SM4F Series

Surface Mount Transient Voltage Suppressors

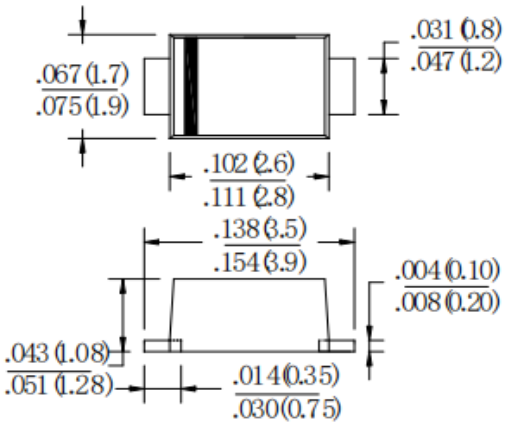
Features

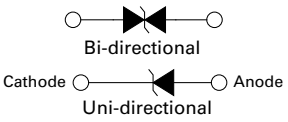
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

Mechanical Data

- Case: SOD123FL
- Terminals: Solderable per MIL-STD-750 Method 2026
- Approx. Weight: 0.055g / 0.002oz

Case: SOD123FL





Dimensions in inches and (millimeters)

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on T_A=25°C (Note 1,2,4, Fig1)	P_{PPM}	400	W
Peak Forward Surge Current (Note 3,Fig 4)	I_{FSM} (UNI)	30	A
Peak Pulse Current on 10/1000 us waveform (Note 1, Fig 3)	I_{PPM}	see Table 1	A
ESD Voltage per IEC6100-4-2 Contact / Air	V_{ESD1} / V_{ESD2}	±30	kV
Typical Thermal Resistance Junction to Ambient(Note 2)	$R_{\theta JA}$	150	°C/W
Operating Junction Temperature and Storage Temperature Range	T_j, T_{stg}	-55 ~ +150	°C

NOTES:

1. Non-repetitive current pulse, per Fig.3 and derated above T_A = 25°C per Fig. 2.
2. Mounted on 5mm² copper pads to each terminal.
3. Peak Forward Surge Current : 8.3ms single half sine-wave Superimposed on rated load (JEDEC method).
4. Peak pulse power waveform is 10/1000μS.

Table 1

Characteristics at Ta = 25°C

Part Number		Marking		Breakdown Voltage V_{BR}@I_T			Maximum Reverse Leakage I_R @ V_{RWM} (μA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (2) (A)	Maximum Clamping Voltage Vc @ I_{PP} (V)
（Uni）	（Bi）	（Uni）	（Bi）	Min(V)	Max (V)	I_T(1)(mA)				
SM4F5.0A	SM4F5.0CA	F5.0A	F5.0CA	6.40	7.07	10	800	5.0	43.38	9.2
SM4F6.0A	SM4F6.0CA	F6.0A	F6.0CA	6.67	7.37	10	800	6.0	38.83	10.3
SM4F6.5A	SM4F6.5CA	F6.5A	F6.5CA	7.22	7.98	10	500	6.5	35.71	11.2
SM4F7.0A	SM4F7.0CA	F7.0A	F7.0CA	7.78	8.60	10	200	7.0	33.33	12.0
SM4F7.5A	SM4F7.5CA	F7.5A	F7.5CA	8.33	9.21	1	100	7.5	31.01	12.9
SM4F8.0A	SM4F8.0CA	F8.0A	F8.0CA	8.89	9.83	1	50	8.0	29.41	13.6
SM4F8.5A	SM4F8.5CA	F8.5A	F8.5CA	9.44	10.40	1	10	8.5	27.78	14.4
SM4F9.0A	SM4F9.0CA	F9.0A	F9.0CA	10.00	11.10	1	5	9.0	25.97	15.4
SM4F10A	SM4F10CA	F10A	F10CA	11.10	12.30	1	2.5	10.0	23.52	17.0
SM4F11A	SM4F11CA	F11A	F11CA	12.20	13.50	1	2.5	11.0	21.98	18.2
SM4F12A	SM4F12CA	F12A	F12CA	13.30	14.70	1	2.5	12.0	20.1	19.9
SM4F13A	SM4F13CA	F13A	F13CA	14.40	15.90	1	1.0	13.0	18.6	20.0
SM4F14A	SM4F14CA	F14A	F14CA	15.60	17.20	1	1.0	14.0	17.24	23.2
SM4F15A	SM4F15CA	F15A	F15CA	16.70	18.50	1	1.0	15.0	16.4	24.4
SM4F16A	SM4F16CA	F16A	F16CA	17.80	19.70	1	1.0	16.0	15.38	26.0
SM4F17A	SM4F17CA	F17A	F17CA	18.90	20.90	1	1.0	17.0	14.5	27.6
SM4F18A	SM4F18CA	F18A	F18CA	20.00	22.10	1	1.0	18.0	13.7	29.2
SM4F19A	SM4F19CA	F19A	F19CA	21.10	23.30	1	1.0	19.0	13.08	30.6
SM4F20A	SM4F20CA	F20A	F20CA	22.20	24.50	1	1.0	20.0	12.34	32.4
SM4F22A	SM4F22CA	F22A	F22CA	24.40	26.90	1	1.0	22.0	11.26	35.5
SM4F24A	SM4F24CA	F24A	F24CA	26.70	29.50	1	1.0	24.0	10.28	38.9
SM4F26A	SM4F26CA	F26A	F26CA	28.90	31.90	1	1.0	26.0	9.5	42.1
SM4F28A	SM4F28CA	F28A	F28CA	31.10	34.40	1	1.0	28.0	8.82	45.4

