

Surface mount transient voltage suppressor power 200 watts

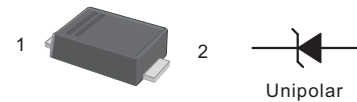
Stand-Off Voltage : 5.0V~220V

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} (UNI)	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 $T_A=25^\circ\text{C}$ per Fig 2
2. Mounted on 5mm² 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 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

Type	Marking	V _{RWM}	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	Uni	V	V	V	mA	μA	V	A
KPTVS5V0S1UR	AE	5	6.4	7	10	200	9.2	21.7
KPTVS6V0S1UR	AG	6	6.67	7.37	10	100	10.3	19.4
KPTVS6V5S1UR	AK	6.5	7.22	7.98	10	75	11.2	17.9
KPTVS7V0S1UR	AM	7	7.78	8.6	10	50	12	16.7
KPTVS7V5S1UR	AP	7.5	8.33	9.21	1	50	12.9	15.5
KPTVS8V0S1UR	AR	8	8.89	9.83	1	25	13.6	14.7
KPTVS8V5S1UR	AT	8.5	9.44	10.4	1	10	14.4	13.9
KPTVS9V0S1UR	AV	9	10	11.1	1	5	15.4	13
KPTVS10VS1UR	AX	10	11.1	12.3	1	2.5	17	11.8
KPTVS11VS1UR	AZ	11	12.2	13.5	1	2.5	18.2	11
KPTVS12VS1UR	BE	12	13.3	14.7	1	2.5	19.9	10.1
KPTVS13VS1UR	BG	13	14.4	15.9	1	1	21.5	9.3
KPTVS14VS1UR	BK	14	15.6	17.2	1	1	23.2	8.6
KPTVS15VS1UR	BM	15	16.7	18.5	1	1	24.4	8.2
KPTVS16VS1UR	BP	16	17.8	19.7	1	1	26	7.7
KPTVS17VS1UR	BR	17	18.9	20.9	1	1	27.6	7.2
KPTVS18VS1UR	BT	18	20	22.1	1	1	29.2	6.8
KPTVS20VS1UR	BV	20	22.2	24.5	1	1	32.4	6.2
KPTVS22VS1UR	BX	22	24.4	26.9	1	1	35.5	5.6
KPTVS24VS1UR	BZ	24	26.7	29.5	1	1	38.9	5.1
KPTVS26VS1UR	CE	26	28.9	31.9	1	1	42.1	4.8
KPTVS28VS1UR	CG	28	31.1	34.4	1	1	45.4	4.4
KPTVS30VS1UR	CK	30	33.3	36.8	1	1	48.4	4.1
KPTVS33VS1UR	CM	33	36.7	40.6	1	1	53.3	3.8
KPTVS36VS1UR	CP	36	40	44.2	1	1	58.1	3.4
KPTVS40VS1UR	CR	40	44.4	49.1	1	1	64.5	3.1
KPTVS43VS1UR	CT	43	47.8	52.8	1	1	69.4	2.9
KPTVS45VS1UR	CV	45	50	55.3	1	1	72.7	2.8
KPTVS48VS1UR	CX	48	53.3	58.9	1	1	77.4	2.6
KPTVS51VS1UR	CZ	51	56.7	62.7	1	1	82.4	2.4
KPTVS54VS1UR	DE	54	60	66.3	1	1	87.1	2.3
KPTVS58VS1UR	DG	58	64.4	71.2	1	1	93.6	2.1
KPTVS60VS1UR	DK	60	66.7	73.7	1	1	96.8	1.8
KPTVS64VS1UR	DM	64	71.1	78.6	1	1	103	1.7
KPTVS70VS1UR	DP	70	77.8	86	1	1	113	1.5
KPTVS75VS1UR	DR	75	83.3	92.1	1	1	121	1.4
KPTVS78VS1UR	DT	78	86.7	95.8	1	1	126	1.4
KPTVS85VS1UR	DV	85	94.4	104	1	1	137	1.3
KPTVS90VS1UR	DX	90	100	111	1	1	146	1.2
KPTVS100VS1UR	DZ	100	111	123	1	1	162	1.1
KPTVS110VS1UR	EE	110	122	135	1	1	177	1
KPTVS120VS1UR	EG	120	133	147	1	1	193	0.9
KPTVS130VS1UR	EK	130	144	159	1	1	209	0.8
KPTVS150VS1UR	EM	150	167	185	1	1	243	0.7
KPTVS160VS1UR	EP	160	178	197	1	1	259	0.7
KPTVS170VS1UR	ER	170	189	209	1	1	275	0.6
KPTVS180VS1UR	ET	180	201	222	1	1	292	0.5
KPTVS200VS1UR	EX	200	224	247	1	1	324	0.5
KPTVS220VS1UR	E22	220	246	272	1	1	356	0.5

