



SEMICONDUCTOR

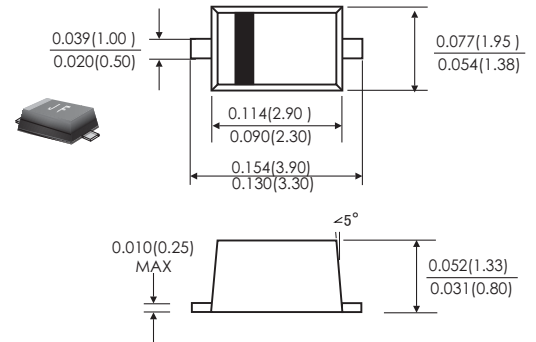
# SMF5.0(C) A THRU SMF220(C) A

TRANSIENT VOLTAGE SUPPRESSOR  
PEAK PULSE POWER-200 Watts

## FEATURES

- 200 Watts Pulse capability
- Excellent clamping capability
- Low incremental surge resistance
- Fast response time
- High temperature soldering guaranteed: 260°C/10 seconds at terminals
- Component in accordance to RoHS 2011/65/EU

### SOD-123FL



Dimensions in inches and (millimeters)

## MECHANICAL DATA

- Case: SOD-123FL molded plastic body
- Terminals: Solder Plated
- Polarity: By cathode band denotes uni-directional device, none cathode band denotes bi-directional device.

## DEVICES FOR BIDIRECTIONAL APPLICATIONS

1. For bi-directional use C suffix for Types .
2. Electrical characteristics apply in both directions.

## MAXIMUM RATINGS AND ELECTRICAL CHARACTERISTICS

(Rating at 25°C ambient temperature unless otherwise specified)

	Symbols	Value	Units
Peak Pulse Power Dissipation at on 10/1000µs Waveform (Note 1.2)	P <sub>PK</sub>	200	Watts
Peak forward surge current, 8.3ms single half sine-wave superimposed on rated load (JEDEC method) (Note 2)	I <sub>FSM</sub>	100	Amps
Operating junction and storage temperature range	T <sub>J</sub> , T <sub>STG</sub>	-55 to 150	°C

- Note: 1.Non repetitive current pulse and derated above T<sub>A</sub>=25°C  
2.Measured on 8.3ms single half sine-wave or equivalent square wave, duty cycle=4 pulses per minute maximum

# RATINGS AND CHARACTERISTIC CURVES (SMF SERIES)

Part number		Reverse Standoff Voltage VRWM (Volts)	Breakdown Voltage VBR (Volts)		Test Current (mA)	Maximum Clamping Voltage VC@Ipp (Volts)	Maximum Peak Pulse Current Ipp(A)	Maximum Reverse Leakage IR@VRWM (μA)
UNI	BI		MIN	MAX				
SMF5.0A	SMF5.0CA	5.00	6.40	7.07	10	9.6	20.8	100
SMF6.0A	SMF6.0CA	6.00	6.67	7.37	10	10.3	19.4	100
SMF6.5A	SMF6.5CA	6.50	7.22	7.98	10	11.2	17.9	50
SMF7.0A	SMF7.0CA	7.00	7.78	8.60	10	12.0	16.7	30
SMF7.5A	SMF7.5CA	7.50	8.33	9.21	1	12.9	15.5	30
SMF8.0A	SMF8.0CA	8.00	8.89	9.83	1	13.6	14.7	10
SMF8.5A	SMF8.5CA	8.50	9.44	10.40	1	14.4	13.9	5
SMF9.0A	SMF9.0CA	9.00	10.00	11.10	1	15.4	13.0	3
SMF10A	SMF10CA	10	11.10	12.30	1	17.0	11.8	1
SMF11A	SMF11CA	11	12.20	13.50	1	18.2	11.0	1
SMF12A	SMF12CA	12	13.30	14.70	1	19.9	10.1	1
SMF13A	SMF13CA	13	14.40	15.90	1	21.5	9.3	1
SMF14A	SMF14CA	14	15.60	17.20	1	23.2	8.6	1
SMF15A	SMF15CA	15	16.70	18.50	1	24.4	8.2	1
SMF16A	SMF16CA	16	17.80	19.70	1	26.0	7.7	1
SMF17A	SMF17CA	17	18.90	20.90	1	27.6	7.2	1
SMF18A	SMF18CA	18	20.00	22.10	1	29.2	6.8	1
SMF20A	SMF20CA	20	22.20	24.50	1	32.4	6.2	1
SMF22A	SMF22CA	22	24.40	26.90	1	35.5	5.6	1
SMF24A	SMF24CA	24	26.70	29.50	1	38.9	5.1	1
SMF26A	SMF26CA	26	28.90	31.90	1	42.1	4.8	1
SMF28A	SMF28CA	28	31.10	34.40	1	45.4	4.4	1
SMF30A	SMF30CA	30	33.30	36.80	1	48.4	4.1	1
SMF33A	SMF33CA	33	36.70	40.60	1	53.3	3.8	1
SMF36A	SMF36CA	36	40.00	44.20	1	58.1	3.4	1
SMF40A	SMF40CA	40	44.40	49.10	1	64.5	3.1	1
SMF43A	SMF43CA	43	47.80	52.80	1	69.4	2.9	1
SMF45A	SMF45CA	45	50.00	55.30	1	72.7	2.8	1
SMF48A	SMF48CA	48	53.30	58.90	1	77.4	2.6	1
SMF51A	SMF51CA	51	56.70	62.70	1	82.4	2.4	1
SMF54A	SMF54CA	54	60.00	66.30	1	87.1	2.3	1
SMF58A	SMF58CA	58	64.40	71.20	1	93.6	2.1	1
SMF60A	SMF60CA	60	66.70	73.70	1	96.8	2.1	1

