Surface mount transient voltage suppressor power 200 watts

Stand-Off Voltage： 5.0V~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

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode

Top View
Simplified outline sSOD-123FL and symbol

MECHANICAL DATA

▪Case: SOD-123FL

▪Terminals: Solderable per MIL-STD-750, Method 2026

▪Approx. Weight:15mg 0.00048oz

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}	20	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)	$P_{M(AV)}$	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°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		Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
		V_{RMW}	V_{BR} @ I_T		I_T	I_R @ V_{RWM}	V_C @ I_{PP}	I_{PP}
			Min	Max				
		V	V	V	mA	μA	V	A
SMF5.0A	AE	5	6.4	7	10	200	9.2	21.7
SMF6.0A	AG	6	6.7	7.4	10	100	10.3	19.4
SMF6.5A	AK	6.5	7.2	8	10	75	11.2	17.9
SMF7.0A	AM	7	7.8	8.6	10	50	12	16.7
SMF7.5A	AP	7.5	8.3	9.2	1	50	12.9	15.5
SMF8.0A	AR	8	8.9	9.8	1	25	13.6	14.7
SMF8.5A	AT	8.5	9.4	10.4	1	10	14.4	13.9
SMF9.0A	AV	9	10	11.1	1	5	15.4	13
SMFI0A	AX	10	11.1	12.3	1	2.5	17	11.8
SMF11A	AZ	11	12.2	13.5	1	2.5	18.2	11
SMF12A	BE	12	13.3	14.7	1	2.5	19.9	10.1
SMF13A	BG	13	14.4	15.9	1	1	21.5	9.3
SMF14A	BK	14	15.6	17.2	1	1	23.2	8.6
SMF15A	BM	15	16.7	18.5	1	1	24.4	8.2
SMF16A	BP	16	17.8	19.7	1	1	26	7.7
SMF17A	BR	17	18.9	20.9	1	1	27.6	7.2
SMF18A	BT	18	20	22.1	1	1	29.2	6.8
SMF20A	BV	20	22.2	24.5	1	1	32.4	6.2
SMF22A	BX	22	24 4	26.9	1	1	35.5	5.6
SMF24A	BZ	24	26.7	29.5	1	1	38.9	5.1
SMF26A	CE	26	28.9	31.9	1	1	42.1	4.8
SMF28A	CG	28	31.1	34.4	1	1	45.4	4.4
SMF30A	CK	30	33.3	36.8	1	1	48.4	4.1
SMF33A	CM	33	36.7	40.6	1	1	53.3	3.8
SMF36A	CP	36	40	44.2	1	1	58.1	3.4
SMF40A	CR	40	44.4	49.1	1	1	64.5	3.1
SMF43A	CT	43	47.8	52.8	1	1	69.4	2.9
SMF45A	CV	45	50	55.3	1	1	72.7	2.8
SMF48A	CX	48	53.3	58.9	1	1	77.4	2.6
SMF51A	CZ	51	56.7	62.7	1	1	82.4	2.4
SMF54A	DE	54	60	66.3	1	1	87.1	2.3
SMF58A	DG	58	64.4	71.2	1	1	93.6	2.1
SMF60A	DK	60	66.7	73.7	1	1	96.8	1.8
SMF64A	DM	64	71.1	78.6	1	1	103	1.7
SMF70A	DP	70	77.8	86	1	1	113	1.5
SMF75A	DR	75	83.3	92.1	1	1	121	1.4
SMF78A	DT	78	86.7	95.8	1	1	126	1.4
SMF85A	DV	85	94.4	104	1	1	137	1.3
SMF90A	DX	90	100	111	1	1	146	1.2
SMFI00A	DZ	100	111	123	1	1	162	1.1
SMF110A	EE	110	122	135	1	1	177	1
SMF120A	EG	120	133	147	1	1	193	0.9
SMF130A	EK	130	144	159	1	1	209	0.8
SMF150A	EM	150	167	185	1	1	243	0.7
SMF160A	EP	160	178	197	1	1	259	0.7
SMF170A	ER	170	189	209	1	1	275	0.6
SMF175A	E5	175	198	214	1	1	284	0.6
SMF180A	ET	180	213	225	1	1	296	0.5
SMF190A	EV	190	220	238	1	1	320	0.5
SMF200A	EX	200	235	246	1	1	350	0.5
SMF210A	EZ	210	241	253	1	1	386	0.5
SMF220A	E22	220	248	268	1	1	390	0.5

