Features

- Uni and Bi-directional Type Available (Suffix"C"means Bi-directional)
- Surface Mount
- Low Clamping Voltage
- Small, High Thermal Efficiency
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note 2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)

Maximum Ratings

- Operating Junction Temperature Range: -65°C to +175°C
- Storage Temperature Range: -65°C to +175°C
- Typical Thermal Resistance: 26°C/W Junction to Lead
- Typical Thermal Resistance: 300°C/W Junction to Ambient

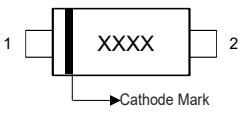
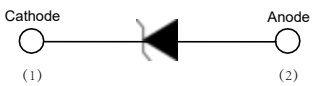
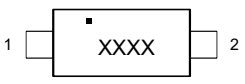
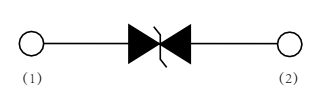
Electrical Characteristics @ 25°C Unless Otherwise Specified

Parameter	Symbol	Value	Unit
Peak Pulse Power Surge Current with a 10/1000μs Waveform (Note 3)	I_{PPM}	See Next Table	A
Peak Pulse Power Dissipation(Note 3)	P_{PPM}	200	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	20	A
IEC61000-4-2(ESD)	Air Contact	30 30	KV

Note:

1. Halogen free "Green” products are defined as those which contain <900ppm bromine, <900ppm chlorine (<1500ppm total Br + Cl) and <1000ppm antimony compounds.
2. High Temperature Solder Exemption Applied, see EU Directive Annex 7a.
3. Non-repetitive current pulse, per Fig.3 and derated above T_A=25 °C per Fig.4.
4. 8.3ms, single half sine wave duty cycle = 4 pulses per Minutes maximum.

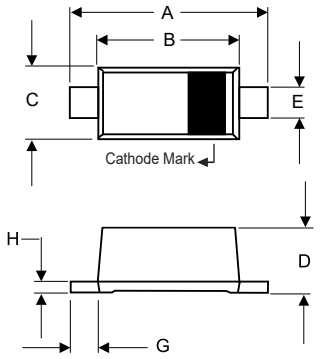
Internal Structure and Marking Code

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code

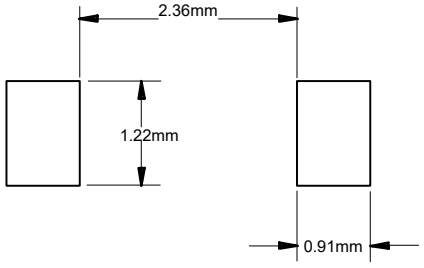
200 Watt TVS
5.0 to 200 Volts

SOD-123FL



DIMENSIONS					
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	0.130	0.152	3.30	3.85	
B	0.100	0.122	2.55	3.10	
C	0.055	0.075	1.40	1.90	
D	0.035	0.053	0.90	1.35	
E	0.020	0.041	0.50	1.05	
G	0.010	----	0.25	----	
H	----	0.010	----	0.25	

