

SMFJ Series

SURFACE MOUNT TRANSIENT VOLTAGE SUPPRESSORS

Power Dissipation-200W

Stand-off Voltage-5.0V to 220V

FEATURES

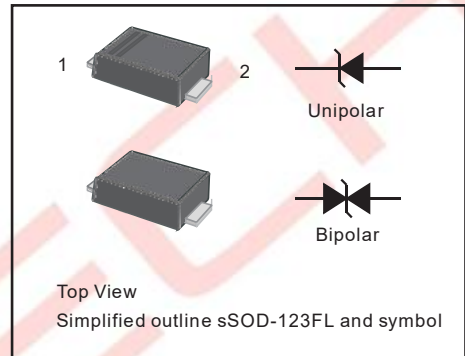
- ◆ For surface mounted applications in order to optimize board space.
- ◆ Low profile package
- ◆ Glass passivated junction
- ◆ Low inductance
- ◆ Plastic package has Underwriters Laboratory Flammability
- ◆ MSL:1 Level

MECHANICAL DATA

- ◆ Case: SOD-123FL
- ◆ Terminals: Solderable per MIL-STD-750, Method 2026
- ◆ Approx. Weight:15mg 0.00048oz

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



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}	200	W
Peak Forward Surge Current (Note 3)	I_{FSM} (UNI)	20	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig2	I_{PPM}	see Table 1	A
Steady State Power Dissipation (Note 4)	$P_{M(AV)}$	1	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	°C
Typical Thermal Resistance	$R_{\theta JA}$	180	°C

NOTES

1. Non-repetitive current pulse per Fig 3 and derated above $T_a=25^\circ\text{C}$ 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 $T_L=75^\circ\text{C}$
5. Peak pulse powe. waveform is $t_p=10/1000\mu\text{s}$
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

