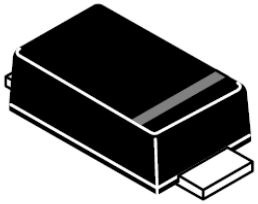
Description

The P4SMFJ series is designed specifically to protect sensitive electronic equipment from voltage transients induced by lightning and other transient voltage events.



Features

- 400W peak pulsepower capability at 10 x 1000μs waveform, repetition rate (duty cycle): 0.01%
- Glass Passivated chip junction
- For surface mounted applications to optimize board space
- Low profile package
- Built-in strain relief
- Low incremental surge resistance
- Excellent clamping capability
- Plastic package has UL flammability classification 94V-O
- Fast response time: typically less than 1.0ps from 0 Volts to BV min
- Typical IR less than 5uA above 22V
- High temperature soldering: 260°C/40 seconds at terminals
- IEC-61000-4-2 ESD 15KV(Air),8KV(Contact)
- ESD protection of data lines in accordance with IEC 61000-4-2(IEC801-2)
- EFT protection of data lines in accordance with IEC61000-4-4(IEC801-4)
- AEC -Q101 qualified.

Applications

TVS devices are ideal for the protection of I/O Interfaces, V_{CC} bus and other vulnerable circuits used in Telecom, Computer, Industrial and Consumer electronic applications.

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Maximum Ratings and Electrical Characteristics

(TA=25℃ unless otherwise noted)

Parameter	Symbol	Value	Unit
Peak Pulse Power Dissipation at TA=25℃ by 10x1000μs waveform (Fig.2)(Note 1) (Note 2)	P_{PPM}	400	W
Power Dissipation on infinite heat sink at TA=50℃	P_D	6.5	W
Peak Forward Surge Current, 8.3ms Single Half Sine Wave Unidirectional only(Note 3)	I_{FSM}	300	A
Maximum Instantaneous Forward Voltage at 100A for Unidirectional only	V_F	3.5V/5.0	V
Operating Junction and Storage Temperature Range	T_J, T_{STG}	-55 to ＋150	℃
Typical Thermal Resistance Junction to Lead	R_{uJL}	15	℃/W
Typical Thermal Resistance Junction to Ambient	R_{uJA}	75	℃/W

Notes:

1. Non-repetitive current pulse, per Fig.3and derated above TA=25℃ per Fig. 2.

2. Mounted on copper pad area of 0.31x0.31” (8.0 x 8.0mm) to each terminal.

3. Measured on 8.3ms single half sine wave or equivalent square wave for unidirectional device only, duty cycle=4 per minute maximum.

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Electrical Characteristics

PART NUMBER		REVERSE STAND-OFF VOLTAGE	BREAKDOWN VOLTAGE VBR(V)MAX.@I T		TEST CURRENT	REVERSE LEAKAGE @VRWM	PEAK PULSE CURRENT	MAXIMUM CLAMPING VOLTAGE @Ipp
BI- POLAR	UNI-POLAR	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	IR (μA)	Ipp (A)	Vc (v)
P4SMFJ5.0CA	P4SMFJ5.0A	5.0	6.4	7.25	10	800	43.48	9.2
P4SMFJ6.0CA	P4SMFJ6.0A	6.0	6.67	7.67	10	800	38.83	10.3
P4SMF J6.5CA	P4SMFJ6.5A	6.5	7.22	8.30	10	500	35.71	11.2
P4SMFJ7.0CA	P4SMFJ7.0 A	7.0	7.78	8.95	10	100	33.33	12.0
P4SMFJ7.5CA	P4SMFJ7.5A	7.5	8.33	9.58	1	100	31.01	12.9
P4SMFJ8.0CA	P4SMFJ8.0A	8.0	8.89	10.23	1	50	29.41	13.6
P4SMFJ8.5CA	P4SMFJ8.5 A	8.5	9.44	10.82	1	20	27.78	14.4
P4SMFJ9.0CA	P4SMFJ9.0 A	9.0	10.00	11.50	1	10	25.97	15.4
P4SMFJ10CA	P4SMFJ10A	10.0	11.1	12.30	1	10	23.53	17.0
P4SMFJ11CA	P4SMFJ11A	11.0	12.20	14.00	1	1	21.98	18.2
P4SMFJ12CA	P4SMFJ12A	12.0	13.30	14.70	1	1	20.10	19.9
P4SMFJ13CA	P4SMFJ13A	13.0	14.40	16.50	1	1	18.60	21.5
P4SMFJ14CA	P4SMFJ14A	14.0	15.60	17.20	1	1	17.24	23.2
P4SMFJ15CA	P4SMFJ15A	15.0	16.70	19.20	1	1	16.39	24.4
P4SMFJ16CA	P4SMFJ16A	16.0	17.80	19.70	1	1	15.38	26.0
P4SMFJ17CA	P4SMFJ17A	17.0	18.90	21.70	1	1	14.49	27.6
P4SMFJ18CA	P4SMFJ18A	18.0	20.00	23.30	1	1	13.70	29.2
P4SMFJ20CA	P4SMFJ20A	20.0	22.20	25.50	1	1	12.35	32.4
P4SMFJ22CA	P4SMFJ22A	22.0	24.20	28.00	1	1	11.27	35.5
P4SMFJ24CA	P4SMFJ24A	24.0	26.0	30.0	1	1	10.28	38.9
P4SMFJ26CA	P4SMFJ26A	26.0	28.00	33.20	1	1	9.50	42.1
P4SMFJ28CA	P4SMFJ28A	28.0	31.10	35.80	1	1	8.81	45.4
P4SMFJ30CA	P4SMFJ30A	30.0	33.00	38.30	1	1	8.26	48.4
P4SMFJ33CA	P4SMFJ33A	33.0	36.70	42.20	1	1	7.50	53.3

