



# SMF5.0(C)A THRU SMF440(C)A

Stand-off Voltage - 5.0 to 440 Volts Peak Pulse Power: 200 Watts

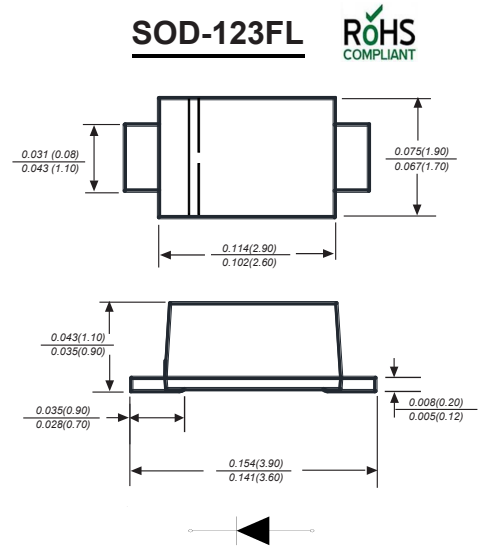
## TRANSIENT VOLTAGE SUPPRESSOR

### 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 UOD-123FL molded plastic body  
 Terminals: Solderable per MIL-STD-750, Method 2026A  
 Polarity: Polarity symbol marking on body  
 Mounting Position: Any  
 Weight: 0.0048 ounce, 0.015grams  
 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 TA=25°C (Note 1,2,5, Fig1)	P <sub>PPM</sub>	200	W
Peak Forward Surge Current (Note 3)	I <sub>FSM</sub> (UNI)	20	A
Peak Pulse Current on 10/1000 us waveform (Note 1) Fig 2	I <sub>PPM</sub>	see Table 1	A
Steady State Power Dissipation (Note 4)	P <sub>M(AV)</sub>	1.0	W
Operating Junction and Storage Range	T <sub>J</sub> , T <sub>STG</sub>	-55 to +150	°C
Typical Thermal Resistance	R <sub>θJA</sub>	180	°C/W

#### NOTES

1. Non-repetitive current pulse per Fig 3 and derated above T<sub>a</sub>=25°C per Fig 2
2. Mounted on 5mm<sup>2</sup> 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<sub>l</sub>=75°C
5. Peak pulse powe. waveform is tp=10/1000us
6. A transient suppressor is selected according to the working peak reverse voltage(V<sub>RWM</sub>), Which Should be equal to or greater than the DC or continuous peak operating voltage level