SMFJ Series

Characteristics at Ta = 25°C

Type		Marking		V _{RWM}	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V _{BR} @ I _T					
					Uni	Bi	Uni	Bi	V	Min
				V	V	V	mA	μA	V	A
SMF 5.0AT	SMF 5.0CAT	AE	CAE	5	6.4	7	10	200	9.2	21.7
SMF 6.0AT	SMF 6.0CAT	AG	CAG	6	6.67	7.37	10	100	10.3	19.4
SMF 6.5AT	SMF 6.5CAT	AK	CAK	6.5	7.22	7.98	10	75	11.2	17.9
SMF 7.0AT	SMF 7.0CAT	AM	CAM	7	7.78	8.6	10	50	12	16.7
SMF 7.5AT	SMF 7.5CAT	AP	CAP	7.5	8.33	9.21	1	50	12.9	15.5
SMF 8.0AT	SMF 8.0CAT	AR	CAR	8	8.89	9.83	1	25	13.6	14.7
SMF 8.5AT	SMF 8.5CAT	AT	CAT	8.5	9.44	10.4	1	10	14.4	13.9
SMF 9.0AT	SMF 9.0CAT	AV	CAV	9	10	11.1	1	5	15.4	13
SMF 10AT	SMF 10CAT	AX	CAX	10	11.1	12.3	1	2.5	17	11.8
SMF 11AT	SMF 11CAT	AZ	CAZ	11	12.2	13.5	1	2.5	18.2	11
SMF 12AT	SMF 12CAT	BE	CBE	12	13.3	14.7	1	2.5	19.9	10.1
SMF 13AT	SMF 13CAT	BG	CBG	13	14.4	15.9	1	1	21.5	9.3
SMF 14AT	SMF 14CAT	BK	CBK	14	15.6	17.2	1	1	23.2	8.6
SMF 15AT	SMF 15CAT	BM	CBM	15	16.7	18.5	1	1	24.4	8.2
SMF 16AT	SMF 16CAT	BP	CBP	16	17.8	19.7	1	1	26	7.7
SMF 17AT	SMF 17CAT	BR	CBR	17	18.9	20.9	1	1	27.6	7.2
SMF 18AT	SMF 18CAT	BT	CBT	18	20	22.1	1	1	29.2	6.8
SMF 20AT	SMF 20CAT	BV	CBV	20	22.2	24.5	1	1	32.4	6.2
SMF 22AT	SMF 22CAT	BX	CBX	22	24.4	26.9	1	1	35.5	5.6
SMF 24AT	SMF 24CAT	BZ	CBZ	24	26.7	29.5	1	1	38.9	5.1
SMF 26AT	SMF 26CAT	CE	CCE	26	28.9	31.9	1	1	42.1	4.8
SMF 28AT	SMF 28CAT	CG	CCG	28	31.1	34.4	1	1	45.4	4.4
SMF 30AT	SMF 30CAT	CK	CCK	30	33.3	36.8	1	1	48.4	4.1
SMF 33AT	SMF 33CAT	CM	CCM	33	36.7	40.6	1	1	53.3	3.8
SMF 36AT	SMF 36CAT	CP	CCP	36	40	44.2	1	1	58.1	3.4
SMF 40AT	SMF 40CAT	CR	CCR	40	44.4	49.1	1	1	64.5	3.1
SMF 43AT	SMF 43CAT	CT	CCT	43	47.8	52.8	1	1	69.4	2.9
SMF 45AT	SMF 45CAT	CV	CCV	45	50	55.3	1	1	72.7	2.8
SMF 48AT	SMF 48CAT	CX	CCX	48	53.3	58.9	1	1	77.4	2.6
SMF 51AT	SMF 51CAT	CZ	CCZ	51	56.7	62.7	1	1	82.4	2.4
SMF 54AT	SMF 54CAT	DE	CDE	54	60	66.3	1	1	87.1	2.3
SMF 58AT	SMF 58CAT	DG	CDG	58	64.4	71.2	1	1	93.6	2.1
SMF 60AT	SMF 60CAT	DK	CDK	60	66.7	73.7	1	1	96.8	1.8
SMF 64AT	SMF 64CAT	DM	CDM	64	71.1	78.6	1	1	103	1.7
SMF 70AT	SMF 70CAT	DP	CDP	70	77.8	86	1	1	113	1.5
SMF 75AT	SMF 75CAT	DR	CDR	75	83.3	92.1	1	1	121	1.4
SMF 78AT	SMF 78CAT	DT	CDT	78	86.7	95.8	1	1	126	1.4
SMF 85AT	SMF 85CAT	DV	CDV	85	94.4	104	1	1	137	1.3
SMF 90AT	SMF 90CAT	DX	CDX	90	100	111	1	1	146	1.2
SMF 100AT	SMF 100CAT	DZ	CDZ	100	111	123	1	1	162	1.1
SMF 110AT	SMF 110CAT	EE	CEE	110	122	135	1	1	177	1
SMF 120AT	SMF 120CAT	EG	CEG	120	133	147	1	1	193	0.9
SMF 130AT	SMF 130CAT	EK	CEK	130	144	159	1	1	209	0.8
SMF 150AT	SMF 150CAT	EM	CEM	150	167	185	1	1	243	0.7
SMF 160AT	SMF 160CAT	EP	CEP	160	178	197	1	1	259	0.7
SMF 170AT	SMF 170CAT	ER	CER	170	189	209	1	1	275	0.6
SMF 180AT	SMF 180CAT	ET	CET	180	201	222	1	1	292	0.5
SMF 200AT	SMF 200CAT	EX	CEX	200	224	247	1	1	324	0.5
SMF 220AT	SMF 220CAT	E22	CE22	220	246	272	1	1	356	0.5