SUGGESTED SOLDER PAD LAYOUT



Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number	Reverse Stand-Off Voltage	Breakdown Voltage VBR(V)		Test Current	Max. Clamping Voltage @IPP	Max. Peak Pulse Current	Max. Reverse Leakage Current @VWM	Marking Code
	VWM(V)	Min	Max	IT(mA)	VC(V)	IPP(A)	ID(μA)	
SMF5.0A	5.0	6.40	7.00	10	9.2	21.7	400	5.0A
SMF6.0A	6.0	6.67	7.37	10	10.3	19.4	400	6.0A
SMF6.5A	6.5	7.22	7.98	10	11.2	17.9	250	6.5A
SMF7.0A	7.0	7.78	8.60	10	12.0	16.7	100	7.0A
SMF7.5A	7.5	8.33	9.21	1.0	12.9	15.5	50	7.5A
SMF8.0A	8.0	8.89	9.83	1.0	13.6	14.7	25	8.0A
SMF8.5A	8.5	9.44	10.40	1.0	14.4	13.9	10	8.5A
SMF9.0A	9.0	10.00	11.10	1.0	15.4	13.0	5.0	9.0A
SMF10A	10	11.10	12.30	1.0	17.0	11.8	2.5	10A
SMF11A	11	12.20	13.50	1.0	18.2	11.0	2.5	11A
SMF12A	12	13.30	14.70	1.0	19.9	10.1	2.5	12A
SMF13A	13	14.40	15.90	1.0	21.5	9.3	1.0	13A
SMF14A	14	15.60	17.20	1.0	23.2	8.6	1.0	14A
SMF15A	15	16.70	18.50	1.0	24.4	8.2	1.0	15A
SMF16A	16	17.80	19.70	1.0	26.0	7.7	1.0	16A
SMF17A	17	18.90	20.90	1.0	27.6	7.2	1.0	17A
SMF18A	18	20.00	22.10	1.0	29.2	6.8	1.0	18A
SMF20A	20	22.20	24.50	1.0	32.4	6.2	1.0	20A
SMF22A	22	24.40	26.90	1.0	35.5	5.6	1.0	22A
SMF24A	24	26.70	29.50	1.0	38.9	5.1	1.0	24A
SMF26A	26	28.90	31.90	1.0	42.1	4.8	1.0	26A
SMF28A	28	31.10	34.40	1.0	45.4	4.4	1.0	28A
SMF30A	30	33.30	36.80	1.0	48.4	4.1	1.0	30A
SMF33A	33	36.70	40.60	1.0	53.3	3.8	1.0	33A
SMF36A	36	40.00	44.20	1.0	58.1	3.4	1.0	36A
SMF40A	40	44.40	49.10	1.0	64.5	3.1	1.0	40A
SMF43A	43	47.80	52.80	1.0	69.4	2.9	1.0	43A
SMF45A	45	50.00	55.30	1.0	72.7	2.8	1.0	45A
SMF48A	48	53.30	58.90	1.0	77.4	2.6	1.0	48A
SMF51A	51	56.70	62.70	1.0	82.4	2.4	1.0	51A
SMF54A	54	60.00	66.30	1.0	87.1	2.3	1.0	54A
SMF58A	58	64.40	71.20	1.0	93.6	2.1	1.0	58A
SMF60A	60	66.70	73.70	1.0	96.8	1.8	1.0	60A
SMF64A	64	71.10	78.60	1.0	103.0	1.7	1.0	64A
SMF70A	70	77.80	86.00	1.0	113.0	1.5	1.0	70A
SMF75A	75	83.30	92.10	1.0	121.0	1.4	1.0	75A
SMF78A	78	86.70	95.80	1.0	126.0	1.4	1.0	78A
SMF85A	85	94.40	104.00	1.0	137.0	1.3	1.0	85A
SMF90A	90	100.00	111.00	1.0	146.0	1.2	1.0	90A
SMF100A	100	111.00	123.00	1.0	162.0	1.1	1.0	100
SMF110A	110	122.00	135.00	1.0	177.0	1.0	1.0	110
SMF120A	120	133.00	147.00	1.0	193.0	0.9	1.0	120
SMF130A	130	144.00	159.00	1.0	209.0	0.8	1.0	130
SMF150A	150	167.00	185.00	1.0	243.0	0.7	1.0	150
SMF160A	160	178.00	197.00	1.0	259.0	0.7	1.0	160
SMF170A	170	189.00	209.00	1.0	275.0	0.6	1.0	170
SMF180A	180	200.00	220.00	1.0	292.0	0.6	1.0	180
SMF190A	190	211.00	232.00	1.0	308.0	0.6	1.0	190
SMF200A	200	224.00	247.00	1.0	324	0.6	1.0	200

