

Features

Glass Passivated Die Construction

Peak power dissipation 200W @10 x 1000 us Pulse

Working peak reverse voltage range – 5.0V to 220V.

Fast response time: typically less than 1 ns for Uni-direction.

Uni- and Bi-Directional Versions Available

Mechanical Data

Cases :SOD-123FL Small Outline Plastic Package

Polarity: by cathode band denotes uni-directional device.

Mounting Position: Any

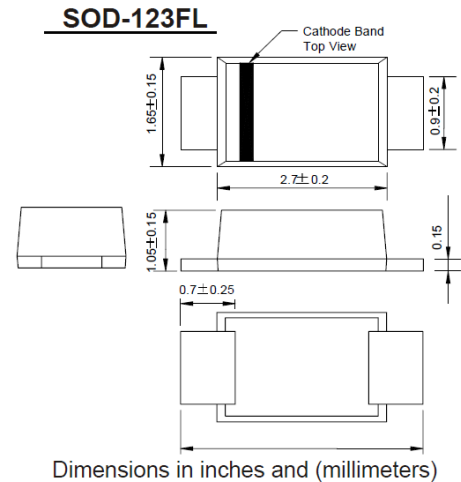
Maximum Ratings & Thermal Characteristics

(Ratings at 25°C ambient temperature unless otherwise specified.)

Parameter	Symbol	Value	Unit
Peak Power Dissipation (Note1)@T _L =25°C, Pulse Width=1ms	P _{PK}	200	W
Forward Surge Current (Note 2,) @T _A =25°C	I _{FSM}	100	A
Power Dissipation On Infinite Heatsink, @T _A = 50°C	P _{M(AV)}	5.0	W
Typical Thermal Resistance, Junction to Ambient (Note 3)	R _{QJA}	100	°C/W
Typical Thermal Resistance, Junction to Lead	R _{QJL}	20	
Operating and Storage Temperature Range	T _J , T _{STG}	-55 to +150	°C

1) 10 X 1000 us, non - repetitive

2) 1/2 sine wave (or equivalent square wave), PW = 8.3 ms, duty cycle = 4 pulses per minute maximum 3) Mounted on minimum recommended pad layout



Electrical Characteristics

(Ratings at 25 °C ambient temperature unless otherwise specified).

Part Number		Device Marking Code		Reverse Stand-Off Voltage $V_R(V)$	Breakdown Voltage $V_{BR}(V)$ @ I_T		Test Current I_T (mA)	Maximum Clamping Voltage @ I_{PP} $V_C(V)$	Peak Pulse Current $I_{PP}(A)$	Reverse Leakage @ VRWM $I_R(\mu A)$
					Min.	Max.				
Uni	Bi	Uni	Bi							
SMFJ5.0A	SMFJ5.0CA	5.0A	5.0CA	5.0	6.40	7.07	10	9.6	20.8	100
SMFJ6.0A	SMFJ6.0CA	6.0A	6.0CA	6.0	6.67	7.37	10	10.3	19.4	100
SMFJ6.5A	SMFJ6.5CA	6.5A	6.5CA	6.5	7.22	7.98	10	11.2	17.9	50
SMFJ7.0A	SMFJ7.0CA	7.0A	7.0CA	7.0	7.78	8.60	10	12.0	16.7	30
SMFJ7.5A	SMFJ7.5CA	7.5A	7.5CA	7.5	8.33	9.21	1	12.9	15.5	30
SMFJ8.0A	SMFJ8.0CA	8.0A	8.0CA	8.0	8.89	9.83	1	13.6	14.7	10
SMFJ8.5A	SMFJ8.5CA	8.5A	8.5CA	8.5	9.44	10.40	1	14.4	13.9	5
SMFJ9.0A	SMFJ9.0CA	9.0A	9.0CA	9.0	10.00	11.10	1	15.4	13.0	3
SMFJ10A	SMFJ10CA	10A	10CA	10	11.10	12.30	1	17.0	11.8	1
SMFJ11A	SMFJ11CA	11A	11CA	11	12.20	13.50	1	18.2	11.0	1
SMFJ12A	SMFJ12CA	12A	12CA	12	13.30	14.70	1	19.9	10.1	1
SMFJ13A	SMFJ13CA	13A	13CA	13	14.40	15.90	1	21.5	9.3	1
SMFJ14A	SMFJ14CA	14A	14CA	14	15.60	17.20	1	23.2	8.6	1
SMFJ15A	SMFJ15CA	15A	15CA	15	16.70	18.50	1	24.4	8.2	1
SMFJ16A	SMFJ16CA	16A	16CA	16	17.80	19.70	1	26.0	7.7	1
SMFJ17A	SMFJ17CA	17A	17CA	17	18.90	20.90	1	27.6	7.2	1
SMFJ18A	SMFJ18CA	18A	18CA	18	20.00	22.10	1	29.2	6.8	1
SMFJ20A	SMFJ20CA	20A	20CA	20	22.20	24.50	1	32.4	6.2	1
SMFJ22A	SMFJ22CA	22A	22CA	22	24.40	26.90	1	35.5	5.6	1
SMFJ24A	SMFJ24CA	24A	24CA	24	26.70	29.50	1	38.9	5.1	1
SMFJ26A	SMFJ26CA	26A	26CA	26	28.90	31.90	1	42.1	4.8	1
SMFJ28A	SMFJ28CA	28A	28CA	28	31.10	34.40	1	45.4	4.4	1
SMFJ30A	SMFJ30CA	30A	30CA	30	33.30	36.80	1	48.4	4.1	1
SMFJ33A	SMFJ33CA	33A	33CA	33	36.70	40.60	1	53.3	3.8	1
SMFJ36A	SMFJ36CA	36A	36CA	36	40.00	44.20	1	58.1	3.4	1
SMFJ40A	SMFJ40CA	40A	40CA	40	44.40	49.10	1	64.5	3.1	1
SMFJ43A	SMFJ43CA	43A	43CA	43	47.80	52.80	1	69.4	2.9	1
SMFJ45A	SMFJ45CA	45A	45CA	45	50.00	55.30	1	72.7	2.8	1
SMFJ48A	SMFJ48CA	48A	48CA	48	53.30	58.90	1	77.4	2.6	1
SMFJ51A	SMFJ51CA	51A	51CA	51	56.70	62.70	1	82.4	2.4	1
SMFJ54A	SMFJ54CA	54A	54CA	54	60.00	66.30	1	87.1	2.3	1
SMFJ58A	SMFJ58CA	58A	58CA	58	64.40	71.20	1	93.6	2.1	1



