

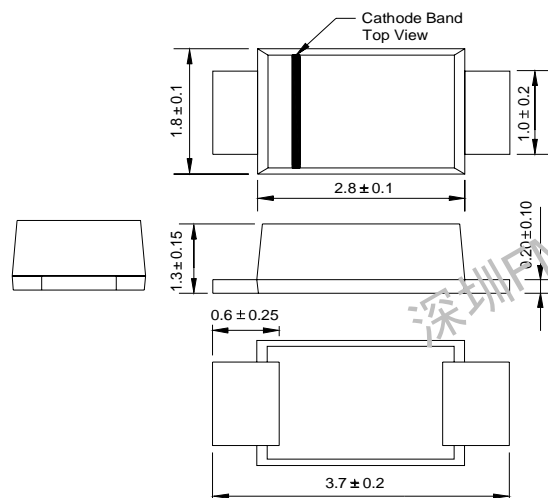
TRANSIENT VOLTAGE SUPPRESSOR

SMF5.0(C)A THRU SMF170(C)A

Formosa MS

Standoff Voltage: 5.0-170 Volts Peak Pulse Power: 200 Watts

SOD-123FL



Dimensions in millimeters

FEATURE

- 400W Peak Pulse Power Dissipation
- 5.0V - 170V Standoff Voltages
- Glass Passivated Die Construction
- Uni- and Bi-Directional Versions Available
- Excellent Clamping Capability
- Fast Response Time
- Plastic Material: UL Flammability Classification Rating 94V-0

MECHANICAL DATA

- Case: JEDEC SOD-123FL molded plastic body
- Terminals: Solderable per MIL-STD-750, Method 2026
- Polarity Indicator: Cathode Band (Note: Bi-directional devices have no polarity indicator.)
- Marking: Date Code and Marking Code See Page 3
- Weight: 0.064 grams (approx.)
- Ordering Info: See Page 3

DEVICES FOR BIDIRECTIONAL APPLICATIONS

For bidirectional use suffix A or CA for types SMF5.0A thru SMF170A (e.g. SMF5.0CA, SMF170CA)

Electrical characteristics apply in both directions.

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

Characteristic	Symbol	Value	Unit
Peak Pulse Power Dissipation (Non repetitive current pulse derated above $T_A = 25^\circ\text{C}$) (Note 1)	P_{PK}	400	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Superimposed on Rated Load (JEDEC Method) (Notes 1, 2, & 3)	I_{FSM}	30	A
Steady State Power Dissipation @ $T_L = 75^\circ\text{C}$	$PM_{(AV)}$	1.0	W
Instantaneous Forward Voltage @ $I_{PP} = 30\text{A}$ (Notes 1, 2, & 3)	V_F	3.5	V
Operating Temperature Range	T_j	-55 to +150	$^\circ\text{C}$
Storage Temperature Range	T_{STG}	-55 to +175	$^\circ\text{C}$

- Notes:
1. Valid provided that terminals are kept at ambient temperature.
 2. Measured with 8.3ms single half sine-wave. Duty cycle = 4 pulses per minute maximum.
 3. Unidirectional units only.



