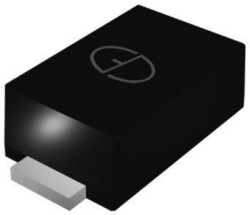
Surface Mount Transient Voltage Suppressor

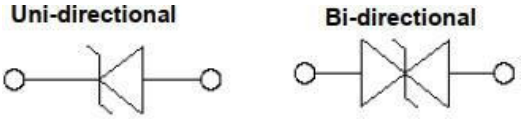
Features

- Low-profile package
- Ideal for automated placement
- For surface mounted applications
- Available in Unidirectional and Bidirectional
- 200 W peak pulse power capability with a 10/1000 μs waveform
- Low incremental surge resistance, excellent clamping capability
- High temperature soldering guaranteed: 260 °C/10 s at terminals
- Very fast response time
- Meets MSL level 1
- Component in accordance to RoHS

Pb
RoHS
COMPLIANT



SOD-123FL



Mechanical Data

- **Package**: SOD-123FL
- Molding compound meets UL 94 V-0 flammability rating, RoHS-compliant, halogen-free
- **Terminals**: Tin plated leads, solderable per J-STD-002 and JESD22-B102
- **Polarity:** For uni-directional types the band denotes cathode end, no marking on bi-directional types

Maximum Ratings & Characteristics Ratings at (T_A=25°C , ,unless otherwise noted)				
Parameter		**Symbol**	**Value**	**Unit**
Peak power dissipation with a 10/1000 us waveform(1)		P_{PP}	200	W
Peak pulse current wih a 10/1000 us waveform(1)		I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at TL=75 °C		P_D	0.4	W
Peak forward surge current, 8.3 ms single half sinewave unidirectional only(2)		I_{FSM}	20	A
Operating junction and storage temperature range		T_J，T_{STG}	-55 to +150	℃
Thermal resistance	Between junction and lead	$R_{\theta JL}$	26	℃/W
	Between junction and Ambient	$R_{\theta JA}$	300	℃/W
	Between junction and Curve	$R_{\theta JC}$	40	℃/W

Notes:

1 Non repetitive current pulse， per Fig2 and derated above TA=25℃ per Fig3

2.T_L=30℃ unless otherwise noted , V_F ≤1.25V@200mA.

3.Measured on 8.3 ms single half sine-wave or equivalent square wave, duty cycle = 4 pulses per minute maximum

Electrical Characteristics (TA = 25 °C, unless otherwise noted)

