

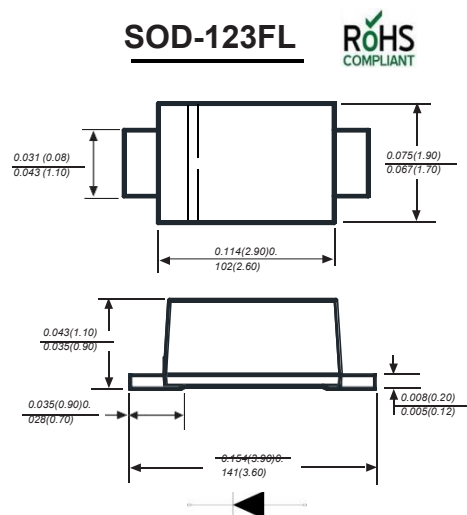
TRANSIENT VOLTAGE SUPPRESSOR

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

Mechanical Data

Case : JEDEC SOD-123FL molded plastic body
 Terminals : Solderable per MIL-STD-750, Method 2026
 Polarity : Polarity symbol marking on body
 Mounting Position : Any
 Weight : 0.0007 ounce, 0.02 grams
 Marking : Date Code and Marking Code See Page 2



Dimensions in inches and (millimeters)

Maximum Ratings and Electrical characteristics

Ratings at 25 °C ambient temperature unless otherwise specified.

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation on $T_A=25^{\circ}\text{C}$ (Note 1,2,5, Fig1)	P_{PPM}	200	W
Peak Forward Surge Current (Note 3)	I_{FSM} (UNI)	30	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)	$P_{M(AV)}$	1.0	W
Operating Junction and Storage Range	T_J, T_{STG}	-55 to +150	$^{\circ}\text{C}$
Typical Thermal Resistance	$R_{\theta JA}$	180	$^{\circ}\text{C/W}$

