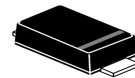


## 200W Surface Mount Transient Voltage Suppressors

### Features

- Working peak reverse voltage range – 5.0V to 190V.
- Peak power dissipation 200W @10 x 1000 us Pulse
- Low profile package.
- Excellent clamping capability.
- Glass passivated junction.
- Fast response time: typically less than 1 ns for Uni-direction.
- Typical IR less than 1uA above 10V.
- Plastic material has UL flammability classification 94V-O
- RoHS compliant in lead-free versions



SOD-123FL

### Mechanical Characteristics

CASE: Void-free, Molded Plastic over glass passivated junction..

Mounting Position: Any

Polarity: by cathode band denotes uni-directional device.

Qualified max reflow temperature: 260°C

### Maximum Ratings And Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

Parameter	Symbol	Value	Units
Peak Pulse Power Dissipation on 10/1000 us Waveform (Note 1, 2, FIG.1)	P <sub>PPM</sub>	Min 200	W
Peak Pulse Current of on 10/1000us Waveform (Note 1, FIG.3)	I <sub>PPM</sub>	See Table 1	Amps
Operating Junction Temperature Range	T <sub>J</sub>	-55 to 150	°C
Storage Temperature Range	T <sub>STG</sub>	-55 to 150	°C

Notes:

1. Non-repetitive current pulse, per Fig.3 and derated above T<sub>A</sub>=25°C per Fig.2.

**Electrical Specification @ Tamb 25°C**

Type Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
Uni	Bi	Uni	Bi	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMF5.0A	SMF5.0CA	5.0A	5.0CA	5.0	6.40	7.25	10	9.2	21.7	400.0
SMF6.0A	SMF6.0CA	6.0A	6.0CA	6.0	6.67	7.67	10	10.3	19.4	400.0
SMF6.5A	SMF6.5CA	6.5A	6.5CA	6.5	7.22	8.30	10	11.2	17.9	250.0
SMF7.0A	SMF7.0CA	7.0A	7.0CA	7.0	7.78	8.95	10	12	16.7	100.0
SMF7.5A	SMF7.5CA	7.5A	7.5CA	7.5	8.33	9.58	1.0	12.9	15.5	50.0
SMF8.0A	SMF8.0CA	8.0A	8.0CA	8.0	8.89	10.23	1.0	13.6	14.7	25.0
SMF8.5A	SMF8.5CA	8.5A	8.5CA	8.5	9.44	10.82	1.0	14.4	13.9	10.0
SMF9.0A	SMF9.0CA	9.0A	9.0CA	9.0	10.0	11.5	1.0	15.4	13	5.0
SMF10A	SMF10CA	10A	10CA	10	11.1	12.8	1.0	17	11.8	2.5
SMF11A	SMF11CA	11A	11CA	11	12.2	14.0	1.0	18.2	11	2.5
SMF12A	SMF12CA	12A	12CA	12	13.3	15.3	1.0	19.9	10.1	2.5
SMF13A	SMF13CA	13A	13CA	13	14.4	16.5	1.0	21.5	9.3	1.0
SMF14A	SMF14CA	14A	14CA	14	15.6	17.9	1.0	23.2	8.6	1.0
SMF15A	SMF15CA	15A	15CA	15	16.7	19.2	1.0	24.4	8.2	1.0
SMF16A	SMF16CA	16A	16CA	16	17.8	20.5	1.0	26	7.7	1.0
SMF17A	SMF17CA	17A	17CA	17	18.9	21.7	1.0	27.6	7.2	1.0
SMF18A	SMF18CA	18A	18CA	18	20.0	23.3	1.0	29.2	6.8	1.0
SMF20A	SMF20CA	20A	20CA	20	22.2	25.5	1.0	32.4	6.2	1.0
SMF22A	SMF22CA	22A	22CA	22	24.4	28.0	1.0	35.5	5.6	1.0
SMF24A	SMF24CA	24A	24CA	24	26.7	30.7	1.0	38.9	5.1	1.0
SMF26A	SMF26CA	26A	26CA	26	28.9	33.2	1.0	42.1	4.8	1.0
SMF28A	SMF28CA	28A	28CA	28	31.1	35.8	1.0	45.4	4.4	1.0
SMF30A	SMF30CA	30A	30CA	30	33.3	38.3	1.0	48.4	4.1	1.0
SMF33A	SMF33CA	33A	33CA	33	36.7	42.2	1.0	53.3	3.8	1.0
SMF36A	SMF36CA	36A	36CA	36	40.0	46.0	1.0	58.1	3.4	1.0
SMF40A	SMF40CA	40A	40CA	40	44.4	51.1	1.0	64.5	3.1	1.0
SMF43A	SMF43CA	43A	43CA	43	47.8	54.9	1.0	69.4	2.9	1.0
SMF45A	SMF45CA	45A	45CA	45	50.0	57.5	1.0	72.7	2.8	1.0
SMF48A	SMF48CA	48A	48CA	48	53.3	61.3	1.0	77.4	2.6	1.0
SMF51A	SMF51CA	51A	51CA	51	56.7	65.2	1.0	82.4	2.4	1.0
SMF54A	SMF54CA	54A	54CA	54	60.0	69.0	1.0	87.1	2.3	1.0
SMF58A	SMF58CA	58A	58CA	58	64.4	74.1	1.0	93.6	2.1	1.0
SMF60A	SMF60CA	60A	60CA	60	66.7	76.7	1.0	96.8	1.8	1.0
SMF64A	SMF64CA	64A	64CA	64	71.1	81.8	1.0	103	1.7	1.0
SMF70A	SMF70CA	70A	70CA	70	77.8	89.5	1.0	113	1.5	1.0
SMF75A	SMF75CA	75A	75CA	75	83.3	95.8	1.0	121	1.4	1.0
SMF78A	SMF78CA	78A	78CA	78	86.7	99.7	1.0	126	1.4	1.0

