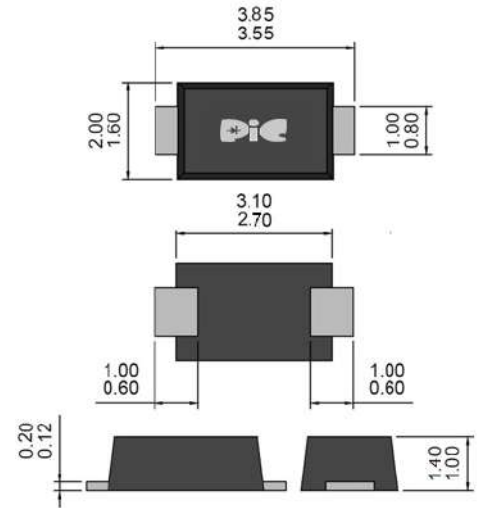


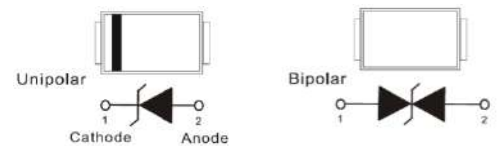
Features

- 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

SOD-123FL



Unit: millimeters



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

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

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000 μ s waveform(1)(3)	P_{PP}	400	Watts
Peak pulse current with a 10/1000 μ s waveform(1)	I_{PP}	See Next Table	Amps
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only	I_{FSM}	30	Amps
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~+150	$^\circ\text{C}$

Notes :

- (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 for unidirectional device only



