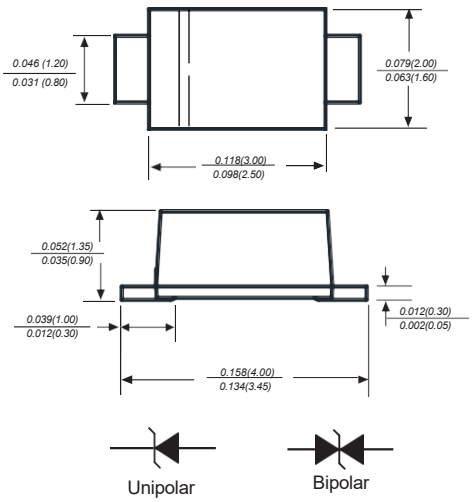
TRANSIENT VOLTAGE SUPPRESSOR

Features

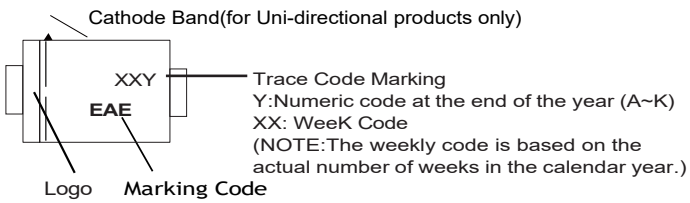
- For surface mounted applications in order to optimize board space.
- Low profile package
- Glass passivated junction
- Low inductance
- Plastic package has Underwriters Laboratory Flammability

SOD-123FL

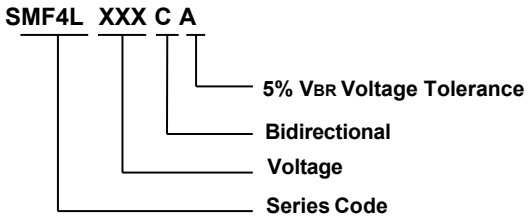


Dimensions in inches and (millimeters)

Marking Code



Part Number Code



Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on TA=25°C (Note 1,2,5, Fig1)	P_{PPM}	400	W
Peak Forward Surge Current (Note 3)	I_{FSM}	40	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	2.8	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	180	°C/W

NOTES

1. Non-repetitive current pulse per Fig 3 and derated above T_A=25°C per Fig 2
2. Mounted on 5mm^2 copper pads to each terminal
3. 8.3ms single half sinewave, or equivalent square wave duty cycle=4 pulses per minutes maximum
4. lead temperature at T_L=75°C
5. Peak pulse powe. waveform is tp=10/1000us
6. A transient suppressor is selected according to the working peak reverse voltage(V_{RWM}), Which Should be equal to or greater than the DC or continuous peak operating voltage level

Characteristics at Ta = 25°C

Table 1

Type		Marking		V_{RMW}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V_{BR} @ I_T		I_T	I_R @ V_{RWM}	V_C @ I_{PP}	I_{PP}
					Min	Max				
Uni	Bi	Uni	Bi	V	V	V	mA	μA	V	A
SMF4L5.0A	SMF4L5.0CA	EAE	EWE	5	6.4	7	10	800	9.2	40.1
SMF4L6.0A	SMF4L6.0CA	EAG	EWG	6	6.67	7.37	10	800	10.3	35.9
SMF4L6.5A	SMF4L6.5CA	EAK	EWK	6.5	7.22	7.98	10	500	11.2	33.1
SMF4L7.0A	SMF4L7.0CA	EAM	EWM	7	7.78	8.6	10	200	12	30.9
SMF4L7.5A	SMF4L7.5CA	EAP	EWP	7.5	8.33	9.21	1	100	12.9	28.7
SMF4L8.0A	SMF4L8.0CA	EAR	EWR	8	8.89	9.83	1	50	13.6	27.2
SMF4L9.0A	SMF4L9.0CA	EAV	EWV	9	10	11.1	1	10	15.4	24.1
SMF4L10A	SMF4L10CA	EAX	EWX	10	11.1	12.3	1	5	17	23.5
SMF4L11A	SMF4L11CA	EAZ	EWZ	11	12.2	13.5	1	1	18.2	22
SMF4L12A	SMF4L12CA	EBE	EXE	12	13.3	14.7	1	1	19.9	20.1
SMF4L13A	SMF4L13CA	EBG	EXG	13	14.4	15.9	1	1	21.5	18.6
SMF4L14A	SMF4L14CA	EBK	EXK	14	15.6	17.2	1	1	23.2	17.2
SMF4L15A	SMF4L15CA	EBM	EXM	15	16.7	18.5	1	1	24.4	16.4
SMF4L17A	SMF4L17CA	EBR	EXR	17	18.9	20.9	1	1	27.6	14.5
SMF4L18A	SMF4L18CA	EBT	EXT	18	20	22.1	1	1	29.2	13.7
SMF4L20A	SMF4L20CA	EBV	EXV	20	22.2	24.5	1	1	32.4	12.3
SMF4L22A	SMF4L22CA	EBX	EXX	22	24.4	26.9	1	1	35.5	11.3
SMF4L24A	SMF4L24CA	EBZ	EXZ	24	26.7	29.5	1	1	38.9	10.3
SMF4L26A	SMF4L26CA	ECE	EYE	26	28.9	31.9	1	1	42.1	9.5
SMF4L28A	SMF4L28CA	ECG	EYG	28	31.1	34.4	1	1	45.4	8.8
SMF4L30A	SMF4L30CA	ECK	EYK	30	33.3	36.8	1	1	48.4	8.3
SMF4L33A	SMF4L33CA	ECM	EYM	33	36.7	40.6	1	1	53.3	7.5
SMF4L36A	SMF4L36CA	ECP	EYP	36	40	44.2	1	1	58.1	6.9
SMF4L40A	/	ECR	/	40	44.4	49.1	1	1	64.5	6.2
SMF4L43A	/	ECT	/	43	47.8	52.8	1	1	69.4	5.8
SMF4L45A	/	ECV	/	45	50	55.3	1	1	72.7	5.5
SMF4L48A	/	ECX	/	48	53.3	58.9	1	1	77.4	5.2
SMF4L51A	/	ECZ	/	51	56.7	62.7	1	1	82.4	4.9
SMF4L58A	/	ERG	/	58	64.4	71.2	1	1	93.6	4.3
SMF4L60A	/	ERK	/	60	66.7	73.7	1	1	96.8	4.1
SMF4L64A	/	ERM	/	64	71.1	78.6	1	1	103	3.9
SMF4L70A	/	ERP	/	70	77.8	86	1	1	113	3.5
SMF4L75A	/	ERR	/	75	83.3	92.1	1	1	121	3.3
SMF4L78A	/	ERT	/	78	86.7	95.8	1	1	126	3.2
SMF4L85A	/	ERV	/	85	94.4	104	1	1	137	2.9