SOD-123FL 200W Transient Voltage Suppressor

SMFJ5.0A/CA-SMFJ220A/CA

Part Number		Device Marking Code		Reverse Stand-Off Voltage $V_R(V)$	Breakdown Voltage $V_{BR}(V) @ I_T$		Test Current I_T (mA)	Maximum Clamping Voltage @ I_{PP} $V_C(V)$	Peak Pulse Current $I_{PP}(A)$	Reverse Leakage @VRWM $I_R(\mu A)$
Uni	Bi	Uni	Bi		Min.	Max.				
SMFJ60A	SMFJ60CA	60A	60CA	60	66.70	73.70	1	96.8	2.1	1
SMFJ64A	SMFJ64CA	64A	64CA	64	71.10	78.60	1	103.0	1.9	1
SMFJ70A	SMFJ70CA	70A	70CA	70	77.80	86.00	1	113.0	1.8	1
SMFJ75A	SMFJ75CA	75A	75CA	75	83.30	92.10	1	121.0	1.7	1
SMFJ78A	SMFJ78CA	78A	78CA	78	86.70	95.80	1	126.0	1.6	1
SMFJ85A	SMFJ85CA	85A	85CA	85	94.40	104.00	1	137.0	1.5	1
SMFJ90A	SMFJ90CA	90A	90CA	90	100.00	111.00	1	146.0	1.4	1
SMFJ100A	SMFJ100CA	100A	100CA	100	111.00	123.00	1	162.0	1.2	1
SMFJ110A	SMFJ110CA	110A	110CA	110	122.00	135.00	1	177.0	1.1	1
SMFJ120A	SMFJ120CA	120A	120CA	120	133.00	147.00	1	193.0	1.0	1
SMFJ130A	SMFJ130CA	130A	130CA	130	144.00	159.00	1	209.0	1.0	1
SMFJ150A	SMFJ150CA	150A	150CA	150	167.00	185.00	1	243.0	0.8	1
SMFJ160A	SMFJ160CA	160A	160CA	160	178.00	197.00	1	259.0	0.8	1
SMFJ170A	SMFJ170CA	170A	170CA	170	189.00	209.00	1	275.0	0.7	1
SMFJ180A	SMFJ180CA	180A	180CA	180	201.00	222.00	1	292.0	0.7	1
SMFJ190A	SMFJ190CA	190A	190CA	190	211.00	233.00	1	306.0	0.7	1
SMFJ200A	SMFJ200CA	200A	200CA	200	224.00	247.00	1	324.0	0.6	1
SMFJ220A	SMFJ220CA	220A	220CA	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 1 and derate per Figure



