

P4SMF5.0A THRU P4SMF100A

400W Surface Mount Transient Voltage Suppressors

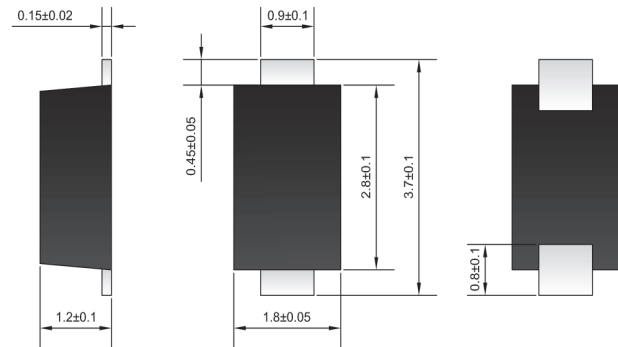
■ Features

- Low leakage current.
- Very fast response time.
- Excellent clamping capability.
- 400W peak pulse power capacity with a 10/1000us waveform, repetitive rate(duty cycle):0.01%.
- Uni and bidirectional unit.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228

■ Mechanical data

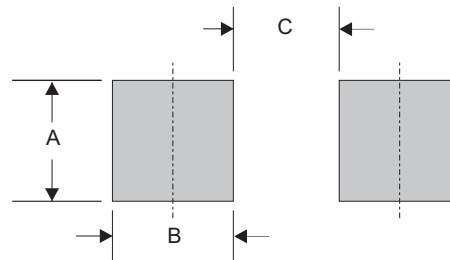
- Epoxy:UL94-V0 rated flame retardant
- Case : Molded plastic, SOD-123FL
- Terminals : Solder plated, solderable per MIL-STD-750, Method 2026
- Polarity : Indicated by cathode band
- Weight : Approximated 0.010 gram

■ Outline SOD-123FL



Dimensions in millimeters

■ SOD-123FL foot print



A	B	C
0.028 (0.70)	0.028 (0.70)	0.091 (2.30)

Dimensions in inches and (millimeters)

■ Maximum ratings and electrical characteristics

Rating at 25°C ambient temperature unless otherwise specified. Single phase, half wave, 60Hz, resistive or inductive load. For capacitive load, derate current by 20%.

Parameter	Conditions	Symbol	P4SMF Series	UNIT
Peak power dissipation	with a 10/1000 us waveform	P_{PP}	400	W
Power dissipation on infinite heatsonk	at $T_L=75^\circ\text{C}$	P_D	0.8	W
Peak pulse current	with a 10/1000 us waveform	I_{PP}	See next table	A
Peak forward surge current	8.3ms single half sine-wave superimposed on rate load (JEDEC methode)	I_{FSM}	30	A
Maximum instantaneous forward voltage	at 25A for unidirectional only	V_F	2.5	V
Operating and Storage temperature		T_J, T_{STG}	-55 ~ +150	°C

Note 1. Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

RATINGS AND CHARACTERISTIC CURV P4SMF5.0A THRU P4SMF100A

ELECTRICAL CHARACTERISTICS ($T_A = 25\text{ }^\circ\text{C}$ unless otherwise noted)								
DEVICE TYPE	DEVICE MARKING CODE	BREAKDOWN VOLTAGE V_{BR} AT I_T ⁽¹⁾ (V)		TEST CURRENT I_T (mA)	STAND-OFF VOLTAGE V_{WM} (V)	MAXIMUM REVERSE LEAKAGE AT V_{WM} I_D (μA) ⁽³⁾	MAXIMUM PEAK PULSE SURGE CURRENT I_{PPM} (A) ⁽²⁾	MAXIMUM CLAMPING VOLTAGE AT I_{PPM} V_C (V)
		MIN.	MAX.					
P4SMF5.0A	AE	6.40	7.07	10	5.0	500	43.5	9.2
P4SMF6.0A	AG	6.67	7.37	10	6.0	500	38.8	10.3
P4SMF6.5A	AK	7.22	7.98	10	6.5	100	35.7	11.2
P4SMF7.0A	AM	7.78	8.60	10	7.0	50	33.3	12.0
P4SMF7.5A	AN	8.33	9.21	1.0	7.5	50	31.0	12.9
P4SMF8.0A	AR	8.89	9.83	1.0	8.0	20	29.4	13.6
P4SMF11A	AZ	12.2	13.5	1.0	11	1.0	22.0	18.2
P4SMF12A	BE	13.3	14.7	1.0	12	1.0	20.1	19.9
P4SMF13A	BG	14.4	15.9	1.0	13	1.0	18.6	21.5
P4SMF14A	BK	15.6	17.2	1.0	14	1.0	17.2	23.2
P4SMF15A	BM	16.7	18.5	1.0	15	1.0	16.4	24.4
P4SMF16A	BP	17.8	19.7	1.0	16	1.0	15.4	26.0
P4SMF17A	BR	18.9	20.9	1.0	17	1.0	14.5	27.6
P4SMF18A	BT	20.0	22.1	1.0	18	1.0	13.7	29.2
P4SMF20A	BV	22.2	24.5	1.0	20	1.0	12.3	32.4
P4SMF22A	BX	24.4	26.9	1.0	22	1.0	11.3	35.5
P4SMF24A	BZ	26.7	29.5	1.0	24	1.0	10.3	38.9
P4SMF26A	CE	28.9	31.9	1.0	26	1.0	9.5	42.1
P4SMF28A	CG	31.1	34.4	1.0	28	1.0	8.8	45.4
P4SMF30A	CK	33.3	36.8	1.0	30	1.0	8.3	48.4
P4SMF33A	CM	36.7	40.6	1.0	33	1.0	7.5	53.3
P4SMF36A	CP	40.0	44.2	1.0	36	1.0	6.9	58.1
P4SMF40A	CR	44.4	49.1	1.0	40	1.0	6.2	64.5
P4SMF43A	CT	47.8	52.8	1.0	43	1.0	5.8	69.4
P4SMF45A	CV	50.0	55.3	1.0	45	1.0	5.5	72.7
P4SMF48A	CX	53.3	58.9	1.0	48	1.0	5.2	77.4
P4SMF51A	CZ	56.7	62.7	1.0	51	1.0	4.9	82.4
P4SMF54A	RE	60.0	66.3	1.0	54	1.0	4.6	87.1
P4SMF58A	RG	64.4	71.2	1.0	58	1.0	4.3	93.6
P4SMF60A	RK	66.7	73.7	1.0	60	1.0	4.1	96.8
P4SMF64A	RM	71.1	78.6	1.0	64	1.0	3.9	103.0
P4SMF70A	RP	77.8	86.0	1.0	70	1.0	3.5	113.0
P4SMF75A	RR	83.3	92.1	1.0	75	1.0	3.3	121.0
P4SMF78A	RT	86.7	95.8	1.0	78	1.0	3.2	126.0
P4SMF80A	RB	88.8	97.6	1.0	80	1.0	3.1	129.6
P4SMF85A	RV	94.4	104.0	1.0	85	1.0	2.9	137.0
P4SMF90A	RX	100.0	111.0	1.0	90	1.0	2.7	146.0
P4SMF100A	RZ	111.0	123.0	1.0	100	1.0	2.5	162.0

Notes

- (1) V_{BR} measured after I_T applied for 300 μs , I_T = square wave pulse or equivalent
- (2) Surge current waveform per fig. 3 and derate per fig. 2
- (3) All terms and symbols are consistent with ANSI/IEEE C62.35

■ Rating and characteristic curves