# SMF5.0(C)A THRU SMF440(C)A

Stand-off Voltage - 5.0 to 440 Volts Peak Pulse Power: 200 Watts

Characteristics at Ta = 25°C

Table 1

Type		Marking		V <sub>RWM</sub>	Breakdown Voltage		Test Current	Reverse Leakage	Max. Clamp Voltage	Peak Pulse Current
					V <sub>BR</sub> @ I <sub>T</sub>					
					Min	Max	I <sub>T</sub>	I <sub>R</sub> @ V <sub>RWM</sub>	V <sub>C</sub> @ I <sub>PP</sub>	I <sub>PP</sub>
Uni	Bi	Uni	Bi	V	V	V	mA	µA	V	A
SMF5.0A	SMF5.0CA	5.0A	5.0CA	5	6.4	7	10	400	9.2	21.7
SMF6.0A	SMF6.0CA	6.0A	6.0CA	6	6.67	7.37	10	400	10.3	19.4
SMF6.5A	SMF6.5CA	6.5A	6.5CA	6.5	7.22	7.98	10	250	11.2	17.9
SMF7.0A	SMF7.0CA	7.0A	7.0CA	7	7.78	8.6	10	100	12	16.7
SMF7.5A	SMF7.5CA	7.5A	7.5CA	7.5	8.33	9.21	1	50	12.9	15.5
SMF8.0A	SMF8.0CA	8.0A	8.0CA	8	8.89	9.83	1	25	13.6	14.7
SMF8.5A	SMF8.5CA	8.5A	8.5CA	8.5	9.44	10.4	1	10	14.4	13.9
SMF9.0A	SMF9.0CA	9.0A	9.0CA	9	10	11.1	1	5	15.4	13
SMF10A	SMF10CA	10A	10CA	10	11.1	12.3	1	2.5	17	11.8
SMF11A	SMF11CA	11A	11CA	11	12.2	13.5	1	2.5	18.2	11
SMF12A	SMF12CA	12A	12CA	12	13.3	14.7	1	2.5	19.9	10.1
SMF13A	SMF13CA	13A	13CA	13	14.4	15.9	1	1	21.5	9.3
SMF14A	SMF14CA	14A	14CA	14	15.6	17.2	1	1	23.2	8.6
SMF15A	SMF15CA	15A	15CA	15	16.7	18.5	1	1	24.4	8.2
SMF16A	SMF16CA	16A	16CA	16	17.8	19.7	1	1	26	7.7
SMF17A	SMF17CA	17A	17CA	17	18.9	20.9	1	1	27.6	7.2
SMF18A	SMF18CA	18A	18CA	18	20	22.1	1	1	29.2	6.8
SMF20A	SMF20CA	20A	20CA	20	22.2	24.5	1	1	32.4	6.2
SMF22A	SMF22CA	22A	22CA	22	24.4	26.9	1	1	35.5	5.6
SMF24A	SMF24CA	24A	24CA	24	26.7	29.5	1	1	38.9	5.1
SMF26A	SMF26CA	26A	26CA	26	28.9	31.9	1	1	42.1	4.8
SMF28A	SMF28CA	28A	28CA	28	31.1	34.4	1	1	45.4	4.4
SMF30A	SMF30CA	30A	30CA	30	33.3	36.8	1	1	48.4	4.1
SMF33A	SMF33CA	33A	33CA	33	36.7	40.6	1	1	53.3	3.8
SMF36A	SMF36CA	36A	36CA	36	40	44.2	1	1	58.1	3.4
SMF40A	SMF40CA	40A	40CA	40	44.4	49.1	1	1	64.5	3.1
SMF43A	SMF43CA	43A	43CA	43	47.8	52.8	1	1	69.4	2.9
SMF45A	SMF45CA	45A	45CA	45	50	55.3	1	1	72.7	2.8
SMF48A	SMF48CA	48A	48CA	48	53.3	58.9	1	1	77.4	2.6
SMF51A	SMF51CA	51A	51CA	51	56.7	62.7	1	1	82.4	2.4
SMF54A	SMF54CA	54A	54CA	54	60	66.3	1	1	87.1	2.3
SMF58A	SMF58CA	58A	58CA	58	64.4	71.2	1	1	93.6	2.1
SMF60A	SMF60CA	60A	60CA	60	66.7	73.7	1	1	96.8	1.8
SMF64A	SMF64CA	64A	64CA	64	71.1	78.6	1	1	103	1.7
SMF70A	SMF70CA	70A	70CA	70	77.8	86	1	1	113	1.5
SMF75A	SMF75CA	75A	75CA	75	83.3	92.1	1	1	121	1.4
SMF78A	SMF78CA	78A	78CA	78	86.7	95.8	1	1	126	1.4
SMF85A	SMF85CA	85A	85CA	85	94.4	104	1	1	137	1.3
SMF90A	SMF90CA	90A	90CA	90	100	111	1	1	146	1.2
SMF100A	SMF100CA	100A	100CA	100	111	123	1	1	162	1.1
SMF110A	SMF110CA	110A	110CA	110	122	135	1	1	177	1
SMF120A	SMF120CA	120A	120CA	120	133	147	1	1	193	0.9
SMF130A	SMF130CA	130A	130CA	130	144	159	1	1	209	0.8
SMF150A	SMF150CA	150A	150CA	150	167	185	1	1	243	0.7
SMF160A	SMF160CA	160A	160CA	160	178	197	1	1	259	0.7
SMF170A	SMF170CA	170A	170CA	170	189	209	1	1	275	0.6
SMF180A	SMF180CA	180A	180CA	180	201	222	1	1	292	0.5
SMF190A	SMF190CA	190A	190CA	190	211	232	1	1	308	0.5
SMF200A	SMF200CA	200A	200CA	200	224	247	1	1	324	0.5
SMF220A	SMF220CA	220A	220CA	220	246	272	1	1	356	0.5
SMF250A	SMF250CA	250A	250CA	250	279	309	1	1	405	0.5
SMF300A	SMF300CA	300A	300CA	300	335	371	1	1	486	0.45
SMF350A	SMF350CA	350A	350CA	350	391	432	1	1	567	0.4
SMF400A	SMF400CA	400A	400CA	400	447	494	1	1	648	0.35
SMF440A	SMF440CA	440A	440CA	440	492	543	1	1	713	0.3