Type Number		Marking		Reverse Stand-Off Voltage	Breakdown Voltage Min. @I <sub>T</sub>	Breakdown Voltage Max. @ I <sub>T</sub>	Test Current	Maximum Clamping Voltage @I <sub>PP</sub>	Peak Pulse Current	Reverse Leakage @V <sub>RMW</sub>
Uni	Bi	Uni	Bi	V <sub>RMW</sub> (V)	V <sub>BR MIN</sub> (V)	V <sub>BR MAX</sub> (V)	I <sub>T</sub> (mA)	V <sub>C</sub> (V)	I <sub>PP</sub> (A)	I <sub>R</sub> (uA)
SMF85A	SMF85CA	85A	85CA	85	94.4	108.2	1.0	137	1.3	1.0
SMF90A	SMF90CA	90A	90CA	90	100.0	115.5	1.0	146	1.2	1.0
SMF100A	SMF100CA	100	100C	100	111.0	128.0	1.0	162	1.1	1.0
SMF110A	SMF110CA	110	110C	110	122.0	140.5	1.0	177	1.0	1.0
SMF120A	SMF120CA	120	120C	120	133.0	153.0	1.0	193	0.9	1.0
SMF130A	SMF130CA	130	130C	130	144.0	165.5	1.0	209	0.8	1.0
SMF150A	SMF150CA	150	150C	150	167.0	192.5	1.0	243	0.7	1.0
SMF160A	SMF160CA	160	160C	160	178.0	205.0	1.0	259	0.7	1.0
SMF170A	SMF170CA	170	170C	170	189.0	217.5	1.0	275	0.6	1.0
SMF180A	SMF180CA	180	180C	180	198.0	230.4	1.0	292	0.6	1.0
SMF190A	SMF190CA	190	190C	190	209.0	243.2	1.0	308	0.5	1.0