Part Number		Marking		Reverse Stand-off Voltage	Breakdown Voltage V_{BR}@IT		Test Current	Maximum Clamping Voltage	Max. Peak Pulse Current	Max. Reverse Leakage @ V_{RWM}
UNI-POLAR	BI-POLAR	UNI	BI	V_{RWM}(V)	Min.(V)	Max.(V)	I_T(μA)	Vc @ I_{PP} (V)	I_{PP}(A) Max	I_R(μA)
SMF5.0A	SMF5.0CA	5.0A	5.0CA	5.0	6.40	7.00	10	9.2	21.74	800
SMF6.0A	SMF6.0CA	6.0A	6.0CA	6.0	6.67	7.37	10	10.3	19.42	800
SMF6.5A	SMF6.5CA	6.5A	6.5CA	6.5	7.22	7.98	10	11.2	17.86	500
SMF7.0A	SMF7.0CA	7.0A	7.0CA	7.0	7.78	8.60	10	12.0	16.67	200
SMF7.5A	SMF7.5CA	7.5A	7.5CA	7.5	8.33	9.21	1	12.9	15.50	100
SMF8.0A	SMF8.0CA	8.0A	8.0CA	8.0	8.89	9.83	1	13.6	14.71	50
SMF8.5A	SMF8.5CA	8.5A	8.5CA	8.5	9.44	10.40	1	14.4	13.89	20
SMF9.0A	SMF9.0CA	9.0A	9.0CA	9.0	10.00	11.10	1	15.4	12.99	10
SMF10A	SMF10CA	10A	10CA	10.0	11.10	12.30	1	17.0	11.76	5
SMF11A	SMF11CA	11A	11CA	11.0	12.20	13.50	1	18.2	10.99	1
SMF12A	SMF12CA	12A	12CA	12.0	13.30	14.70	1	19.9	10.05	1
SMF13A	SMF13CA	13A	13CA	13.0	14.40	15.90	1	21.5	9.30	1
SMF14A	SMF14CA	14A	14CA	14.0	15.60	17.20	1	23.2	8.62	1
SMF15A	SMF15CA	15A	15CA	15.0	16.70	18.50	1	24.4	8.20	1
SMF16A	SMF16CA	16A	16CA	16.0	17.80	19.70	1	26.0	7.69	1
SMF17A	SMF17CA	17A	17CA	17.0	18.90	20.90	1	27.6	7.25	1
SMF18A	SMF18CA	18A	18CA	18.0	20.00	22.10	1	29.2	6.85	1
SMF20A	SMF20CA	20A	20CA	20.0	22.20	24.50	1	32.4	6.17	1
SMF22A	SMF22CA	22A	22CA	22.0	24.40	26.90	1	35.5	5.63	1
SMF24A	SMF24CA	24A	24CA	24.0	26.70	29.50	1	38.9	5.14	1
SMF26A	SMF26CA	26A	26CA	26.0	28.90	31.90	1	42.1	4.75	1
SMF28A	SMF28CA	28A	28CA	28.0	31.10	34.40	1	45.4	4.41	1
SMF30A	SMF30CA	30A	30CA	30.0	33.50	36.80	1	48.4	4.13	1
SMF33A	SMF33CA	33A	33CA	33.0	36.70	40.60	1	53.3	3.75	1
SMF36A	SMF36CA	36A	36CA	36.0	40.00	44.20	1	58.1	3.44	1
SMF40A	SMF40CA	40A	40CA	40.0	44.40	49.10	1	64.5	3.10	1
SMF43A	SMF43CA	43A	43CA	43.0	47.80	52.80	1	69.4	2.88	1
SMF45A	SMF45CA	45A	45CA	45.0	50.00	55.30	1	72.7	2.75	1
SMF48A	SMF48CA	48A	48CA	48.0	53.30	58.90	1	77.4	2.58	1
SMF51A	SMF51CA	51A	51CA	51.0	56.70	62.70	1	82.4	2.43	1
SMF54A	SMF54CA	54A	54CA	54.0	60.00	66.30	1	87.1	2.30	1
SMF58A	SMF58CA	58A	58CA	58.0	64.40	71.20	1	93.6	2.14	1
SMF60A	SMF60CA	60A	60CA	60.0	66.70	73.70	1	96.8	2.07	1
SMF64A	SMF64CA	64A	64CA	64.0	71.10	78.60	1	103.0	1.94	1
SMF70A	SMF70CA	70A	70CA	70.0	77.80	86.00	1	113.0	1.77	1
SMF75A	SMF75CA	75A	75CA	75.0	83.30	92.10	1	121.0	1.65	1
SMF78A	SMF78CA	78A	78CA	78.0	86.70	95.80	1	126.0	1.59	1
SMF85A	SMF85CA	85A	85CA	85.0	94.4	104.0	1	137.0	1.46	1
SMF90A	SMF90CA	90A	90CA	90.0	100.0	111.0	1	146.0	1.37	1
SMF100A	SMF100CA	100A	100CA	100.0	111.0	123.0	1	162.0	1.23	1
SMF110A	SMF110CA	110A	110CA	110.0	122.0	135.0	1	177.0	1.13	1
SMF120A	SMF120CA	120A	120CA	120.0	133.0	147.0	1	193.0	1.04	1
SMF130A	SMF130CA	130A	130CA	130.0	144.0	159.0	1	209.0	0.96	1
SMF150A	SMF150CA	150A	150CA	150.0	167.0	185.0	1	243.0	0.82	1
SMF160A	SMF160CA	160A	160CA	160.0	178.0	197.0	1	259.0	0.77	1
SMF170A	SMF170CA	170A	170CA	170.0	189.0	209.0	1	275.0	0.73	1
SMF180A	SMF180CA	180A	180CA	180.0	201.0	222.0	1	292.0	0.68	1
SMF190A	SMF190CA	190A	190CA	190.0	209.0	243.0	1	308.0	0.65	1
SMF200A	SMF200CA	200A	200CA	200.0	224.0	247.0	1	324.0	0.62	1
SMF210A	SMF210CA	210A	210CA	210.0	231.0	268.0	1	340.0	0.59	1
SMF220A	SMF220CA	220A	220CA	220.0	246.0	272.0	1	356.0	0.56	1