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 $T_i=75^{\circ}\text{C}$
5. Peak pulse power waveform is $t_p=10/1000\text{us}$
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		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 V	Max V				
Uni	Bi	Uni	Bi	V	6.46.	7	mA	μA	V	A
SMF 5.0 A	SMF 5.0 CA	5.0A6.	5.0CA6.	56	677.	7.377.	10	200	9.2	21.7
SMF 6.0 A	SMF 6.0 CA	0A6.	0CA6.		227.	988.6	10	100	10.3	19.4
SMF 6.5 A	SMF 6.5 CA	5A7.	5CA7.	6.5	788.	9.219	10	7550	11.2	17.9
SMF 7.0 A	SMF 7.0 CA	0A	0CA	7	338.	.8310.	10	5025	12	16.7
SMF 7.5 A	SMF 7.5 CA	7.5A	7.5CA	7.5	899.	411.1	1		12.9	15.5
SMF 8.0 A	SMF 8.0 CA	8.0A8.	8.0CA8.	8	44	12.3	1		13.6	14.7
SMF 8.5 A	SMF 8.5 CA	5A	5CA9.	8.5		13.5	1	10	14.4	13.9
SMF 9.0 A	SMF 9.0 CA	9.0A	0CA	9	1011.	14.7	1	5	15.4	13
SMF10 A	SMF10 CA	10 A	10 CA	1011	112.2	15.9	1	2.52.	17	11.8
SMF11 A	SMF11 CA	11 A	11 CA	12	13.3	17.2	1	5	18.2	11
SMF12 A	SMF12 CA	12 A	12CA	1314	14.4	18.5	1	2.5	19.9	10.1
SMF13 A	SMF13 CA	13 A	13CA	15	15.6	19.7	1	11	21.5	9.38.
SMF14 A	SMF14 CA	14 A	14CA	1617	16.7	20.9	1	11	23.2	68.2
SMF15 A	SMF15 CA	15 A	15CA	18	17.8	22.1	1	11	24.4	7.77.
SMF16 A	SMF16 CA	16 A	16CA	2022	18.9	24.5	1	11	26	26.8
SMF17 A	SMF17 CA	17 A	17CA	24	2022.	26.9	1	11	27.6	6.25.
SMF18 A	SMF18 CA	18 A	18CA	2628	224.4	29.5	1	11	29.2	65.1
SMF20 A	SMF20 CA	20 A	20CA	30	26.7	31.9	1	11	32.4	4.84.
SMF22 A	SMF22 CA	22 A	22CA	3336	28.9	34.4	1	11	35.5	44.1
SMF24 A	SMF24 CA	24 A	24CA	40	31.1	36.8	1	11	38.9	3.83.
SMF26 A	SMF26 CA	26 A	26CA	4345	33.3	40.6	1	11	42.1	43.1
SMF28 A	SMF28 CA	28 A	28CA	48	36.7	44.2	1	11	45.4	2.92.
SMF30 A	SMF30 CA	30 A	30CA	5154	4044.	49.1	1	11	48.4	82.6
SMF33 A	SMF33 CA	33 A	33CA	58	447.8	52.8	1	11	53.3	2.42.
SMF36 A	SMF36 CA	36 A	36CA	6064		55.3	1	11	58.1	32.1
SMF40 A	SMF40 CA	40 A	40CA	70		58.9	1	11	64.5	1.81.
SMF43 A	SMF43 CA	43 A	43CA	7578		62.7	1	11	69.4	71.5
SMF45 A	SMF45 CA	45 A	45CA	85	5053.	66.3	1	11	72.7	1.41.
SMF48 A	SMF48 CA	48 A	48CA		356.7	71.2	1	11	77.4	41.3
SMF51 A	SMF51 CA	51 A	51CA		6064.	73.7	1	11	82.4	1.2
SMF54 A	SMF54 CA	54 A	54CA		466.7	78.6	1	11	87.1	
SMF58 A	SMF58 CA	58 A	58CA		71.1		1	11	93.6	
SMF60 A	SMF60 CA	60 A	60CA		77.8		1		96.8	
SMF64 A	SMF64 CA	64 A	64CA		83.3		1		103	
SMF70 A	SMF70 CA	70 A	70CA		86.7	8692.	1		113	
SMF75 A	SMF75 CA	75 A	75CA		94.4	195.8	1		121	
SMF78 A	SMF78 CA	78 A	78CA		100		1		126	
SMF85 A	SMF85 CA	85 A	85CA		111	104	1		137	
SMF90 A	SMF90 CA	90 A	90CA	90	122	111	1		146	
SMF100 A	SMF100 CA	100A	100CA	100	133	123	1		162	1.1
SMF110A	SMF110CA	110A	110CA	110	144	135	1		177	1
SMF120A	SMF120CA	120A	120CA	120	167	147	1		193	0.90.
SMF130A	SMF130CA	130A	130CA	130	178	159	1		209	80.7
SMF150A	SMF150CA	150A	150CA	150	189	185	1		243	0.70.
SMF160A	SMF160CA	160A	160CA	160	201	197	1		259	60.5
SMF170A	SMF170CA	170A	170CA	170	224	209	1		275	0.50.
SMF180A	SMF180CA	180A	180CA	180	246	222	1		292	5
SMF200A	SMF200CA	200A	200CA	200	279	247	1		324	
SMF220A	SMF220CA	220A	220CA	220	335	272	1		356	
SMF250A	SMF250CA	250A	250CA	250	391	309	1		405	0.5
SMF300A	SMF300CA	300A	300CA	300	447	371	1		486	0.45
SMF350A	SMF350CA	350A	350CA	350	492	432	1		567	0.4
SMF400A	SMF400CA	400A	400CA	400		494	1		648	0.35
SMF440A	SMF440CA	440A	440CA	440		543	1	1	713	0.3