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SMF64A	SMF64CA	64	71.10	78.60	1	103.0	1.9	1
SMF70A	SMF70CA	70	77.80	86.00	1	113.0	1.8	1
SMF75A	SMF75CA	75	83.30	92.10	1	121.0	1.7	1
SMF78A	SMF78CA	78	86.70	95.80	1	126.0	1.6	1
SMF85A	SMF85CA	85	94.40	104.00	1	137.0	1.5	1
SMF90A	SMF90CA	90	100.00	111.00	1	146.0	1.4	1
SMF100A	SMF100CA	100	111.00	123.00	1	162.0	1.2	1
SMF110A	SMF110CA	110	122.00	135.00	1	177.0	1.1	1
SMF120A	SMF120CA	120	133.00	147.00	1	193.0	1.0	1
SMF130A	SMF130CA	130	144.00	159.00	1	209.0	1.0	1
SMF150A	SMF150CA	150	167.00	185.00	1	243.0	0.8	1
SMF160A	SMF160CA	160	178.00	197.00	1	259.0	0.8	1
SMF170A	SMF170CA	170	189.00	209.00	1	275.0	0.7	1
SMF180A	SMF180CA	180	201.00	222.00	1	292.0	0.7	1
SMF190A	SMF190CA	190	211.00	233.00	1	306.0	0.7	1
SMF200A	SMF200CA	200	224.00	247.00	1	324.0	0.6	1
SMF220A	SMF220CA	220	246.00	272.00	1	356.0	0.5	1

For Bi-directional type having VRWM of 10 Volts and less, the IR limit is double

- 1.A transient suppressor is normally selected according to the working peak reverse voltage (VRWM), which should be equal to or greater than the DC or continuous peak operating voltage level.
- 2.VBR measured at pulse test current  $I_T$  at an ambient temperature of 25°C.
- 3.Surge current waveform per Figure 2 and derate per Figure 3

# RATINGS AND CHARACTERISTIC CURVES (SMF SERIES)

FIG. 1-PEAK PULSE POWER CURVE

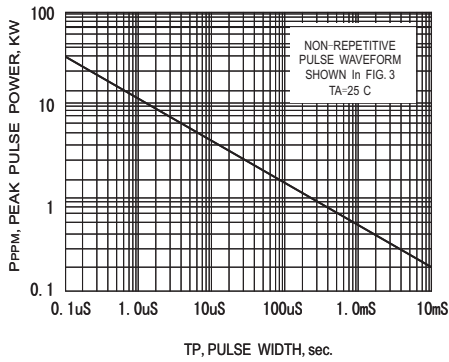


FIG. 2-PULSE DERATING CURVE

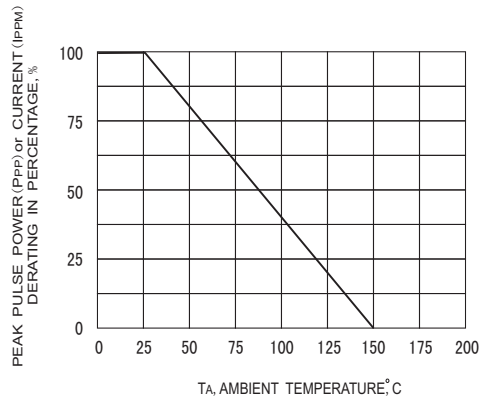


FIG. 3-PULSE WAVEFORM

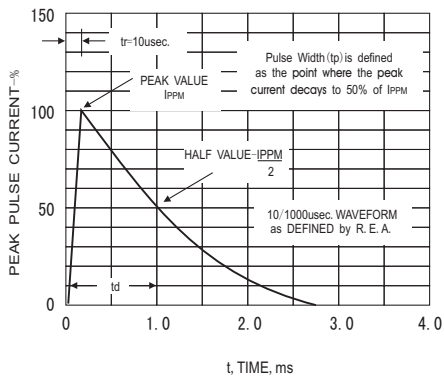


FIG. 4-MAXIMUM NON-REPETITIVE PEAK FORWARD SURGE CURRENT

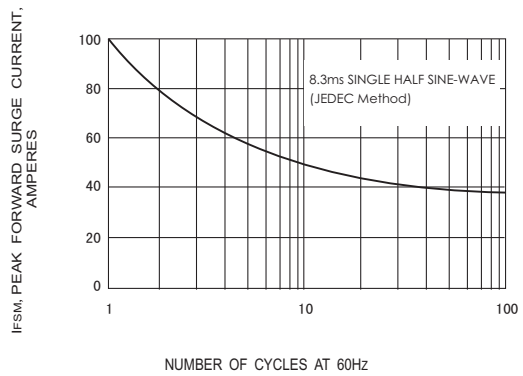


FIG. 5-Steady State Power Derating Curve

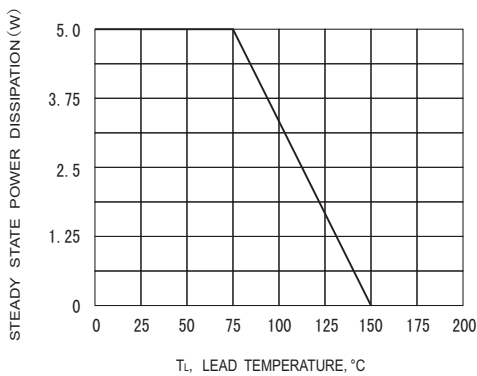


FIG. 6-TYPICAL JUNCTION CAPACITANCE

