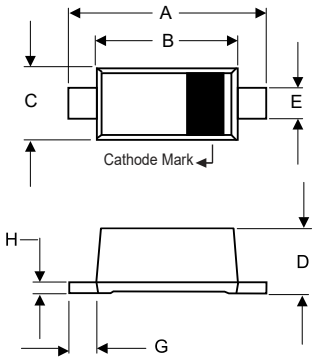
Features

- For Surface Mount Applications
- Excellent Clamping Capability
- High Temp Soldering:260°C / 10 Seconds At Terminals
- Halogen Free. “Green” Device (Note 1)
- Moisture Sensitivity Level 1
- Epoxy Meets UL 94 V-0 Flammability Rating
- Lead Free Finish/RoHS Compliant (Note2) ("P" Suffix Designates RoHS Compliant. See Ordering Information)
- ESD protection of data lines in accordance with IEC 61000-4-2, 30kV(Air),30kV (Contact)

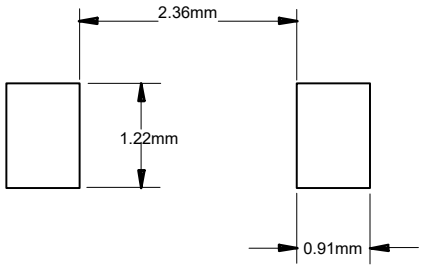
400 Watt TVS 5.0 to 100 Volts

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



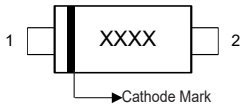
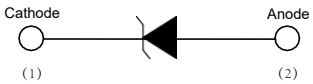
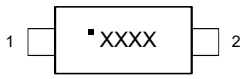
Maximum Ratings

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}	400	W
PowerDissipatoin on Infinite Heatsink at T_L = 50°C	P_D	1	W
Peak Forward Surge Current Unidirectional Only (Note 4)	I_{FSM}	40	A

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

Description	Simplified outline	Graphic symbol
Uni-directional		
Bi-directional		

XXXX = Marking code

Thermal Characteristics

Parameter	Symbol	Value	Unit
Operating Junction Temperature Range	T_J	-55 to +150	℃
Storage Temperature Range	T_{STG}	-55 to +150	℃
Typical Thermal Resistance Junction to Lead	$R_{\theta JL}$	100	℃/W
Typical Thermal Resistance Junction to Ambient	$R_{\theta JA}$	220	℃/W

Note:
1.Mounted on 0.31x0.35"(8.0x9.0mm) copper pads to each terminal.