Fig.1 Peak Pulse Power Rating Curve

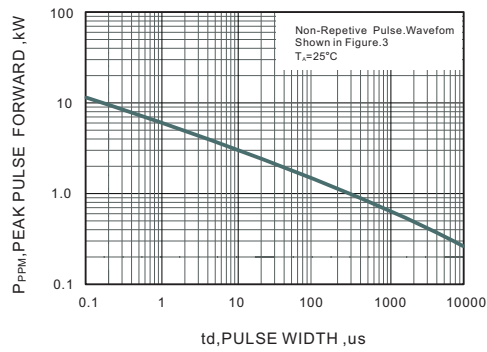


Fig.2 Forward Current Derating Curve

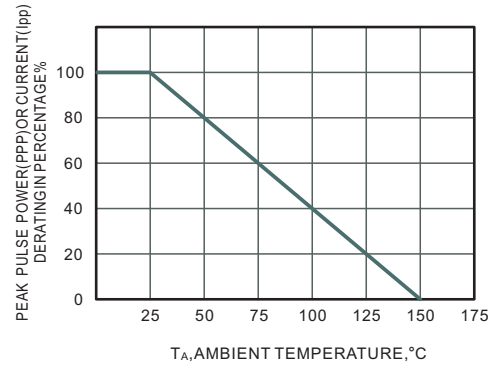


Fig.3 Pulse Waveform

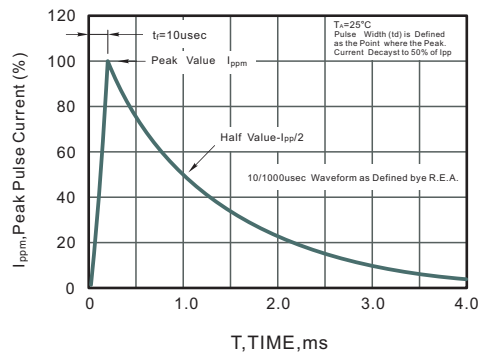
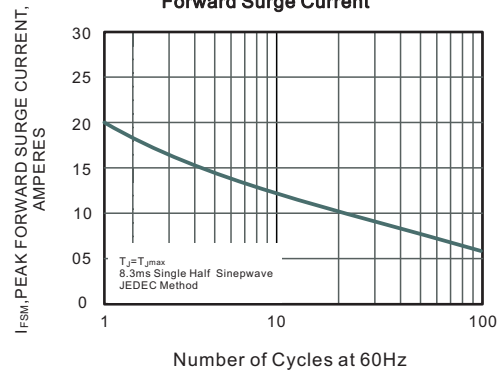


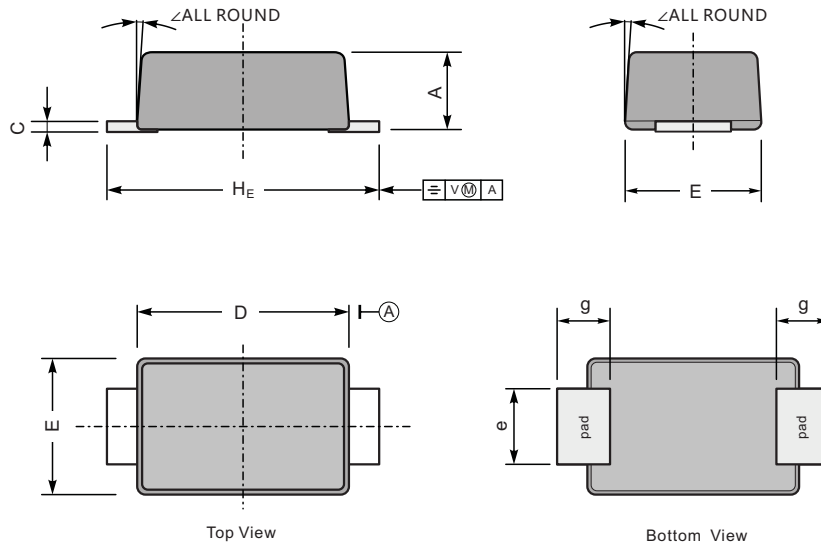
Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



PACKAGE OUTLINE

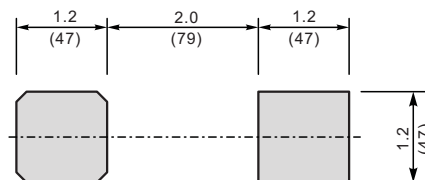
Plastic surface mounted package; 2 leads

SOD-123FL



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



Unit: $\frac{\text{mm}}{(\text{mil})}$