

Reverse Voltage: 3.3V to 100V

Peak Pulse Power: 400 W

Surface Mount Transient Voltage Suppressors

Features

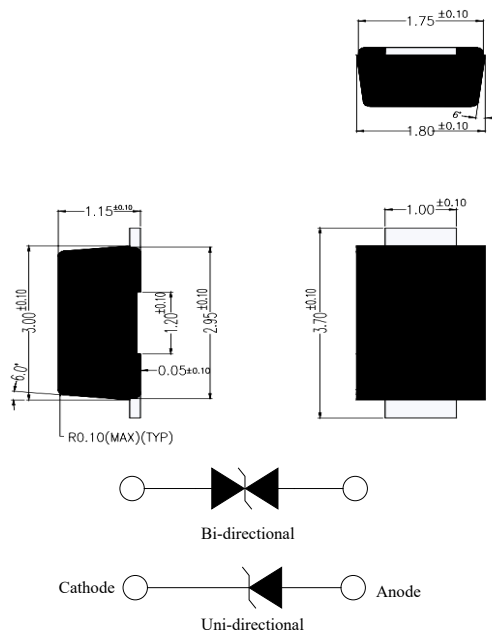
- Glass passivated chip
- Maximum 400 W peak pulse power capability with a 10/1000 μ s waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

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
- Mounting position: Any

SOD-123FL

Unit : inch(mm)



Maximum Ratings($T_A=25^\circ\text{C}$ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak power dissipation with a 10/1000 μ s waveform ⁽¹⁾⁽³⁾	P_{PP}	400	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	1.0	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only ⁽²⁾	I_{FSM}	30	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	-55 to +150	$^\circ\text{C}$

Note:

(1)Non-repetitive current pulse per Fig.3 and derated above $T_A = 25^\circ\text{C}$ per Fig.1.

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

(3)SMF4L5.0A~SMF4L9.0A Peak Pulse Power Dissipation is 370W min, 400W typical @10/1000 μ s



Ratings and Characteristics Curves ($T_A=25^{\circ}\text{C}$ unless otherwise noted)