Fig.1 Peak Pulse Power Rating Curve

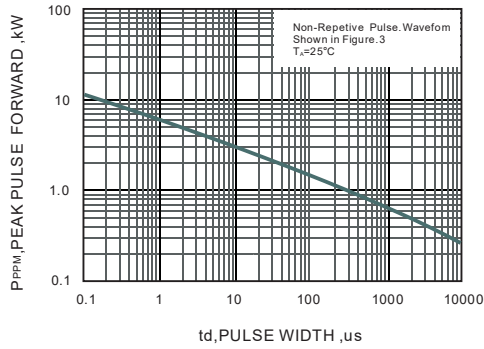


Fig.2 Forward Current Derating Curve

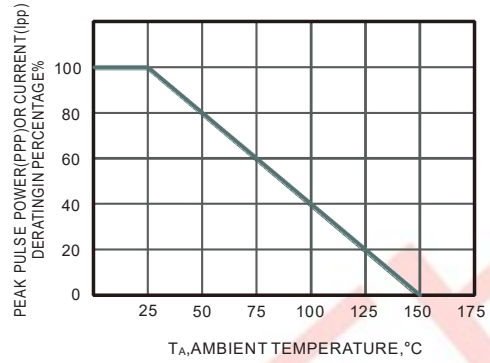


Fig.3 Pulse Waveform

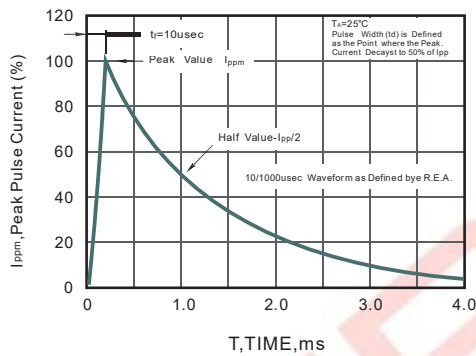
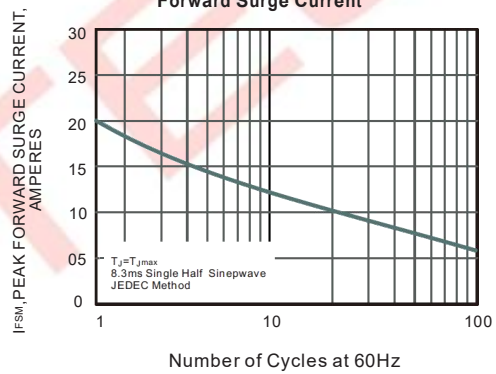


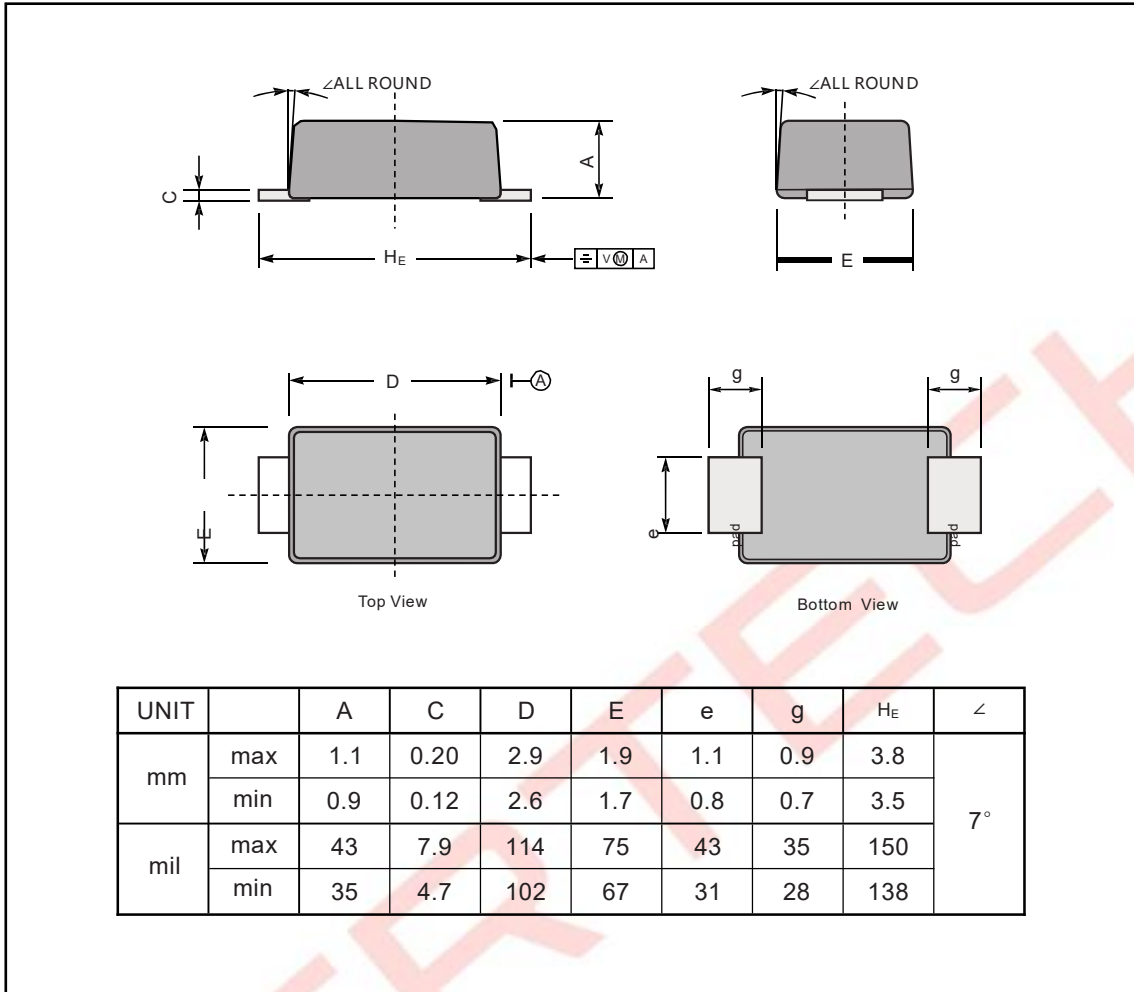
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



SMFJ Series

PACKAGE OUTLINE

SOD-123FL



The recommended mounting pad size