# SMF5.0(C)A THRU SMF440(C)A

Stand-off Voltage - 5.0 to 440 Volts Peak Pulse Power: 200 Watts

## Typical Characteristics

Fig.1 Peak Pulse Power Rating Curve

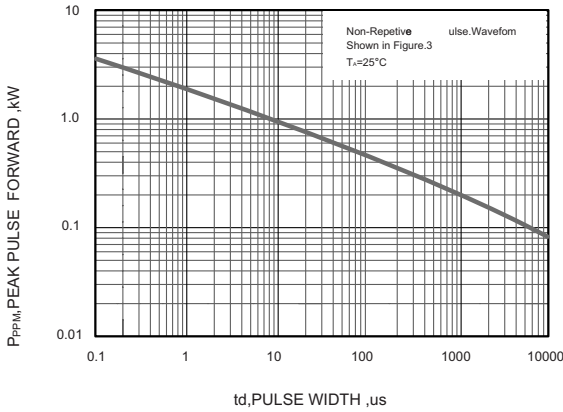


Fig.2 Forward Current Derating Curve

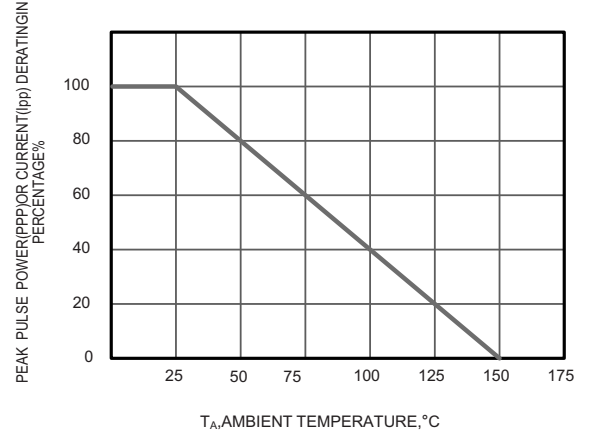


Fig.3 Pulse Waveform

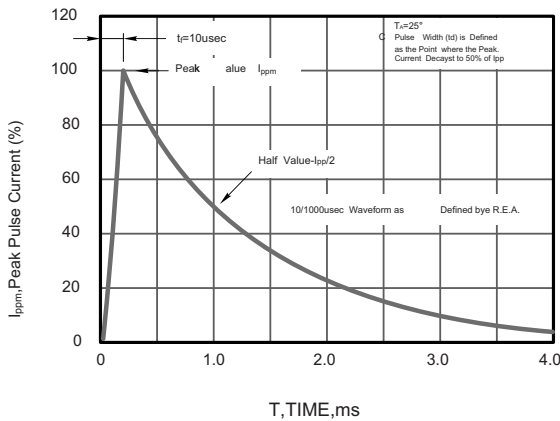
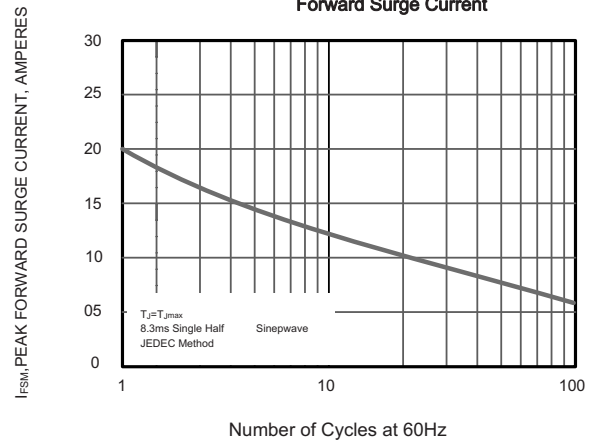


Fig.4 Maximum Non-Repetitive Peak Forward Surge Current



The curve above is for reference only.



