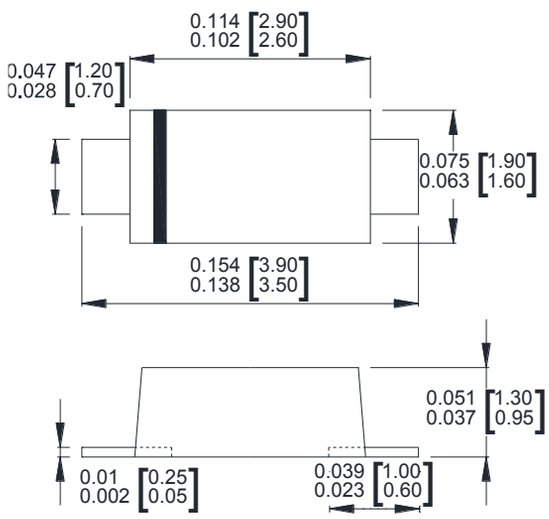
SMF Series
Transient Voltage Suppressors

RoHS COMPLIANT

Working Voltage: 5.0 to 220 V
Peak Pulse Power: 200 W

SOD-123FL



Dimensions : inch [mm]

Features

- Glass passivated chip
- 200 W peak pulse power capability with a 10/1000 μs waveform, repetitive rate (duty cycle):0.01 %
- Low leakage
- Uni and Bidirectional unit
- Excellent clamping capability
- Very fast response time
- RoHS compliant

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Solderable per MIL-STD-750, method 2026
- Polarity: Color band denotes cathode end except Bipolar
- Mounting position: Any

Maximum Ratings(T_A=25℃ unless otherwise noted)

Parameter	Symbol	Value	UNIT
Peak power dissipation with a 10/1000μs waveform(1)	P_{PP}	200	W
Peak power dissipation with a 8/20μs waveform(1)	P_{PP}	1000	W
Peak pulse current wih a 10/1000μs waveform(1)	I_{PP}	See Next Table	A
Power dissipation on infinite heatsink at T_L = 75 °C	P_D	0.4	W
Peak forward surge current, 8.3 ms single half sine-wave unidirectional only(2)	I_{FSM}	20	A
Maximum instantaneous forward voltage at 25 A for unidirectional only	V_F	3.5	V
Operating junction and storage temperature range	T_J, T_{STG}	−55 to +150	°C

Note:

(1)Non-repetitive current pulse per Fig.5 and derated above T_A= 25 °C per Fig.1

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

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Electrical Characteristics(T_A=25℃ unless otherwise noted)