Electrical Characteristics @ 25°C Unless Otherwise Specified

MCC Part Number	Reverse Stand-Off Voltage	Breakdown Voltage VBR(V)		Test Current	Max. Clamping Voltage @IPP	Max. Peak Pulse Current	Max. Reverse Leakage Current @VWM	Marking Code
	VWM(V)	Min	Max	IT(mA)	VC(V)	IPP(A)	ID(μA)	
SMF5.0CA	5.0	6.40	7.00	10	9.2	21.7	400	5.0CA
SMF6.0CA	6.0	6.67	7.37	10	10.3	19.4	400	6.0CA
SMF6.5CA	6.5	7.22	7.98	10	11.2	17.9	250	6.5CA
SMF7.0CA	7.0	7.78	8.60	10	12.0	16.7	100	7.0CA
SMF7.5CA	7.5	8.33	9.21	1.0	12.9	15.5	50	7.5CA
SMF8.0CA	8.0	8.89	9.83	1.0	13.6	14.7	25	8.0CA
SMF8.5CA	8.5	9.44	10.40	1.0	14.4	13.9	10	8.5CA
SMF9.0CA	9.0	10.00	11.10	1.0	15.4	13.0	5.0	9.0CA
SMF10CA	10	11.10	12.30	1.0	17.0	11.8	2.5	10CA
SMF11CA	11	12.20	13.50	1.0	18.2	11.0	2.5	11CA
SMF12CA	12	13.30	14.70	1.0	19.9	10.1	2.5	12CA
SMF13CA	13	14.40	15.90	1.0	21.5	9.3	1.0	13CA
SMF14CA	14	15.60	17.20	1.0	23.2	8.6	1.0	14CA
SMF15CA	15	16.70	18.50	1.0	24.4	8.2	1.0	15CA
SMF16CA	16	17.80	19.70	1.0	26.0	7.7	1.0	16CA
SMF17CA	17	18.90	20.90	1.0	27.6	7.2	1.0	17CA
SMF18CA	18	20.00	22.10	1.0	29.2	6.8	1.0	18CA
SMF20CA	20	22.20	24.50	1.0	32.4	6.2	1.0	20CA
SMF22CA	22	24.40	26.90	1.0	35.5	5.6	1.0	22CA
SMF24CA	24	26.70	29.50	1.0	38.9	5.1	1.0	24CA
SMF26CA	26	28.90	31.90	1.0	42.1	4.8	1.0	26CA
SMF28CA	28	31.10	34.40	1.0	45.4	4.4	1.0	28CA
SMF30CA	30	33.30	36.80	1.0	48.4	4.1	1.0	30CA
SMF33CA	33	36.70	40.60	1.0	53.3	3.8	1.0	33CA
SMF36CA	36	40.00	44.20	1.0	58.1	3.4	1.0	36CA
SMF40CA	40	44.40	49.10	1.0	64.5	3.1	1.0	40CA
SMF43CA	43	47.80	52.80	1.0	69.4	2.9	1.0	43CA
SMF45CA	45	50.00	55.30	1.0	72.7	2.8	1.0	45CA
SMF48CA	48	53.30	58.90	1.0	77.4	2.6	1.0	48CA
SMF51CA	51	56.70	62.70	1.0	82.4	2.4	1.0	51CA
SMF54CA	54	60.00	66.30	1.0	87.1	2.3	1.0	54CA
SMF58CA	58	64.40	71.20	1.0	93.6	2.1	1.0	58CA
SMF60CA	60	66.70	73.70	1.0	96.8	1.8	1.0	60CA
SMF64CA	64	71.10	78.60	1.0	103.0	1.7	1.0	64CA
SMF70CA	70	77.80	86.00	1.0	113.0	1.5	1.0	70CA
SMF75CA	75	83.30	92.10	1.0	121.0	1.4	1.0	75CA
SMF78CA	78	86.70	95.80	1.0	126.0	1.4	1.0	78CA
SMF85CA	85	94.40	104.00	1.0	137.0	1.3	1.0	85CA
SMF90CA	90	100.00	111.00	1.0	146.0	1.2	1.0	90CA
SMF100CA	100	111.00	123.00	1.0	162.0	1.1	1.0	100C
SMF110CA	110	122.00	135.00	1.0	177.0	1.0	1.0	110C
SMF120CA	120	133.00	147.00	1.0	193.0	0.9	1.0	120C
SMF130CA	130	144.00	159.00	1.0	209.0	0.8	1.0	130C
SMF150CA	150	167.00	185.00	1.0	243.0	0.7	1.0	150C
SMF160CA	160	178.00	197.00	1.0	259.0	0.7	1.0	160C
SMF170CA	170	189.00	209.00	1.0	275.0	0.6	1.0	170C
SMF180CA	180	200.00	220.00	1.0	292.0	0.6	1.0	180C
SMF190CA	190	211.00	232.00	1.0	308.0	0.6	1.0	190C
SMF200CA	200	224.00	247.00	1.0	324	0.6	1.0	200C

