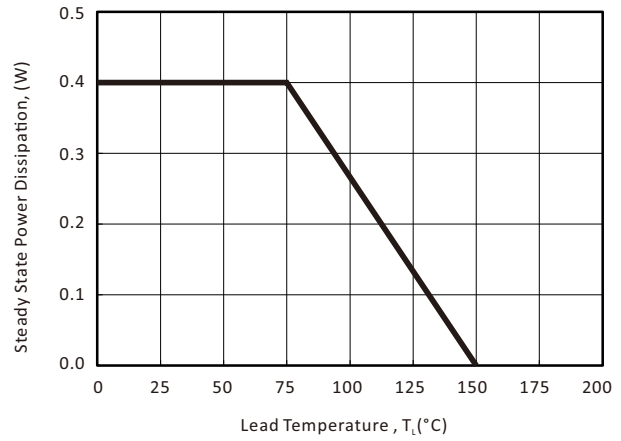


Fig. 2 - Steady State Power Derating Curve

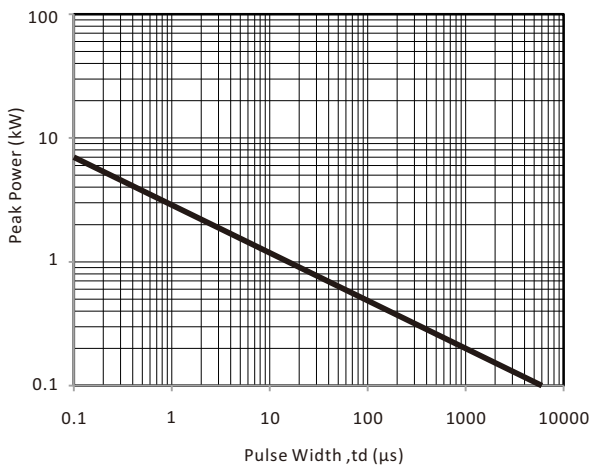


Fig. 3 - Peak Pulse Power Rating Curve

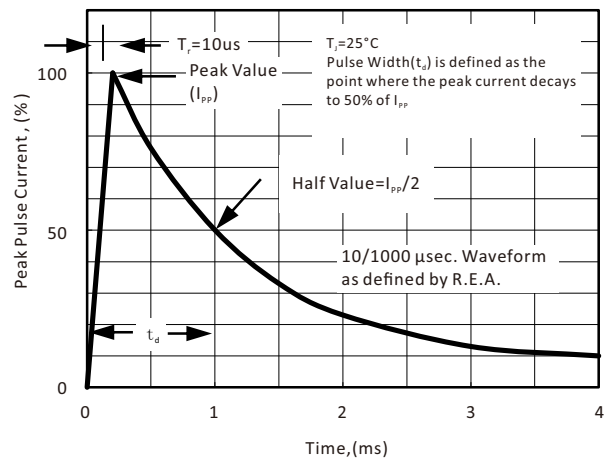


Fig. 4 - Pulse Waveform

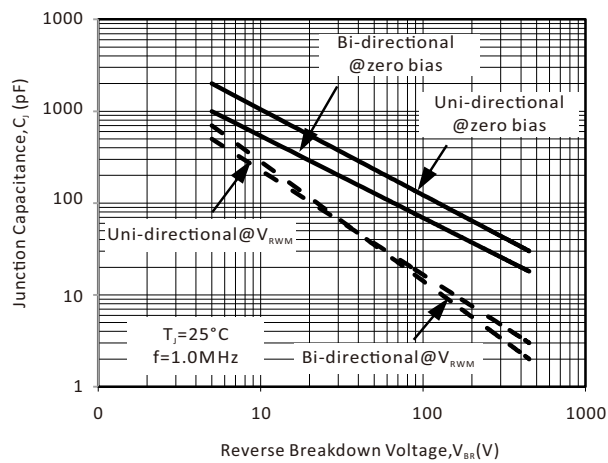


Fig. 5 - Typical Junction Capacitance



SOD-123FL PACKAGE DIMENSIONS

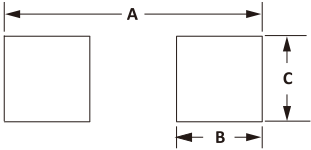
DIM	MILLIMETERS		INCHES	
	Min.	Max.	Min.	Max.
A	0.95	1.30	0.031	0.057
A1	0.00	0.10	0.000	0.004
b	0.70	1.20	0.028	0.047
c	0.10	0.20	0.004	0.008
D	1.50	1.80	0.059	0.071
E	2.50	2.90	0.098	0.114
L	0.55	0.95	0.022	0.037
H _E	3.40	3.80	0.134	0.150

NOTES:

1. Dimensions are exclusive of mold flash and metal burrs
2. Polarity Band is only applicable to the unidirectional package

RECOMMENDED PAD LAYOUT DIMENSIONS

DIM	MILLIMETERS	INCHES
A	4.19	0.165
B	0.91	0.036
C	1.22	0.048




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