Notes:

1.t $_P$≤50ms Pulse test: t_P≤50ms.

2 Surge current waveform per Fig. 2 and derated per Fig.3.

3 For bi -directional types having VRWM of 10 V and less, the I_R limit is doubled.

Ratings and Characteristics Curves

(T_A = 25℃ unless otherwise noted)

FIG1:Peak Pulse Power Rating Curve

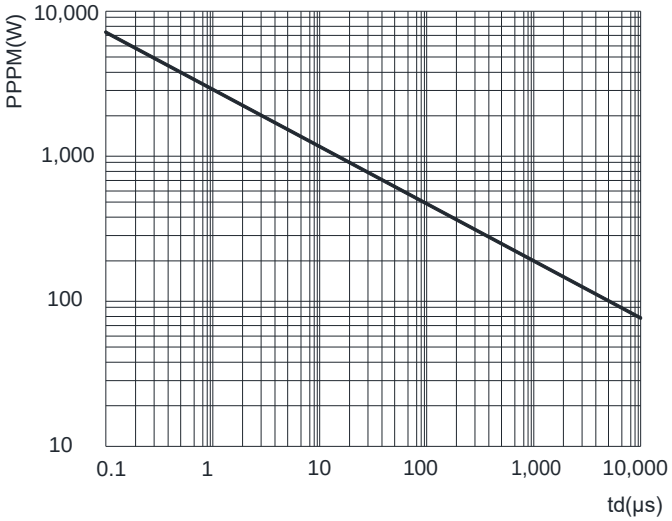


FIG2: Pulse Waveform

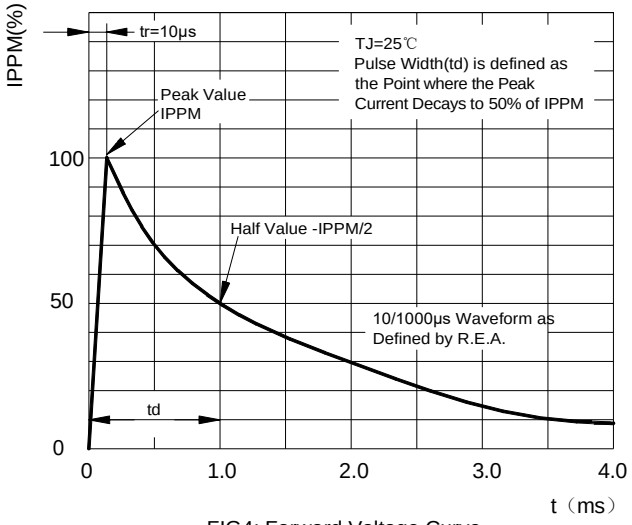


FIG3: Pulse Power or Current vs. Initial Junction Temperature 100