# SMF5.0(C)A THRU SMF440(C)A

Stand-off Voltage - 5.0 to 440 Volts Peak Pulse Power: 200 Watts

## Packing information



unit:mm

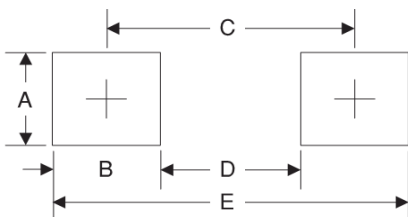
Item	Symbol	Tolerance	SOD-123FL
Carrier width	A	0.1	2.1
Carrier length	B	0.1	4.0
Carrier depth	C	0.1	1.60
Sprocket hole	d	0.05	1.55
7" Reel outside diameter	D	2.0	178.00
7" Reel inner diameter	D <sub>1</sub>	min	50.0
Feed hole diameter	D <sub>2</sub>	0.5	13.00
Sprocket hole position	E	0.1	1.75
Punch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

## Important Notice and Disclaimer

Microdiode Electronics (Jiangsu) reserves the right to make changes to this document and its products and specifications at any time without notice. Customers should obtain and confirm the latest product information and specifications before final design, purchase or use.

Microdiode Electronics (Jiangsu) makes no warranty, representation or guarantee regarding the suitability of its products for any particular purpose, nor does Microdiode Electronics (Jiangsu) assume any liability for application assistance or customer product design. Microdiode Electronics (Jiangsu) does not warrant or accept any liability with products which are purchased or used for any unintended or unauthorized application.

No license is granted by implication or otherwise under any intellectual property rights of Microdiode Electronics (Jiangsu).

Microdiode Electronics (Jiangsu) products are not authorized for use as critical components in life support devices or systems without express written approval of Microdiode Electronics (Jiangsu).

## X-ON Electronics

Largest Supplier of Electrical and Electronic Components

*Click to view similar products for [ESD Suppressors / TVS Diodes](#) category:*

*Click to view products by [Microdiode Electronics](#) manufacturer:*

Other Similar products are found below :

[60KS200C](#) [D18V0L1B2LP-7B](#) [D5V0F4U5P5-7](#) [DESD5V0U1BB-7](#) [NTE4902](#) [P4KE27CA](#) [P6KE11CA](#) [P6KE39CA-TP](#) [P6KE8.2A](#)  
[SA110CA](#) [SA60CA](#) [SA64CA](#) [SMBJ12CATR](#) [SMBJ33CATR](#) [SMBJ8.0A](#) [ESD101-B1-02ELS E6327](#) [ESD105-B1-02EL E6327](#) [ESD112-B1-02EL E6327](#) [ESD119B1W01005E6327XTSA1](#) [ESD5V0L1B02VH6327XTSA1](#) [ESD7451N2T5G](#) [19180-510](#) [CPDT-5V0USP-HF](#)  
[3.0SMCJ33CA-F](#) [3.0SMCJ36A-F](#) [HSPC16701B02TP](#) [D3V3Q1B2DLP3-7](#) [D55V0M1B2WS-7](#) [DESD5V0U1BL-7B](#) [DRTR5V0U4SL-7](#)  
[SCM1293A-04SO](#) [ESD200-B1-CSP0201 E6327](#) [SM12-7](#) [SMLJ45CA-TP](#) [CEN955 W/DATA](#) [82350120560](#) [VESD12A1A-HD1-GS08](#)  
[CPDUR5V0R-HF](#) [CPDQC5V0U-HF](#) [CPDQC5V0USP-HF](#) [CPDQC5V0-HF](#) [D1213A-01LP4-7B](#) [D1213A-02WL-7](#) [MMAD1108/TR13](#)  
[5KP100A](#) [5KP15A](#) [5KP18A](#) [5KP48A](#) [5KP90A](#) [5KP90CA](#)