MCC Part Number		Working Peak Reverse Voltage	Breakdown Voltage VBR @IT			Maximun Clamping Voltage @IPP	Maximum Reverse Surge Current	Maximum Reverse Leakage @VRWM	Device Marking Code	
(Uni)	(Bi)	VRWM(V)	Min (V)	Max (V)	IT (mA)	VC(V)	IPP(A)	IR(μA)	Uni	Bi
SM4F5.0A	SM4F5.0CA	5	6.4	7	10	9.2	43.5	400	F5.0	F5.0C
SM4F6.0A	SM4F6.0CA	6.0	6.67	7.37	10	10.3	38.8	400	F6.0	F6.0C
SM4F6.5A	SM4F6.5CA	6.5	7.22	7.98	10	11.2	35.7	400	F6.5	F6.5C
SM4F7.0A	SM4F7.0CA	7.0	7.78	8.60	10	12.0	33.3	200	F7.0	F7.0C
SM4F7.5A	SM4F7.5CA	7.5	8.33	9.21	1	12.9	31	100	F7.5	F7.5C
SM4F8.0A	SM4F8.0CA	8.0	8.89	9.83	1	13.6	29.4	50	F8.0	F8.0C
SM4F8.5A	SM4F8.5CA	8.5	9.44	10.40	1	14.4	27.7	20	F8.5	F8.5C
SM4F9.0A	SM4F9.0CA	9.0	10.00	11.10	1	15.4	26	10	F9.0	F9.0C
SM4F10A	SM4F10CA	10.0	11.10	12.30	1	17.0	23.5	5	F10	F10C
SM4F11A	SM4F11CA	11.0	12.20	13.50	1	18.2	21.98	1	F11	F11C
SM4F12A	SM4F12CA	12.0	13.30	14.70	1	19.9	20.1	1	F12	F12C
SM4F13A	SM4F13CA	13.0	14.40	15.90	1	21.5	18.6	1	F13	F13C
SM4F14A	SM4F14CA	14.0	15.60	17.20	1	23.2	17.24	1	F14	F14C
SM4F15A	SM4F15CA	15.0	16.70	18.50	1	24.4	16.39	1	F15	F15C
SM4F16A	SM4F16CA	16.0	17.80	19.70	1	26.0	15.38	1	F16	F16C
SM4F17A	SM4F17CA	17.0	18.90	20.90	1	27.6	14.49	1	F17	F17C
SM4F18A	SM4F18CA	18.0	20.00	22.10	1	29.2	13.7	1	F18	F18C
SM4F19A	SM4F19CA	19.0	21.10	23.30	1	30.8	13	1	F19	F19C
SM4F20A	SM4F20CA	20.0	22.20	24.50	1	32.4	12.35	1	F20	F20C
SM4F22A	SM4F22CA	22.0	24.40	26.90	1	35.5	11.27	1	F22	F22C
SM4F24A	SM4F24CA	24.0	26.70	29.50	1	38.9	10.28	1	F24	F24C
SM4F26A	SM4F26CA	26.0	28.90	31.90	1	42.1	9.5	1	F26	F26C
SM4F28A	SM4F28CA	28.0	31.10	34.40	1	45.4	8.81	1	F28	F28C
SM4F30A	SM4F30CA	30.0	33.30	36.80	1	48.4	8.26	1	F30	F30C
SM4F33A	SM4F33CA	33.0	36.70	40.60	1	53.3	7.5	1	F33	F33C
SM4F36A	SM4F36CA	36.0	40.00	44.20	1	58.1	6.88	1	F36	F36C
SM4F40A	SM4F40CA	40.0	44.40	49.10	1	64.5	6.2	1	F40	F40C
SM4F43A	SM4F43CA	43.0	47.80	52.80	1	69.4	5.7	1	F43	F43C
SM4F45A	SM4F45CA	45.0	50.00	55.30	1	72.7	5.5	1	F45	F45C
SM4F48A	-	48.0	53.30	58.90	1	77.4	5.2	1	F48	-
SM4F51A	-	51.0	56.70	62.70	1	82.4	4.9	1	F51	-
SM4F54A	-	54.0	60.00	66.30	1	87.1	4.6	1	F54	-
SM4F58A	-	58.0	64.40	71.20	1	93.6	4.3	1	F58	-
SM4F60A	-	60.0	66.70	73.70	1	96.8	4.1	1	F60	-
SM4F64A	-	64.0	71.10	78.60	1	103.0	3.9	1	F64	-
SM4F70A	-	70.0	77.80	86.00	1	113.0	3.5	1	F70	-
SM4F75A	-	75.0	83.30	92.10	1	121.0	3.3	1	F75	-
SM4F78A	-	78.0	86.70	95.80	1	126.0	2.2	1	F78	-
SM4F85A	-	85.0	94.40	104.00	1	137.0	2.9	1	F85	-
SM4F90A	-	90.0	100.00	111.00	1	146.0	2.74	1	F90	-
SM4F100A	-	100.0	111.00	123.00	1	162.0	2.46	1	F100	-