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（Uni）	（Bi）	（Uni）	（Bi）	Min(V)	Max (V)	I_T(1)(mA)				
SM4F30A	SM4F30CA	F30A	F30CA	33.30	36.80	1	1.0	30.0	8.26	48.4
SM4F33A	SM4F33CA	F33A	F33CA	36.70	40.60	1	1.0	33.0	7.5	53.3
SM4F36A	SM4F36CA	F36A	F36CA	40.00	44.20	1	1.0	36.0	6.88	58.1
SM4F40A	SM4F40CA	F40A	F40CA	44.40	49.10	1	1.0	40.0	6.2	64.5
SM4F43A	SM4F43CA	F43A	F43CA	47.80	52.80	1	1.0	43.0	5.76	69.4
SM4F45A	SM4F45CA	F45A	F45CA	50.00	55.30	1	1.0	45.0	5.5	72.7
SM4F48A	/	F48A	/	53.30	58.90	1	1.0	48.0	5.16	77.4
SM4F51A	/	F51A	/	56.70	62.70	1	1.0	51.0	4.86	82.4
SM4F54A	/	F54A	/	60.00	66.30	1	1.0	54.0	4.6	87.1
SM4F58A	/	F58A	/	64.40	71.20	1	1.0	58.0	4.28	93.6
SM4F60A	/	F60A	/	66.70	73.70	1	1.0	60.0	4.14	96.8
SM4F64A	/	F64A	/	71.10	78.60	1	1.0	64.0	3.88	103.0
SM4F70A	/	F70A	/	77.80	86.00	1	1.0	70.0	3.54	113.0
SM4F75A	/	F75A	/	83.30	92.10	1	1.0	75.0	3.3	121.0
SM4F78A	/	F78A	/	86.70	95.80	1	1.0	78.0	3.18	126.0
SM4F80A	/	F80A	/	88.80	97.60	1	1.0	80.0	3.1	129.0
SM4F85A	/	F85A	/	94.40	104.00	1	1.0	85.0	2.92	137.0
SM4F90A	/	F90A	/	100.00	111.00	1	1.0	90.0	2.74	146.0
SM4F100A	/	F100A	/	111.00	123.00	1	1.0	100.0	2.46	162.0

Fig.1 Peak Pulse Power Rating Curve

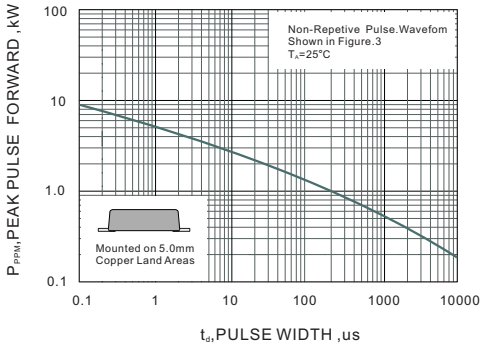


Fig.2 Forward Current Derating Curve

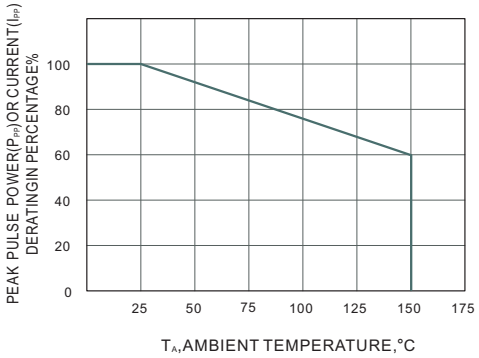


Fig.3 Pulse Waveform

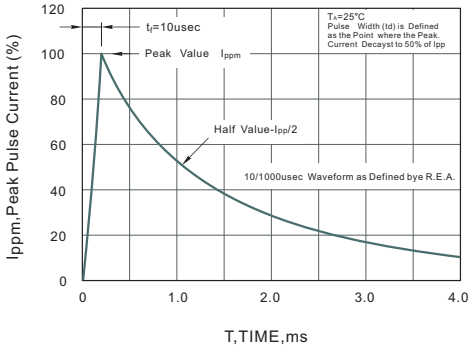


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current

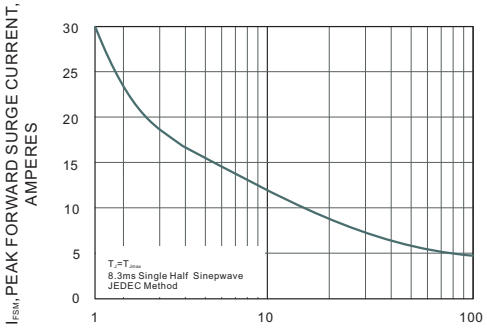


Fig.5 Mounting PAD Layout

