

## Surface mount transient voltage suppressor power 200 watts

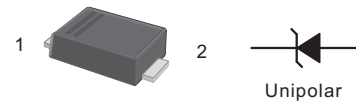
Stand-Off Voltage : 5.0V~220V

### 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

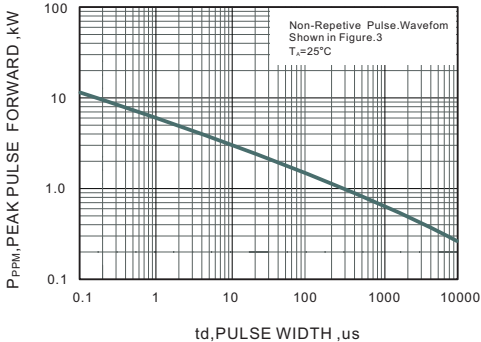
#### NOTES

1. Non-repetitive current pulse per Fig 3 and derated above  $T_A=25^\circ\text{C}$  per Fig 2
2. Mounted on 5mm<sup>2</sup> 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

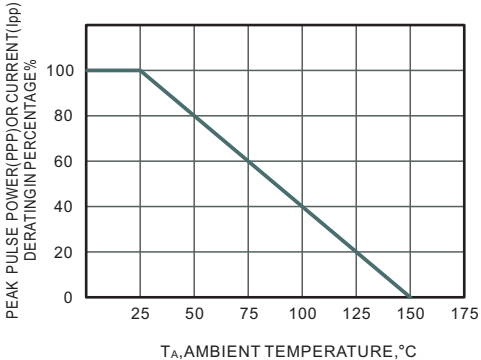
Characteristics at Ta = 25°C

Type	Marking	V <sub>RWM</sub>	Breakdown Voltage		Test Current I <sub>T</sub>	Reverse Leakage I <sub>R</sub> @ V <sub>RWM</sub>	Max. Clamp Voltage V <sub>C</sub> @ I <sub>PP</sub>	Peak Pulse Current I <sub>PP</sub>
			V <sub>BR</sub> @ I <sub>T</sub>					
			Min	Max	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

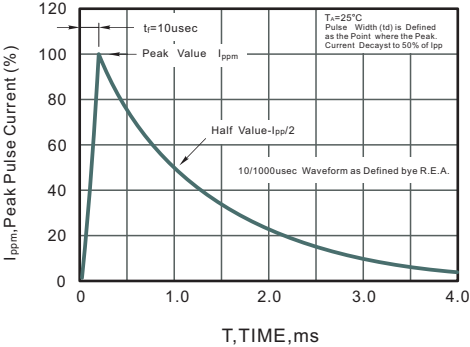
**Fig.1 Peak Pulse Power Rating Curve**



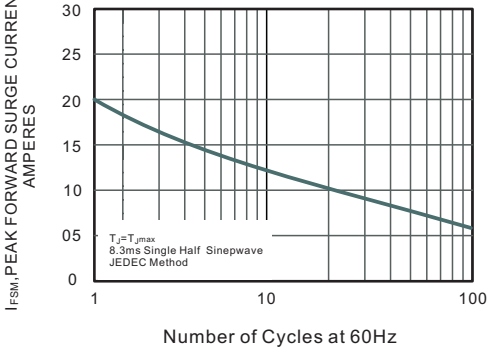
**Fig.2 Forward Current Derating Curve**



**Fig.3 Pulse Waveform**



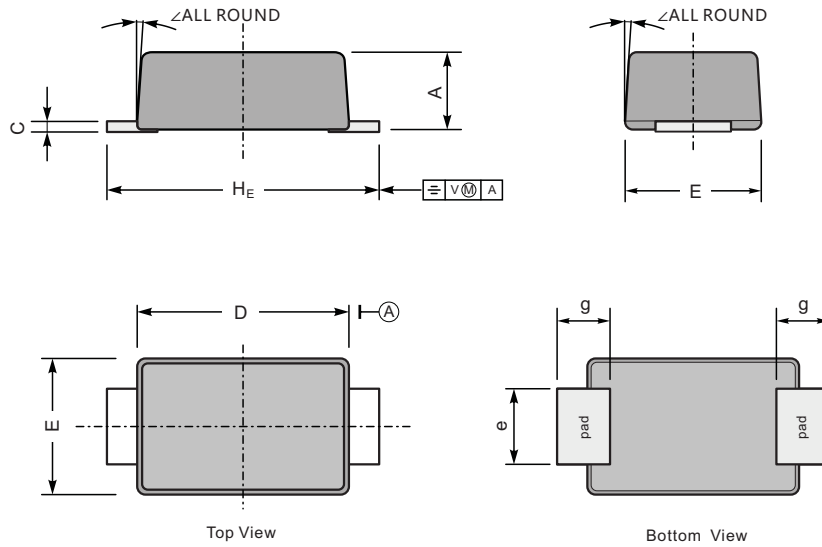
**Fig.4 Maximum Non-Repetitive Peak Forward Surge Current**



**PACKAGE OUTLINE**

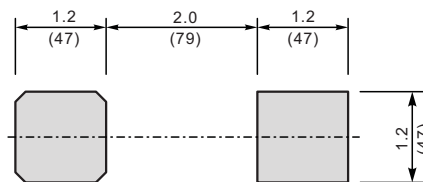
Plastic surface mounted package; 2 leads

SOD-123FL



UNIT		A	C	D	E	e	g	$H_E$	$\angle$
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:  $\frac{\text{mm}}{\text{(mil)}}$

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