Fig.1 Peak Pulse Power Rating Curve

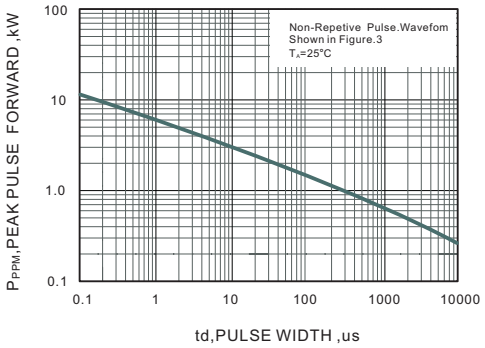


Fig.2 Forward Current Derating Curve

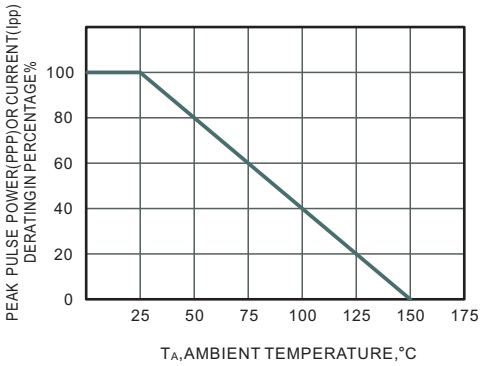


Fig.3 Pulse Waveform

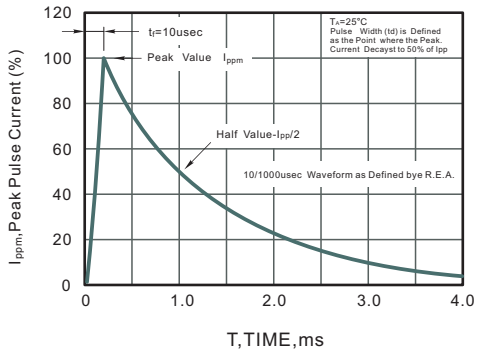
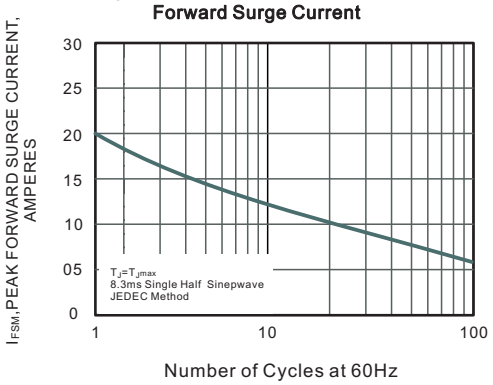
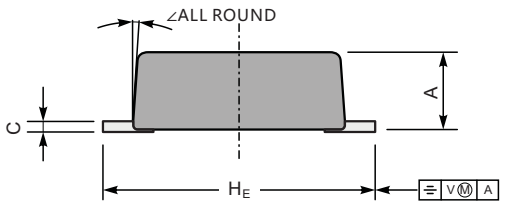


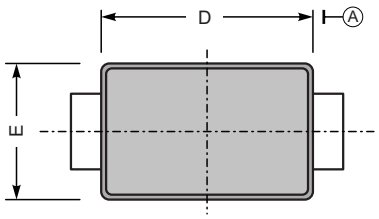
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



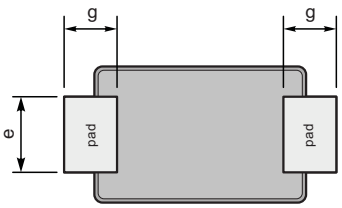
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads SOD-123FL





Top View



Bottom View

UNIT		A	C	D	E	e	g	H_E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	

The recommended mounting pad size