SMF4L3.3A THRU SMF4L100A

400W Transient Voltage Suppressors

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

Part Number		Marking Code		Breakdown Voltage $V_{BR} @ I_T$			Max. Reverse Leakage $I_R @ V_{RWM}$ (μA)		Working Peak Reverse Voltage $V_{RWM}(V)$	Max. Reverse Surge Current I_{PP} (A)	Max. Clamp Voltage $V_C @ I_{PP}$ (V)
UNI	BI	UNI	BI	Min(V)	Max(V)	I_T (mA)	UNI	BI			
SMF4L3.3A	/	KD	/	5.22	5.98	10	600	/	3.3	47.0	8.5
SMF4L5.0A	/	KE	/	6.40	7.00	10	800	/	5.0	40.1	9.2
SMF4L6.0A	/	KG	/	6.67	7.37	10	800	/	6.0	35.9	10.3
SMF4L6.5A	/	KK	/	7.22	7.98	10	500	/	6.5	33.1	11.2
SMF4L7.0A	/	KM	/	7.78	8.60	10	200	/	7.0	30.9	12.0
SMF4L7.5A	/	KP	/	8.33	9.21	1	100	/	7.5	28.7	12.9
SMF4L8.0A	/	KR	/	8.89	9.83	1	50	/	8.0	27.2	13.6
SMF4L8.5A	/	KT	/	9.44	10.40	1	20	/	8.5	25.7	14.4
SMF4L9.0A	/	KV	/	10.00	11.10	1	10	/	9.0	24.1	15.4
SMF4L10A	SMF4L10CA	KX	AX	11.10	12.30	1	5	10	10.0	23.5	17.0
SMF4L11A	SMF4L11CA	KZ	AZ	12.20	13.50	1	4	4	11.0	22.0	18.2
SMF4L12A	SMF4L12CA	LE	BE	13.30	14.70	1	2	4	12.0	20.1	19.9
SMF4L13A	SMF4L13CA	LG	BG	14.40	15.90	1	1	1	13.0	18.6	21.5
SMF4L14A	SMF4L14CA	LK	BK	15.60	17.20	1	1	1	14.0	17.2	23.2
SMF4L15A	SMF4L15CA	LM	BM	16.70	18.50	1	1	1	15.0	16.4	24.4
SMF4L16A	SMF4L16CA	LP	BP	17.80	19.70	1	1	1	16.0	15.4	26.0
SMF4L17A	SMF4L17CA	LR	BR	18.90	20.90	1	1	1	17.0	14.5	27.6
SMF4L18A	SMF4L18CA	LT	BT	20.00	22.10	1	1	1	18.0	13.7	29.2
SMF4L20A	SMF4L20CA	LV	BV	22.20	24.50	1	1	1	20.0	12.3	32.4
SMF4L22A	SMF4L22CA	LX	BX	24.40	26.90	1	1	1	22.0	11.3	35.5
SMF4L24A	SMF4L24CA	LZ	BZ	26.70	29.50	1	1	1	24.0	10.3	38.9
SMF4L26A	SMF4L26CA	ME	CE	28.90	31.90	1	1	1	26.0	9.5	42.1
SMF4L28A	SMF4L28CA	MG	CG	31.10	34.40	1	1	1	28.0	8.8	45.4
SMF4L30A	SMF4L30CA	MK	CK	33.30	36.80	1	1	1	30.0	8.3	48.4
SMF4L33A	SMF4L33CA	MM	CM	36.70	40.60	1	1	1	33.0	7.5	53.3
SMF4L36A	SMF4L36CA	MP	CP	40.00	44.20	1	1	1	36.0	6.9	58.1
SMF4L40A	SMF4L40CA	MR	CR	44.40	49.10	1	1	1	40.0	6.2	64.5
SMF4L43A	SMF4L43CA	MT	CT	47.80	52.80	1	1	1	43.0	5.8	69.4
SMF4L45A	SMF4L45CA	MV	CV	50.00	55.30	1	1	1	45.0	5.5	72.7
SMF4L48A	/	MX	/	53.30	58.90	1	1	/	48.0	5.2	77.4
SMF4L51A	/	MZ	/	56.70	62.70	1	1	/	51.0	4.9	82.4
SMF4L54A	/	NE	/	60.00	66.30	1	1	/	54.0	4.6	87.1
SMF4L58A	/	NG	/	64.40	71.20	1	1	/	58.0	4.3	93.6
SMF4L60A	/	NK	/	66.70	73.70	1	1	/	60.0	4.1	96.8
SMF4L64A	/	NM	/	71.10	78.60	1	1	/	64.0	3.9	103.0
SMF4L70A	/	NP	/	77.80	86.00	1	1	/	70.0	3.5	113.0
SMF4L75A	/	NR	/	83.30	92.10	1	1	/	75.0	3.3	121.0
SMF4L78A	/	NT	/	86.70	95.80	1	1	/	78.0	3.2	126.0
SMF4L85A	/	NV	/	94.40	104.00	1	1	/	85.0	2.9	137.0
SMF4L90A	/	NX	/	100.00	111.00	1	1	/	90.0	2.7	146.0
SMF4L100A	/	NZ	/	111.00	123.00	1	1	/	100.0	2.5	162.0