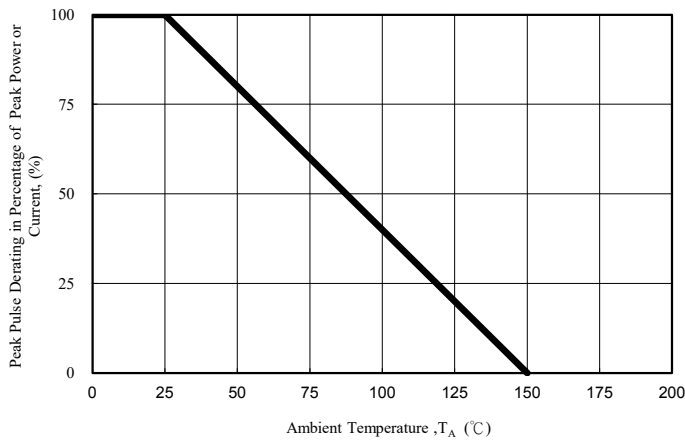


Fig. 1 - Pulse Derating Curve

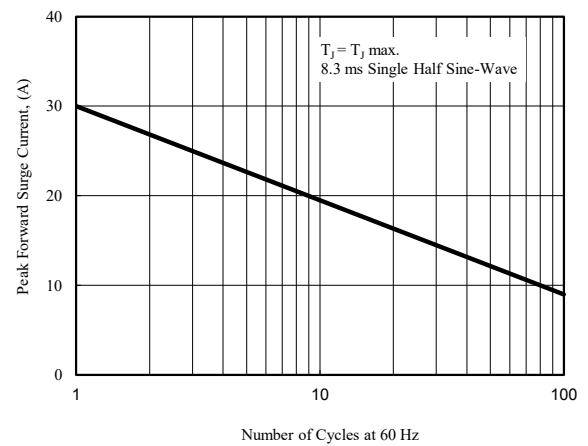


Fig. 2 - Maximum Non-Repetitive Surge Current

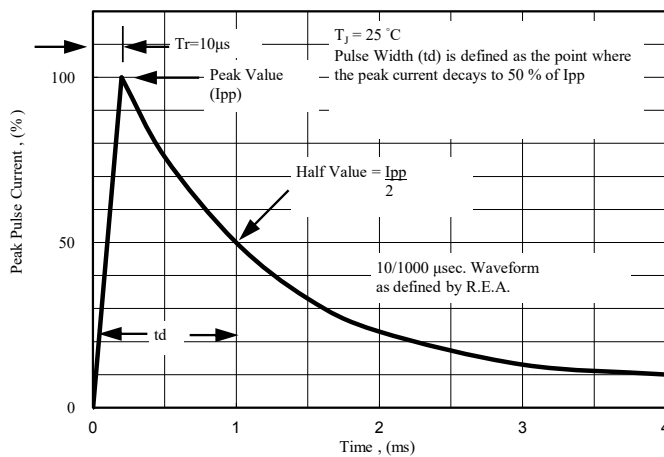


Fig. 3 - Pulse Waveform

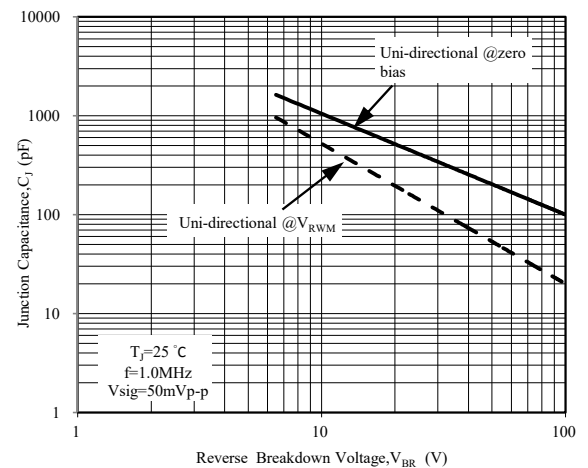


Fig. 4 - Typical Junction Capacitance

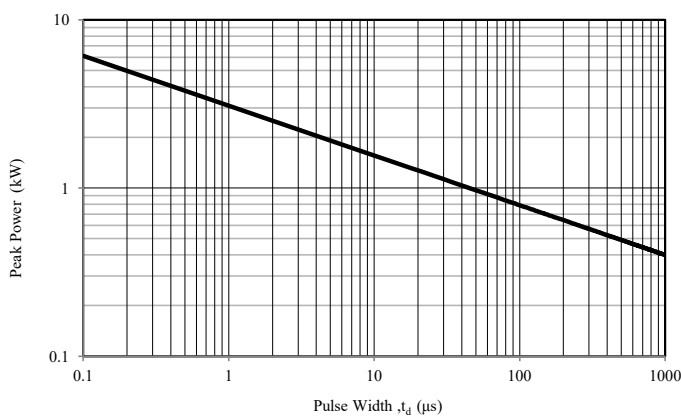


Fig. 5 - Steady State Power Derating Curve

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

Part Number (Uni)	Part Number (Bi)	Device Marking Code		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} (A)	Maximum Clamping Voltage V_C @ I_{PP} (V)
		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
SMF4L3.3A	SMF4L3.3CA	A1	AA	5.44	6.50	10	30	3.3	47.10	8.5
SMF4L5.0A	SMF4L5.0CA	KE	FE	6.40	7.07	10	800	5.0	43.38	9.2
SMF4L6.0A	SMF4L6.0CA	KG	FG	6.67	7.37	10	800	6.0	38.83	10.3
SMF4L6.5A	SMF4L6.5CA	KK	FK	7.22	7.98	10	500	6.5	35.71	11.2
SMF4L7.0A	SMF4L7.0CA	KM	FM	7.78	8.60	10	200	7.0	33.33	12.0
SMF4L7.5A	SMF4L7.5CA	KP	FP	8.33	9.21	1	100	7.5	31.01	12.9
SMF4L8.0A	SMF4L8.0CA	KR	FR	8.89	9.83	1	50	8.0	29.41	13.6
SMF4L8.5A	SMF4L8.5CA	KT	FT	9.44	10.40	1	10	8.5	27.78	14.4
SMF4L9.0A	SMF4L9.0CA	KV	FV	10.00	11.10	1	5	9.0	25.97	15.4
SMF4L10A	SMF4L10CA	KX	FX	11.10	12.30	1	2.5	10.0	23.52	17.0
SMF4L11A	SMF4L11CA	KZ	HZ	12.20	13.50	1	2.5	11.0	21.98	18.2
SMF4L12A	SMF4L12CA	LE	HE	13.30	14.70	1	2.5	12.0	20.10	19.9
SMF4L13A	SMF4L13CA	LG	HG	14.40	15.90	1	1.0	13.0	18.60	20.0
SMF4L14A	SMF4L14CA	LK	HK	15.60	17.20	1	1.0	14.0	17.24	23.2
SMF4L15A	SMF4L15CA	LM	HM	16.70	18.50	1	1.0	15.0	16.40	24.4
SMF4L16A	SMF4L16CA	LP	HP	17.80	19.70	1	1.0	16.0	15.38	26.0
SMF4L17A	SMF4L17CA	LR	HR	18.90	20.90	1	1.0	17.0	14.50	27.6
SMF4L18A	SMF4L18CA	LT	HT	20.00	22.10	1	1.0	18.0	13.70	29.2
SMF4L19A	SMF4L19CA	LB	HB	21.10	23.30	1	1.0	19.0	13.08	30.6