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

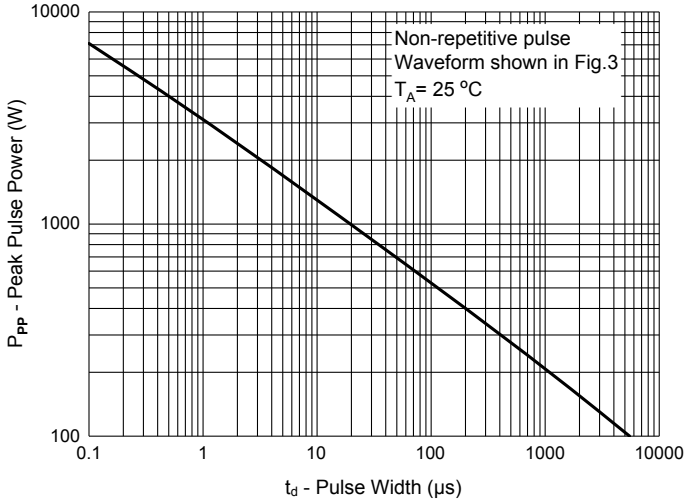


Fig. 2 - Typical Junction Capacitance

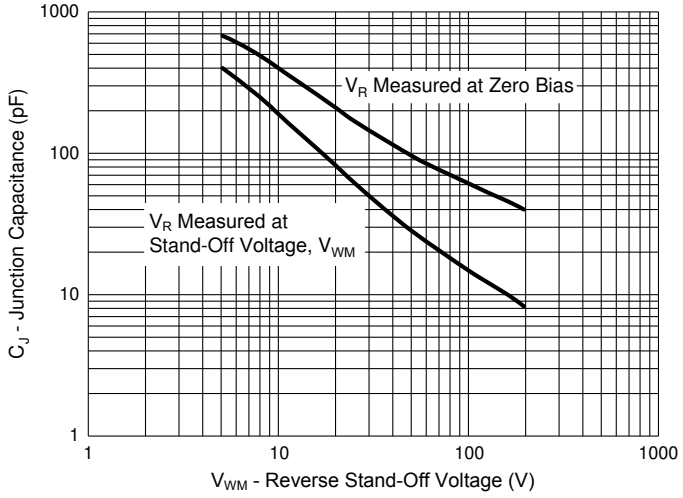


Fig. 3 - Pulse Waveform

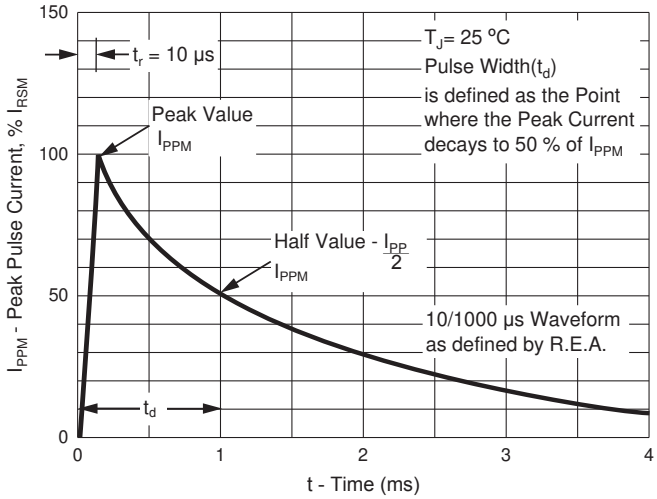
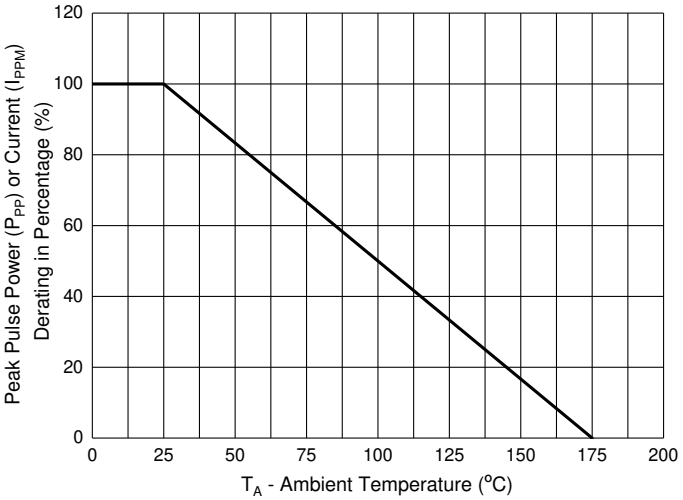


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:2.5Kpcs/Reel

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