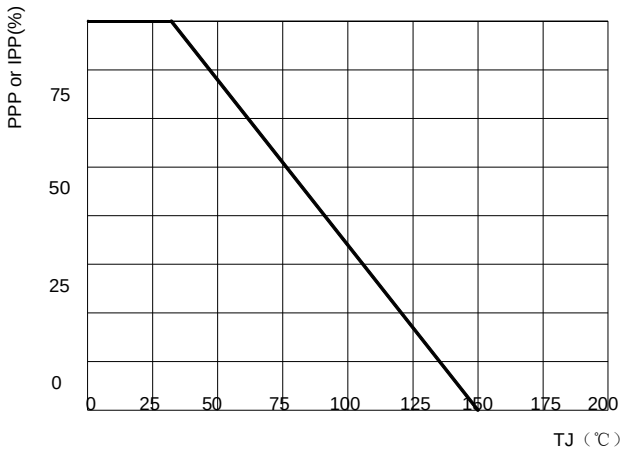
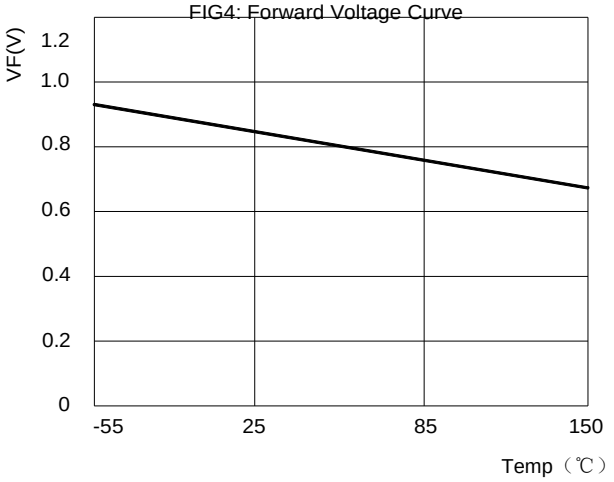
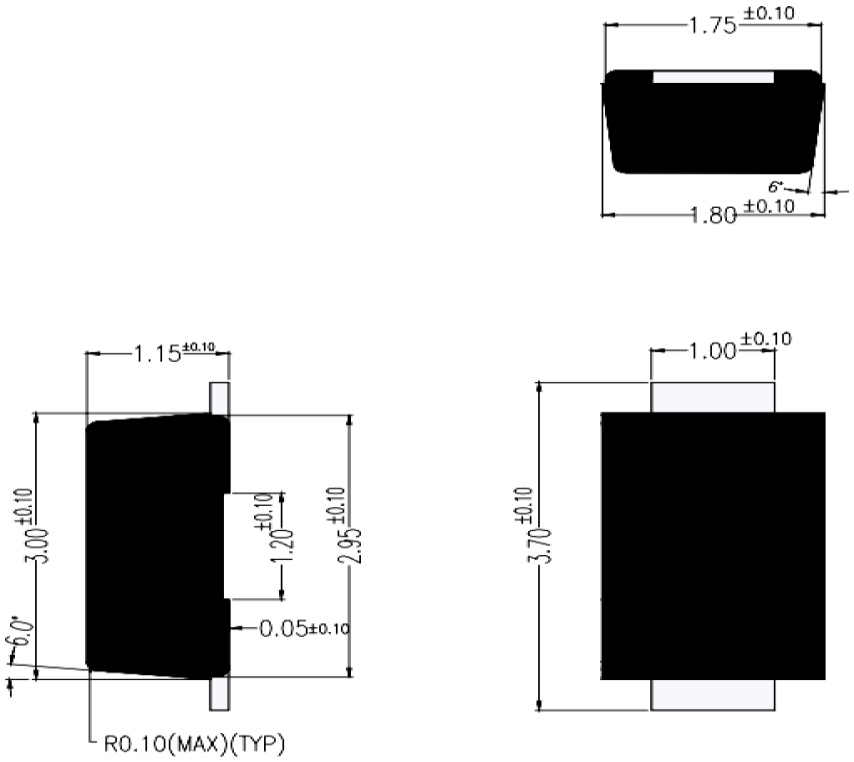


FIG4: Forward Voltage Curve



Package Outline Dimensions

millimeters



Revision History

Document Version	Date of release	Description of changes
Rev.A	2020.08.01	First issue
Rev.B	2026.08.10	Updated Electrical Characteristics table

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