Curve Characteristics

Fig. 1 - Peak Pulse Power Rating Curve

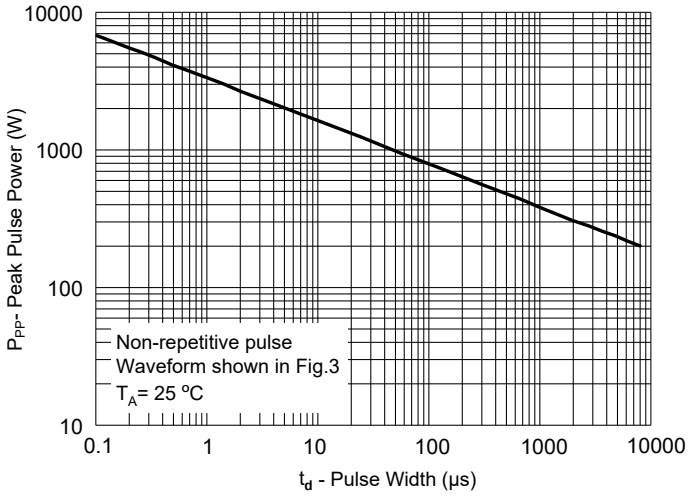


Fig. 2 - Typical Junction Capacitance

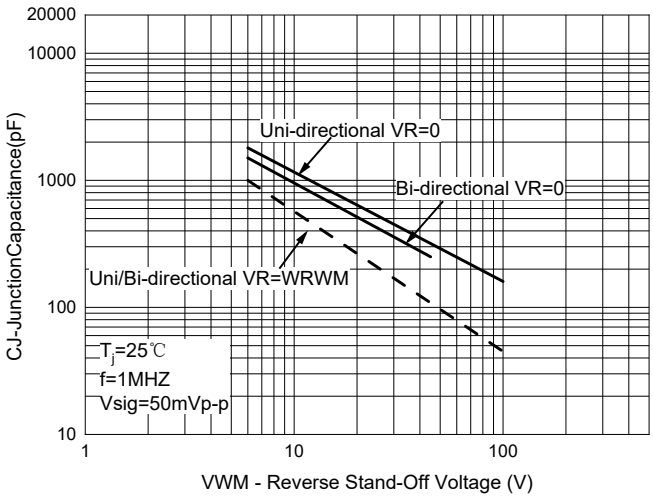


Fig. 3 - Pulse Waveform

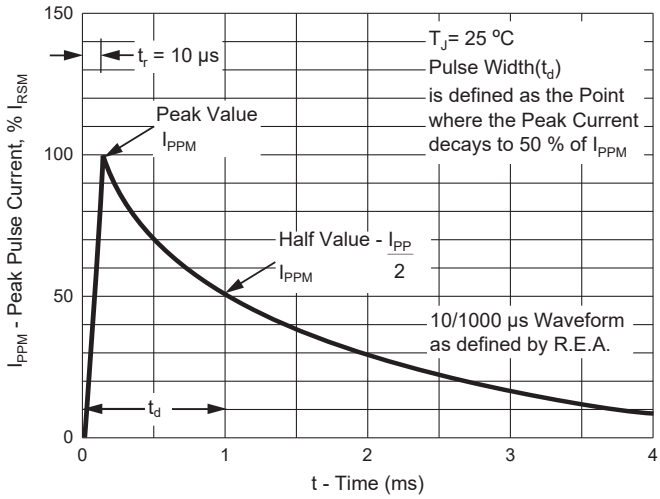
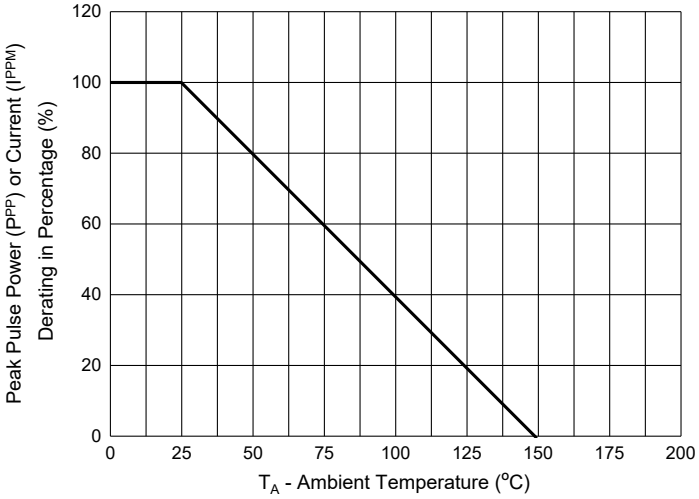


Fig. 4 - Pulse Derating Curve



Ordering Information

Device	Packing
Part Number-TP	Tape&Reel:2.5Kpcs/Reel
Part Number-13P	Tape&Reel:10Kpcs/Reel

For packaging details, go to our website at https://www.mccsemi.com/pdf/productpackaging/SOD-123FL%20Package.pdf

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