TRANSIENT VOLTAGE SUPPRESSOR

SMF5.0(C)A THRU SMF170(C)A

Formosa MS

Part Number Add C For Bi-Directional (Note 4)	Reverse Standoff Voltage V_{RWM} (V)	Breakdown Voltage V_{BR} @ I_T (Note 5)		Test Current I_T (mA)	Max. Reverse Leakage @ V_{RWM} (Note 6) I_R (μ A)	Max. Clamping Voltage @ I_{pp} V_C (V)	Max. Peak Pulse Current I_{pp} (A)	Marking Code	
		Min (V)	Max (V)					BI-	UNI-
SMF5.0(C)A	5.0	6.40	7.25	10	800	9.2	21.7	TE	KE
SMF6.0(C)A	6.0	6.67	7.37	10	800	10.3	19.4	TG	KG
SMF6.5(C)A	6.5	7.22	7.98	10	500	11.2	17.9	KK	TK
SMF7.0(C)A	7.0	7.78	8.60	10	200	12.0	16.7	TM	KM
SMF7.5(C)A	7.5	8.33	9.21	1.0	100	12.9	15.5	TP	KP
SMF8.0(C)A	8.0	8.89	9.83	1.0	50	13.6	14.7	TR	KR
SMF8.5(C)A	8.5	9.44	10.4	1.0	10	14.4	13.9	TT	KT
SMF9.0(C)A	9.0	10.0	11.1	1.0	5.0	15.4	13.0	TV	KV
SMF10(C)A	10	11.1	12.3	1.0	5.0	17.0	11.8	TX	KX
SMF11(C)A	11	12.2	13.5	1.0	5.0	18.2	11.0	TZ	KZ
SMF12(C)A	12	13.3	14.7	1.0	5.0	19.9	10.1	UE	LE
SMF13(C)A	13	14.4	15.9	1.0	5.0	21.5	9.3	UG	LG
SMF14(C)A	14	15.6	17.2	1.0	5.0	23.2	8.6	UK	LK
SMF15(C)A	15	16.7	18.5	1.0	5.0	24.4	8.2	UM	LM
SMF16(C)A	16	17.8	19.7	1.0	5.0	26.0	7.7	UP	LP
SMF17(C)A	17	18.9	20.9	1.0	5.0	27.6	7.2	UR	LR
SMF18(C)A	18	20.0	22.1	1.0	5.0	29.2	6.8	UT	LT
SMF20(C)A	20	22.2	24.5	1.0	5.0	32.4	6.2	UV	LV
SMF22(C)A	22	24.4	26.9	1.0	5.0	35.5	5.6	UX	LX
SMF24(C)A	24	26.7	29.5	1.0	5.0	38.9	5.1	UZ	LZ
SMF26(C)A	26	28.9	31.9	1.0	5.0	42.1	9.5	VE	ME
SMF28(C)A	28	31.1	34.4	1.0	5.0	45.4	8.8	VG	MG
SMF30(C)A	30	33.3	36.8	1.0	5.0	48.4	8.3	VK	MK
SMF33(C)A	33	36.7	40.6	1.0	5.0	53.3	7.5	VM	MM
SMF36(C)A	36	40.0	44.2	1.0	5.0	58.1	6.9	VP	MP
SMF40(C)A	40	44.4	49.1	1.0	5.0	64.5	6.2	VR	MR
SMF43(C)A	43	47.8	52.8	1.0	5.0	69.4	5.7	VT	MT
SMF45(C)A	45	50.0	55.3	1.0	5.0	72.7	5.5	VV	MV
SMF48(C)A	48	53.3	58.9	1.0	5.0	77.4	5.2	VX	MX
SMF51(C)A	51	56.7	62.7	1.0	5.0	82.4	4.9	VZ	MZ
SMF54(C)A	54	60.0	66.3	1.0	5.0	87.1	4.6	WE	NE
SMF58(C)A	58	64.4	71.2	1.0	5.0	93.6	4.3	WG	NG
SMF60(C)A	60	66.7	73.7	1.0	5.0	96.8	4.1	WK	NK
SMF64(C)A	64	71.1	78.6	1.0	5.0	103	3.9	WM	NM
SMF70(C)A	70	77.8	86.0	1.0	5.0	113	3.5	WP	NP
SMF75(C)A	75	83.3	92.1	1.0	5.0	121	3.3	WR	NR
SMF78(C)A	78	86.7	95.8	1.0	5.0	126	2.2	WT	NT
SMF85(C)A	85	94.4	104	1.0	5.0	137	2.9	WV	NV
SMF90(C)A	90	100	111	1.0	5.0	146	2.7	WX	NX
SMF100(C)A	100	111	123	1.0	5.0	162	2.5	WZ	NZ
SMF110(C)A	110	122	135	1.0	5.0	177	2.3	XE	PE
SMF120(C)A	120	133	147	1.0	5.0	193	2.0	XG	PG
SMF130(C)A	130	144	159	1.0	5.0	209	1.9	XK	PK
SMF150(C)A	150	167	185	1.0	5.0	243	1.6	XM	PM
SMF160(C)A	160	178	197	1.0	5.0	259	1.5	XP	PP
SMF170(C)A	170	189	209	1.0	5.0	275	1.4	XR	PR

- Notes: 4. Suffix C denotes Bi-directional device.
 5. V_{BR} measured with I_T current pulse = 300 μ s
 6. For Bi-Directional devices having V_{RWM} of 10V and under, the I_R is doubled.