Rating & Characteristic Curves

Fig. 1 Pulse Derating Curve

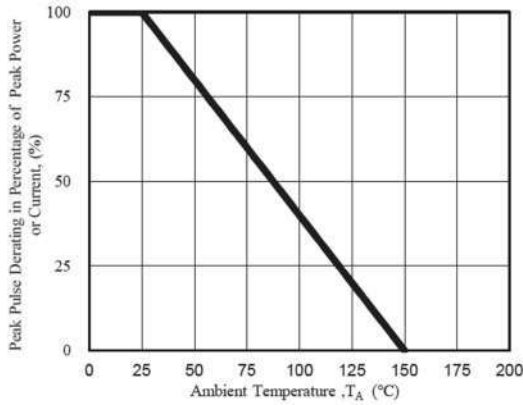


Fig. 2 Maximum Non-Repetitive

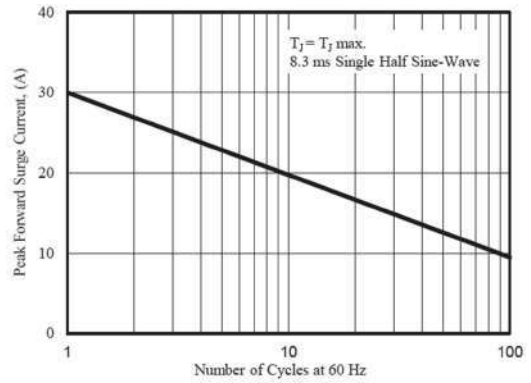


Fig. 3 Pulse Waveform

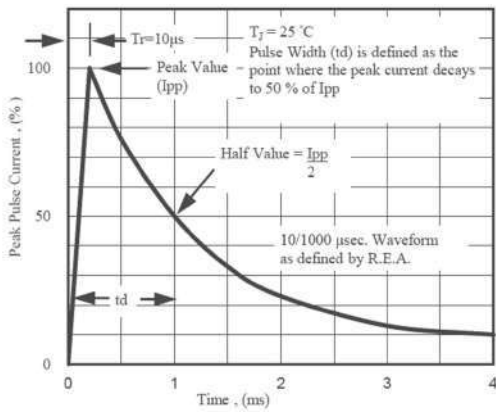


Fig. 4 Typical Junction Capacitance

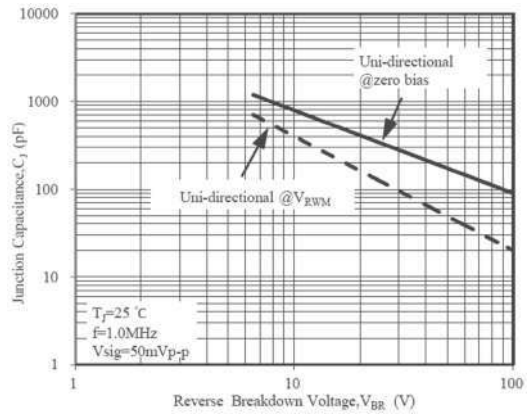
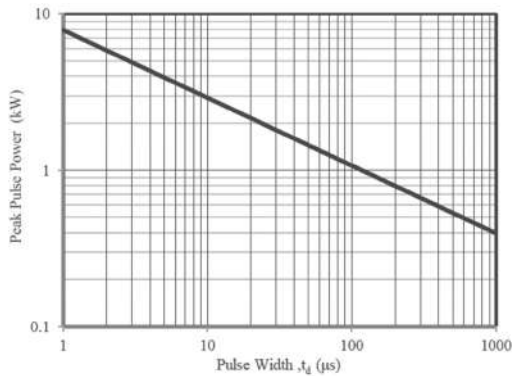
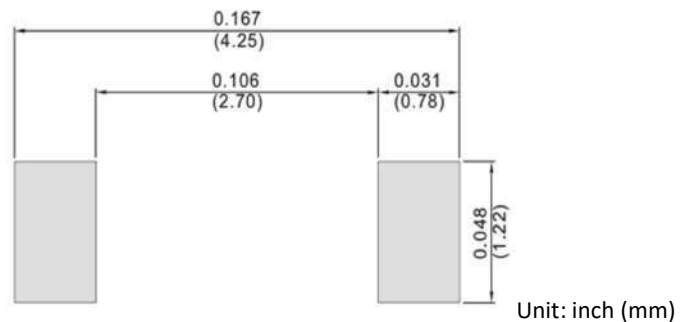