Characteristic Curves

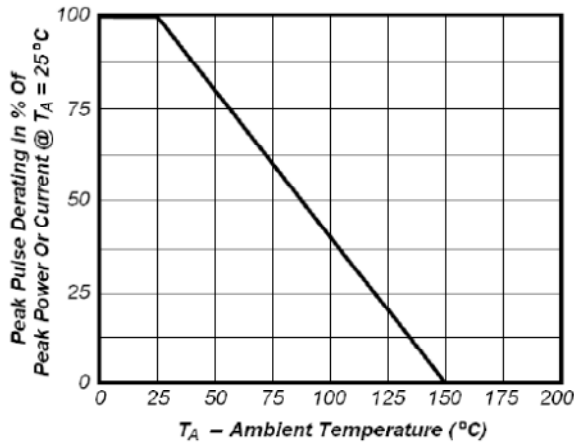


Fig1. Pulse Derting Curve

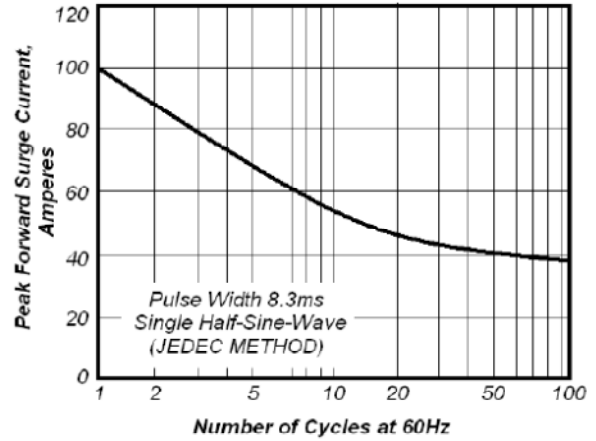


Fig2. Maximum Non-Repetitive Peak Forward Surge Current

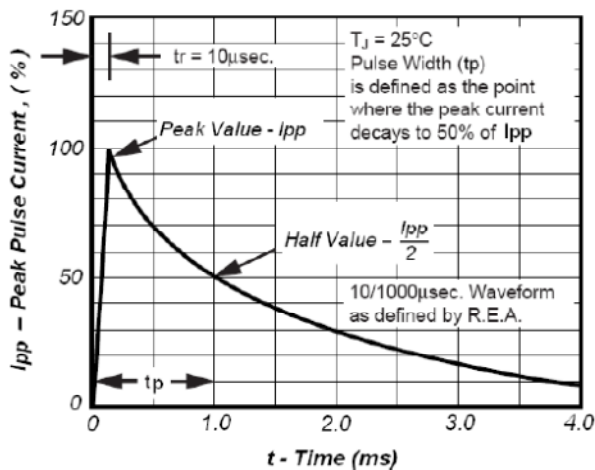


Fig3. Pulse Waveform

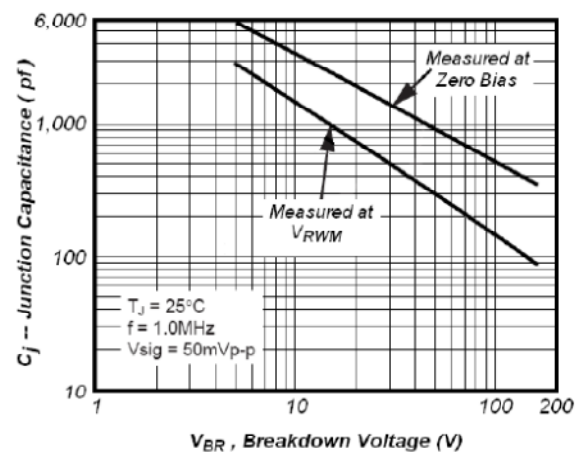


Fig4. Typical Junction Capacitance

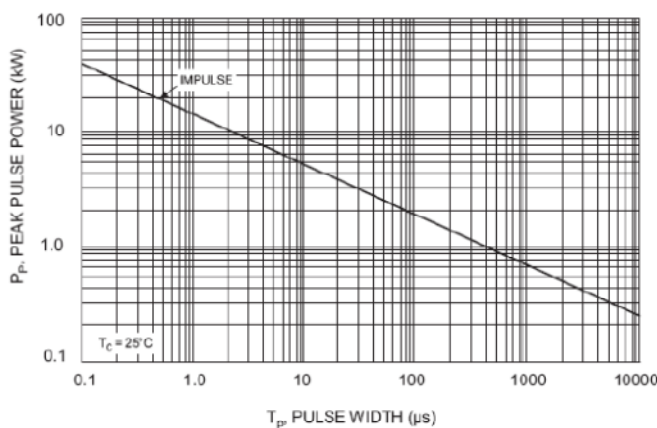


Fig5. Peak Pulse Power Rating curve

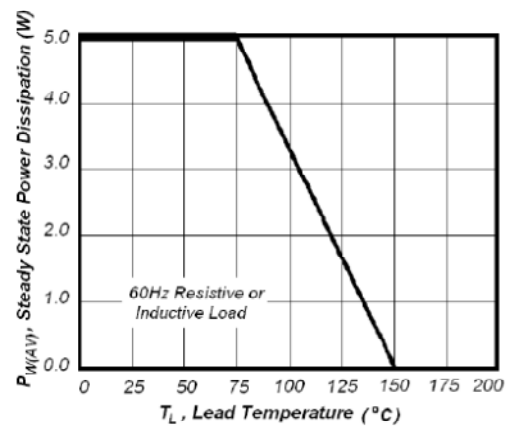


Fig6. Steady State Power Derating Curv