Fig.1 Peak Pulse Power Rating Curve

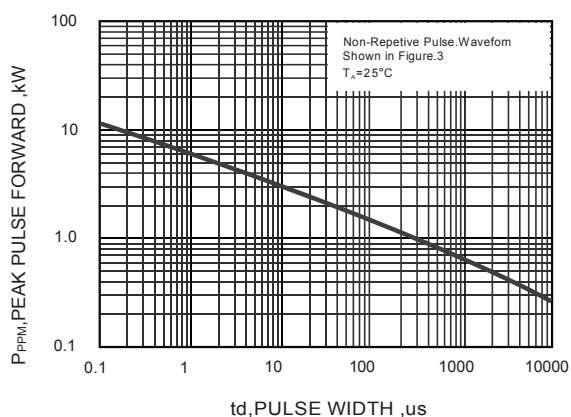


Fig.2 Forward Current Derating Curve

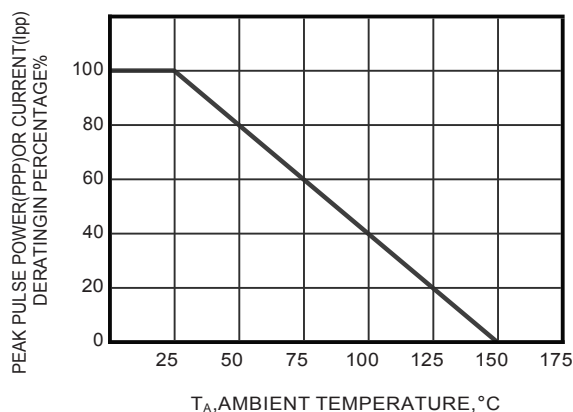


Fig.3 Pulse Waveform

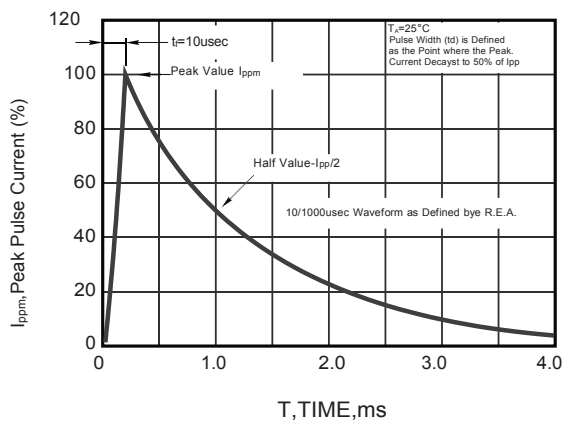
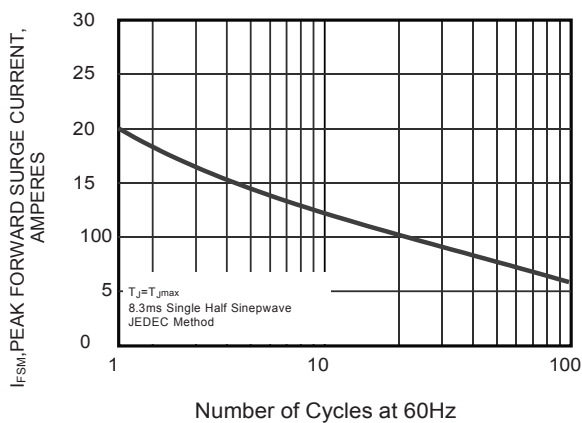
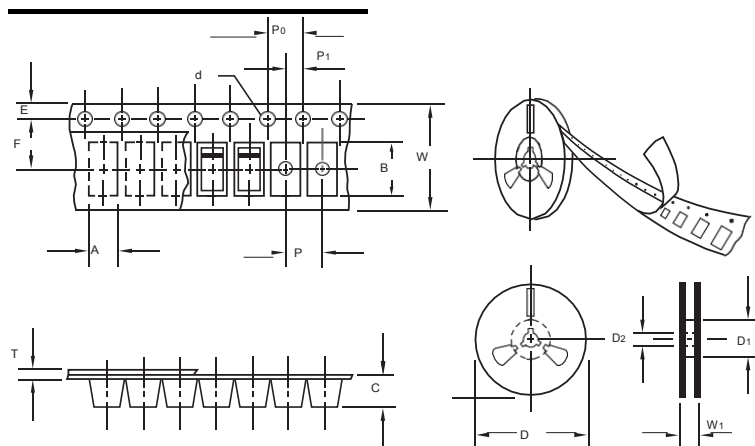


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current





unit:mm

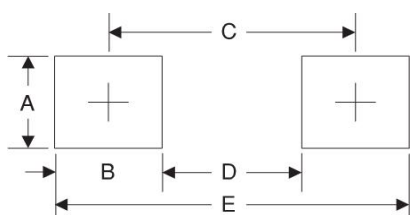
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D ₁	min	50.0
Feed hole diameter	D ₂	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch hole position	F	0.1	3.50
Punch hole pitch	P	0.1	4.00
Sprocket hole pitch	P ₀	0.1	4.00
Embossment center	P ₁	0.1	2.00
Overall tape thickness	T	0.1	0.25
Tape width	W	0.3	8.15
Reel width	W ₁	1.0	10.5

Note: Devices are packed in accordance with EIA standard RS-481-A and specifications listed above.

Reel packing

PACKAGE	REEL SIZE	REEL (pcs)	COMPONENT SPACING (m/m)	BOX (pcs)	INNER BOX (m/m)	REEL DIA, (m/m)	CARTON SIZE (m/m)	CARTON (pcs)	APPROX. GROSS WEIGHT (kg)
SOD-123FL	7"	3,000	4.0	45,000	210*208*203	178	430*430*235	180,000	9.0

Suggested Pad Layout



Symbol	Unit (mm)	Unit (inch)
A	1.2	0.047
B	1.2	0.047
C	3.2	0.126
D	2	0.079
E	4.4	0.173