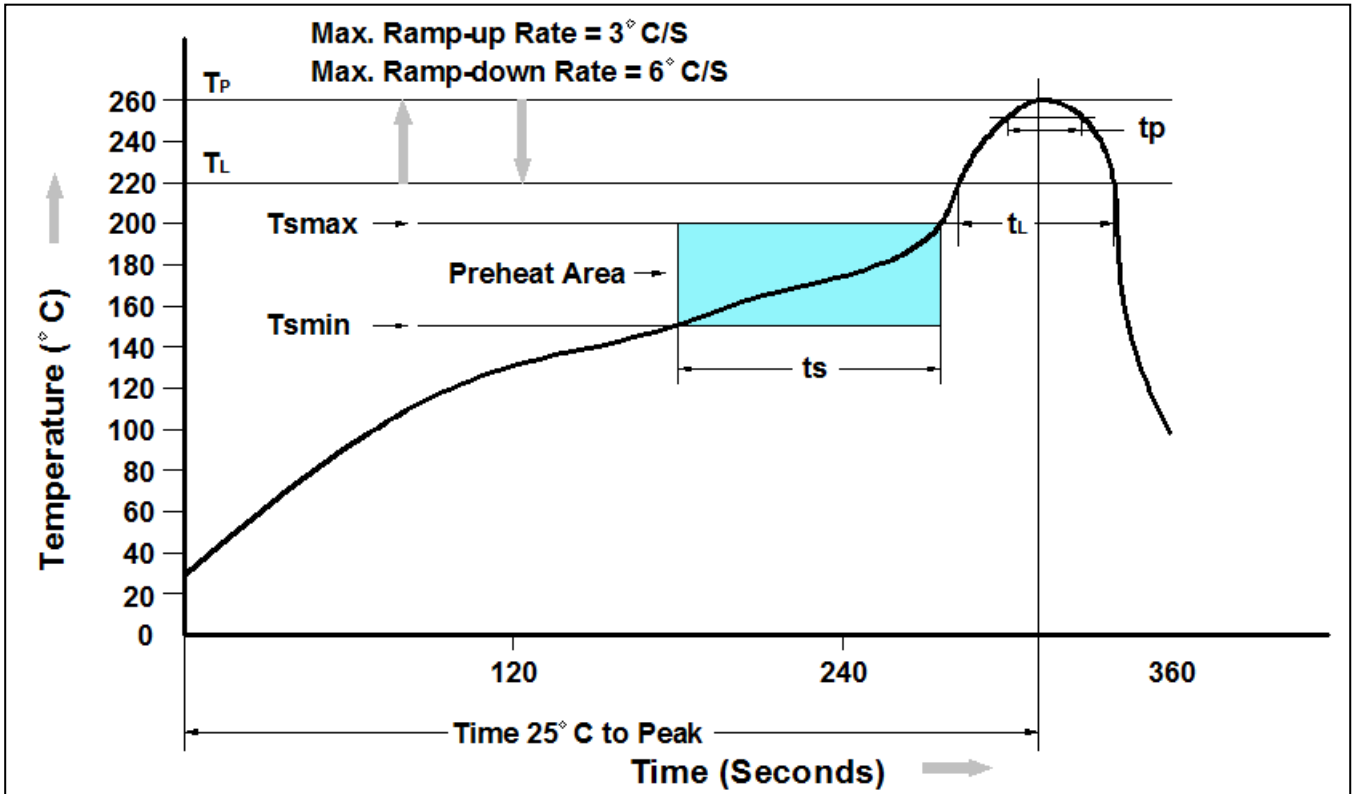
Fig. 5 Steady State Power Derating Curve



Suggested Pad Layout



Recommend IR Reflow Soldering Thermal Profile



Profile Feature	Pb-Free Assembly Profile
Temperature Min. (T Amin)	150°C
Temperature Max. (Tsmax)	200°C
Time (ts) from (T Amin to Tsmax)	60-120 seconds
Average Ramp-up Rate (tL to tP)	3°C/second max.
Liquidous Temperature (TL)	217°C
Time (tL) Maintained Above (TL)	60 – 150 seconds
Peak Temperature	260°C +0°C / -5°C
Time (tP) within 5°C of actual Peak Temperature	30 seconds
Ramp-down Rate (TP to TL)	6°C/second max
Time 25°C to Peak Temperature	8 minutes max.

Ordering Information

Part Number	Description	Quantity
SMF4L3.3A THRU SMF4L100A	SOD-123FL Reel	3000 pcs

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