Typical Characterisitics

Fig.1 Peak Pulse Power Rating Curve

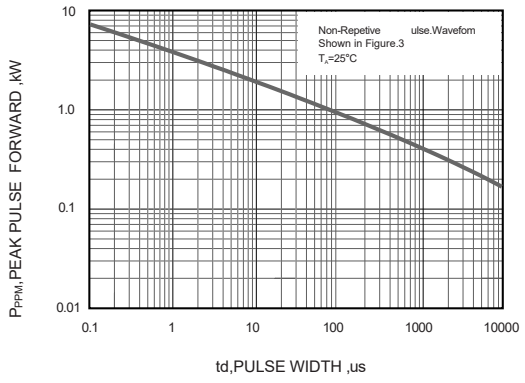


Fig.2 Forward Current Derating Curve

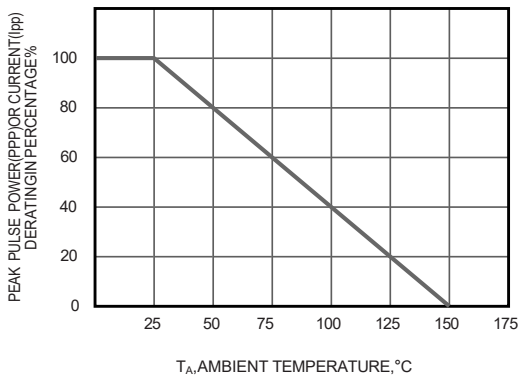


Fig.3 Pulse Waveform

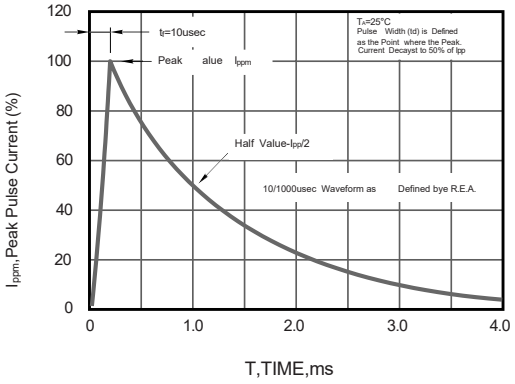
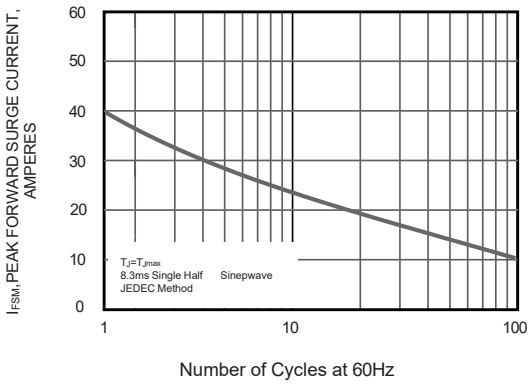


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.