Part Number (Uni)	Part Number (Bi)	Breakdown Voltage V_{BR} @I_T			Maximum Reverse Leakage I_R @V_{RWM} (uA)	Working Peak Reverse Voltage V_{RWM} (V)	Maximum Reverse Surge Current I_{PP} (A)	Maximum Clamping Voltage V_C @I_{PP} (V)
		Min (V)	Max (V)	I_T (mA)				
SMF5.0A	SMF5.0CA	6.40	7.00	10	400	5.0	21.74	9.2
SMF6.0A	SMF6.0CA	6.67	7.37	10	400	6.0	19.42	10.3
SMF6.5A	SMF6.5CA	7.22	7.98	10	250	6.5	17.86	11.2
SMF7.0A	SMF7.0CA	7.78	8.60	10	100	7.0	16.67	12.0
SMF7.5A	SMF7.5CA	8.33	9.21	1	50	7.5	15.50	12.9
SMF8.0A	SMF8.0CA	8.89	9.83	1	25	8.0	14.71	13.6
SMF8.5A	SMF8.5CA	9.44	10.40	1	10	8.5	13.89	14.4
SMF9.0A	SMF9.0CA	10.00	11.10	1	5	9.0	12.99	15.4
SMF10A	SMF10CA	11.10	12.30	1	2.5	10.0	11.76	17.0
SMF11A	SMF11CA	12.20	13.50	1	2.5	11.0	10.99	18.2
SMF12A	SMF12CA	13.30	14.70	1	2.5	12.0	10.05	19.9
SMF13A	SMF13CA	14.40	15.90	1	1	13.0	9.30	21.5
SMF14A	SMF14CA	15.60	17.20	1	1	14.0	8.62	23.2
SMF15A	SMF15CA	16.70	18.50	1	1	15.0	8.20	24.4
SMF16A	SMF16CA	17.80	19.70	1	1	16.0	7.69	26.0
SMF17A	SMF17CA	18.90	20.90	1	1	17.0	7.25	27.6
SMF18A	SMF18CA	20.00	22.10	1	1	18.0	6.85	29.2
SMF19A	SMF19CA	21.10	23.30	1	1	19.0	6.54	30.6
SMF20A	SMF20CA	22.20	24.50	1	1	20.0	6.17	32.4
SMF22A	SMF22CA	24.40	26.90	1	1	22.0	5.63	35.5
SMF24A	SMF24CA	26.70	29.50	1	1	24.0	5.14	38.9
SMF26A	SMF26CA	28.90	31.90	1	1	26.0	4.75	42.1
SMF28A	SMF28CA	31.10	34.40	1	1	28.0	4.41	45.4
SMF30A	SMF30CA	33.30	36.80	1	1	30.0	4.13	48.4
SMF33A	SMF33CA	36.70	40.60	1	1	33.0	3.75	53.3
SMF36A	SMF36CA	40.00	44.20	1	1	36.0	3.44	58.1
SMF40A	SMF40CA	44.40	49.10	1	1	40.0	3.10	64.5
SMF43A	SMF43CA	47.80	52.80	1	1	43.0	2.88	69.4
SMF45A	SMF45CA	50.00	55.30	1	1	45.0	2.75	72.7
SMF48A	SMF48CA	53.30	58.90	1	1	48.0	2.58	77.4
SMF51A	SMF51CA	56.70	62.70	1	1	51.0	2.43	82.4
SMF54A	SMF54CA	60.00	66.30	1	1	54.0	2.30	87.1
SMF58A	SMF58CA	64.40	71.20	1	1	58.0	2.14	93.6
SMF60A	SMF60CA	66.70	73.70	1	1	60.0	2.07	96.8
SMF64A	SMF64CA	71.10	78.60	1	1	64.0	1.94	103.0
SMF70A	SMF70CA	77.80	86.00	1	1	70.0	1.77	113.0
SMF75A	SMF75CA	83.30	92.10	1	1	75.0	1.65	121.0
SMF78A	SMF78CA	86.70	95.80	1	1	78.0	1.59	126.0
SMF80A	SMF80CA	88.80	97.60	1	1	80.0	1.55	129.0
SMF85A	SMF85CA	94.40	104.00	1	1	85.0	1.46	137.0
SMF90A	SMF90CA	100.00	111.00	1	1	90.0	1.37	146.0
SMF100A	SMF100CA	111.00	123.00	1	1	100.0	1.23	162.0
SMF110A	SMF110CA	122.00	135.00	1	1	110.0	1.13	177.0
SMF120A	SMF120CA	133.00	147.00	1	1	120.0	1.04	193.0
SMF130A	SMF130CA	144.00	159.00	1	1	130.0	0.96	209.0
SMF140A	SMF140CA	155.00	171.00	1	1	140.0	0.89	224.0
SMF150A	SMF150CA	167.00	185.00	1	1	150.0	0.82	243.0
SMF160A	SMF160CA	178.00	197.00	1	1	160.0	0.77	259.0
SMF170A	SMF170CA	189.00	209.00	1	1	170.0	0.73	275.0
SMF180A	SMF180CA	200.00	220.00	1	1	180.0	0.68	292.0
SMF190A	SMF190CA	211.00	232.00	1	1	190.0	0.65	308.0
SMF200A	SMF200CA	224.00	247.00	1	1	200.0	0.62	324.0
SMF220A	SMF220CA	246.00	272.00	1	1	220.0	0.56	356.0

Note:

1. The available parts are "A" type only,the parts without A(V_{BR} is ±10%) is not available
2. Add suffix 'C 'or ' CA ' after part number to specify Bi-directional devices
3. For Bi-Directional devices having V_R of 10 volts and under, the I_R limit is double

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Ratings and Characteristics Curves (T_A=25℃ unless otherwise noted)