TRANSIENT VOLTAGE SUPPRESSOR

SMF5.0(C)A THRU SMF170(C)A

Formosa MS

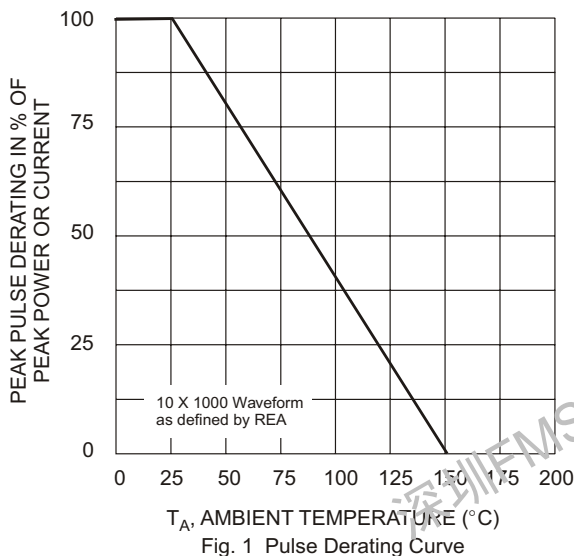


Fig. 1 Pulse Derating Curve

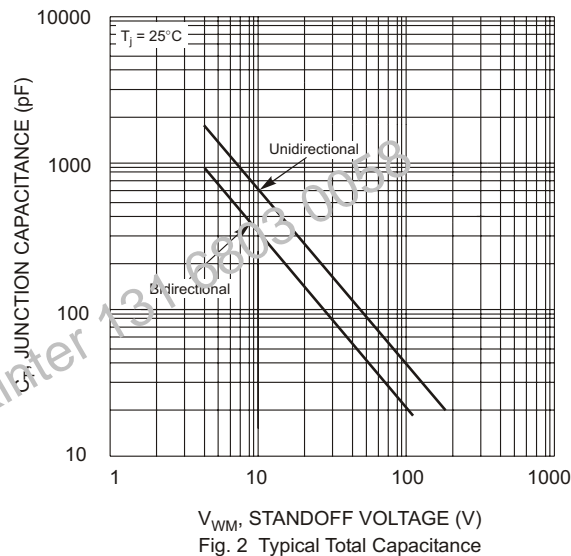


Fig. 2 Typical Total Capacitance

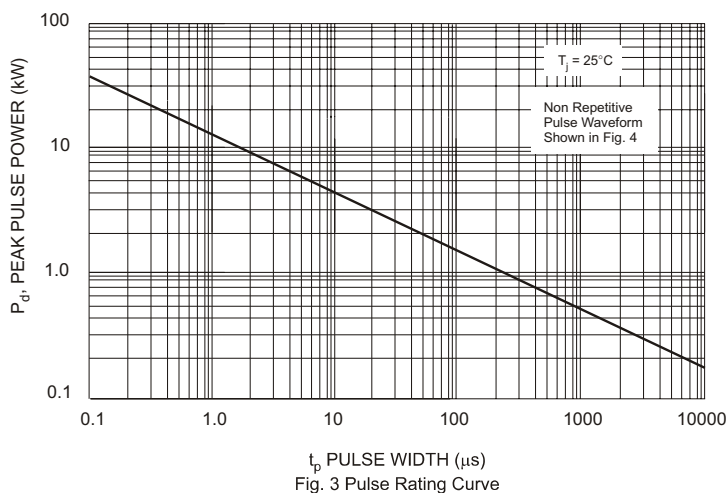


Fig. 3 Pulse Rating Curve

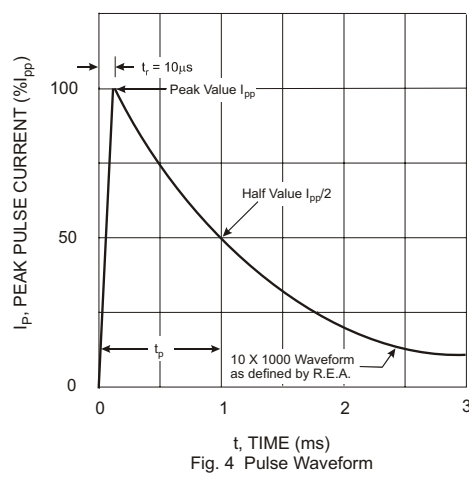


Fig. 4 Pulse Waveform

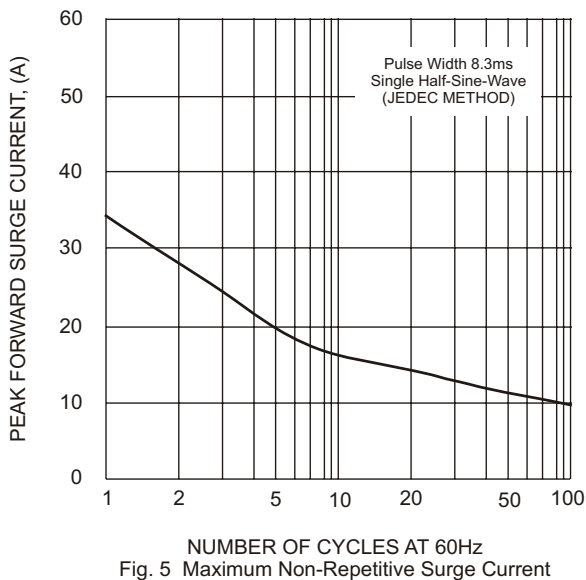


Fig. 5 Maximum Non-Repetitive Surge Current

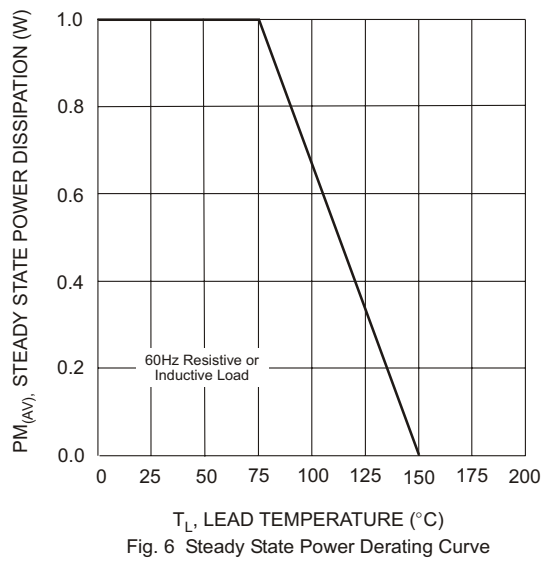


Fig. 6 Steady State Power Derating Curve