### Ratings and Characteristic Curves T<sub>A</sub>=25°C unless otherwise noted

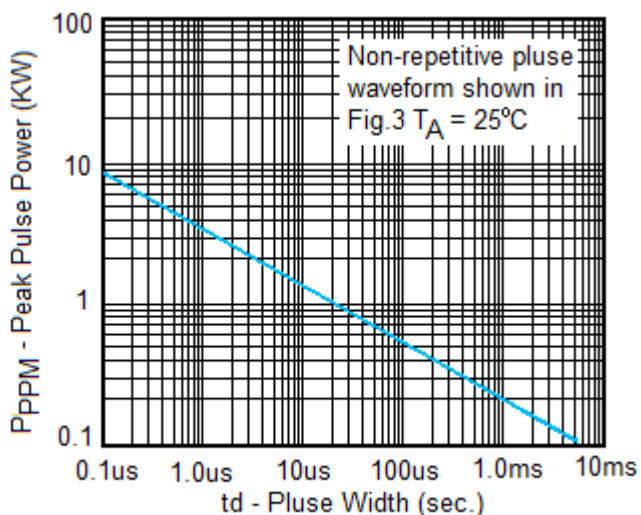


Fig. 1 Peak Pulse Power Rating

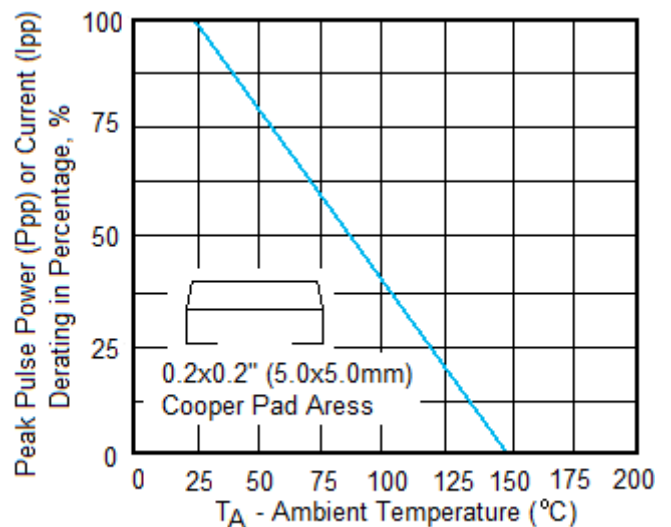


Fig.2 Pulse Derating Curve

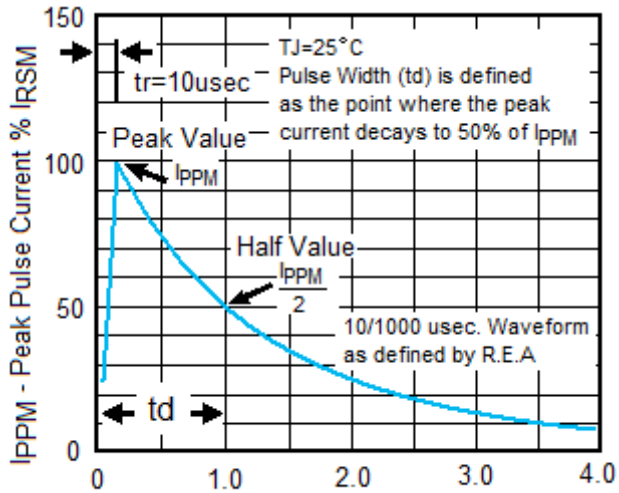
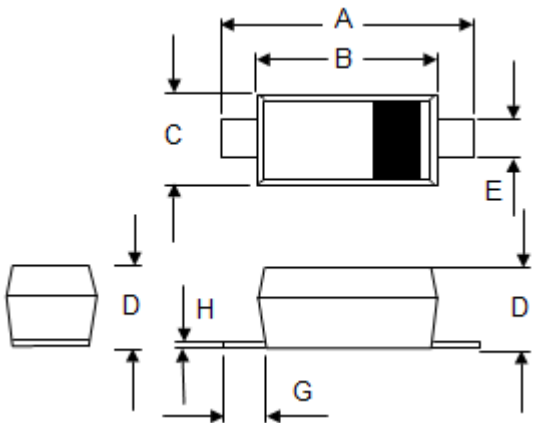


Fig.3 Pulse Waveform

### Package Outline Dimensions and Pad Layouts

#### SOD-123FL



Dim	Millimeters		Inches	
	Min	Max	Min	Max
A	3.40	3.85	0.142	0.150
B	2.50	2.90	0.098	0.114
C	1.40	1.80	0.055	0.071
D	0.90	1.35	0.035	0.053
E	0.50	1.10	0.020	0.043
G	0.25	-----	0.010	----
H	-----	0.20	----	0.008