SMF4L20A	SMF4L20CA	LV	HV	22.20	24.50	1	1.0	20.0	12.34	32.4
SMF4L22A	SMF4L22CA	LX	HX	24.40	26.90	1	1.0	22.0	11.26	35.5
SMF4L24A	SMF4L24CA	LZ	HZ	26.70	29.50	1	1.0	24.0	10.28	38.9
SMF4L26A	SMF4L26CA	ME	JE	28.90	31.90	1	1.0	26.0	9.50	42.1
SMF4L28A	SMF4L28CA	MG	JG	31.10	34.40	1	1.0	28.0	8.82	45.4
SMF4L30A	SMF4L30CA	MK	JK	33.30	36.80	1	1.0	30.0	8.26	48.4
SMF4L33A	SMF4L33CA	MM	JM	36.70	40.60	1	1.0	33.0	7.50	53.3
SMF4L36A	SMF4L36CA	MP	JP	40.00	44.20	1	1.0	36.0	6.88	58.1
SMF4L40A	SMF4L40CA	MR	JR	44.40	49.10	1	1.0	40.0	6.20	64.5
SMF4L43A	SMF4L43CA	MT	JT	47.80	52.80	1	1.0	43.0	5.76	69.4
SMF4L45A	SMF4L45CA	MV	JV	50.00	55.30	1	1.0	45.0	5.50	72.7
SMF4L48A	SMF4L48CA	MX	JX	53.30	58.90	1	1.0	48.0	5.16	77.4
SMF4L51A	SMF4L51CA	MZ	JZ	56.70	62.70	1	1.0	51.0	4.86	82.4
SMF4L54A	SMF4L54CA	NE	XE	60.00	66.30	1	1.0	54.0	4.60	87.1
SMF4L58A	SMF4L58CA	NG	XG	64.40	71.20	1	1.0	58.0	4.28	93.6
SMF4L60A	SMF4L60CA	NK	XK	66.70	73.70	1	1.0	60.0	4.14	96.8
SMF4L64A	SMF4L64CA	NM	XM	71.10	78.60	1	1.0	64.0	3.88	103.0
SMF4L70A	SMF4L70CA	NP	XP	77.80	86.00	1	1.0	70.0	3.54	113.0
SMF4L75A	SMF4L75CA	NR	XR	83.30	92.10	1	1.0	75.0	3.30	121.0
SMF4L78A	SMF4L78CA	NT	XT	86.70	95.80	1	1.0	78.0	3.18	126.0

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

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		Uni	Bi	Min (V)	Max (V)	I_T (mA)				
SMF4L80A	SMF4L80CA	NB	XB	88.80	97.60	1	1.0	80.0	3.10	129.0
SMF4L85A	SMF4L85CA	NV	XV	94.40	104.00	1	1.0	85.0	2.92	137.0
SMF4L90A	SMF4L90CA	NX	XX	100.00	111.00	1	1.0	90.0	2.74	146.0
SMF4L100A	SMF4L100CA	NZ	XZ	111.00	123.00	1	1.0	100.0	2.46	162.0

Note:

1. Suffix 'A' denotes 5% tolerance device.
2. Add suffix 'CA' after part number to specify Bi-directional devices.
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double.