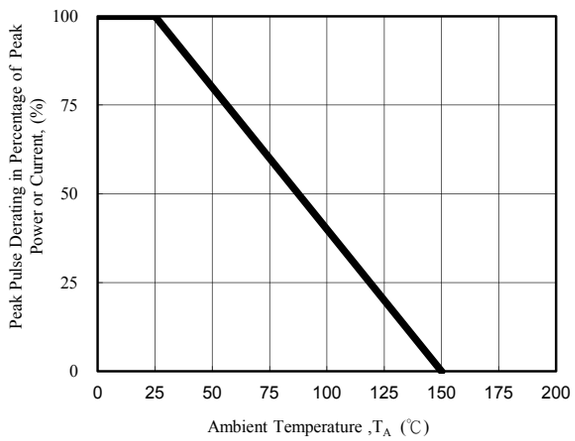

Fig. 1 - Pulse Derating Curve

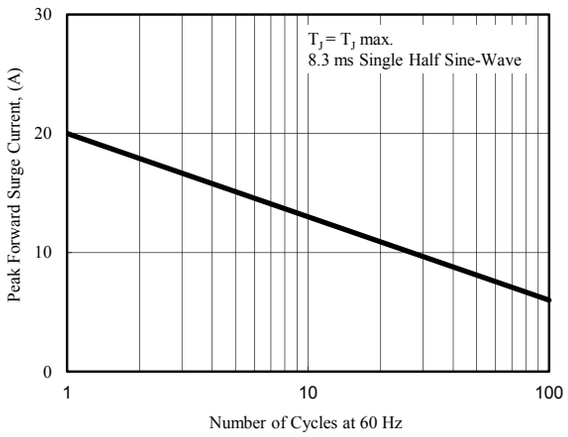

Fig. 2 - Maximum Non-Repetitive Surge Current

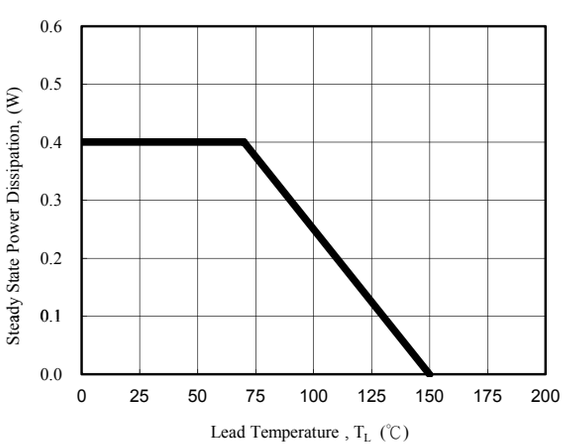

Fig. 3 - Steady State Power Derating Curve

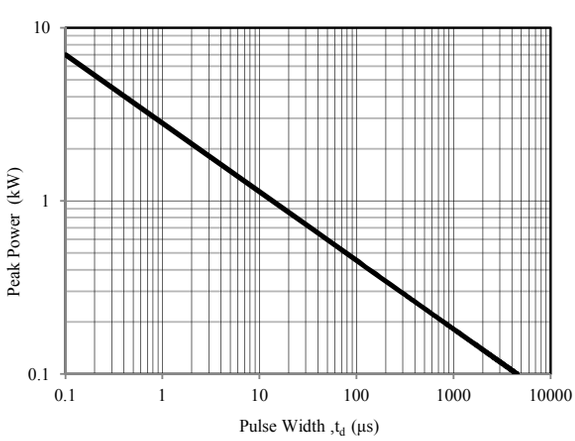

Fig. 4 - Peak Pulse Power Rating Curve

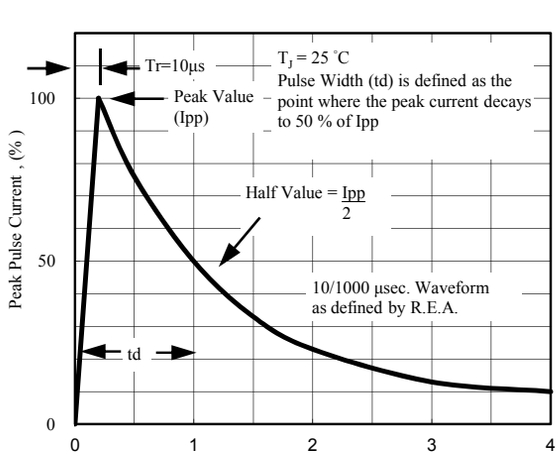

Fig. 5 - Pulse Waveform

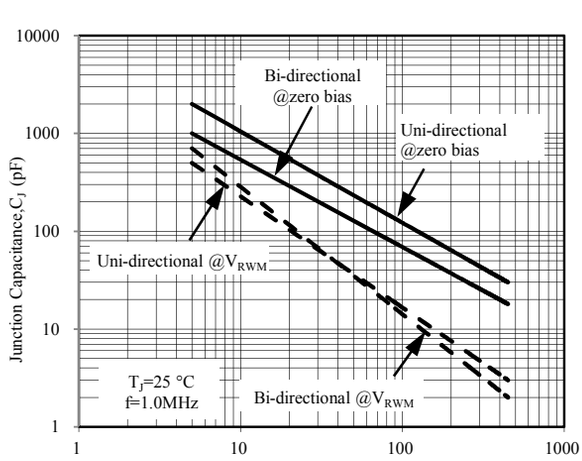

Fig. 6 - Typical Junction Capacitance

PACKAGE	SPQ/PCS	CARTON SPQ/PCS	CARTON SIZE/CM	CARTON GW/KG	CARTON NW/KG
SOD-123FL	3000/REEL	90000	40X20X22	5.00	4.00

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