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Electrical Characteristics

PART NUMBER		REVERSE STAND-OFF VOLTAGE	VBR(V)MAX. @IT	BREAKDOWN VOLTAGE	TEST CURRENT	REVERSE LEAKAGE @VRWM	PEAKPULSE CURRENT @Ipp	MAXIMUM CLAMPING VOLTAGE @Ipp
BI- POLAR	UNI-POLAR	VRWM (V)	VBR MIN(V)	VBR MAX(V)	IT (mA)	IR (μA)	Ipp (A)	Vc (v)
P4SMFJ36CA	P4SMFJ36A	36.0	40.00	46.00	1	1	6. 88	58.1
P4SMFJ40CA	P4SMFJ40A	40.0	44.40	51.10	1	1	6. 20	64.5
P4SMFJ43CA	P4SMFJ43A	43.0	47.8	52.8	1	1	5. 76	69.4
P4SMFJ45CA	P4SMFJ45A	45.0	50.00	57.50	1	1	5. 50	72.7
P4SMFJ48CA	P4SMFJ48A	48.0	53.30	58.90	1	1	5. 17	77.4
P4SMFJ51CA	P4SMFJ51A	51.0	56.70	65.20	1	1	4. 85	82.4
P4SMFJ54CA	P4SMFJ54A	54.0	60.00	69.00	1	1	4. 59	87.1
P4SMFJ58CA	P4SMFJ58A	58.0	64.4	71.2	1	1	4. 27	93.6

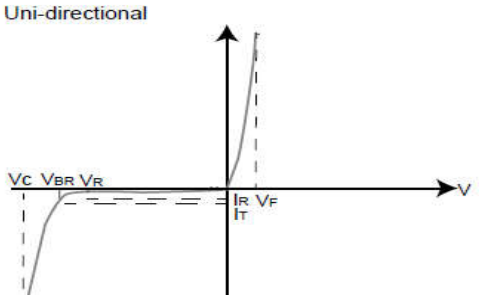
Electrical Characteristics

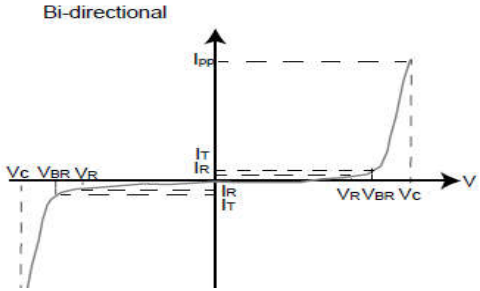
Notes:

For bidirectional type having V_{RWM} of 20 volts and less, the I_R limit is double.

For parts without A (V_{BR} is ± 10% and V_C is 5% higher than A parts

I-V Curve Characteristics





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Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

Figure 1 - Peak Pulse Power Rating Curve

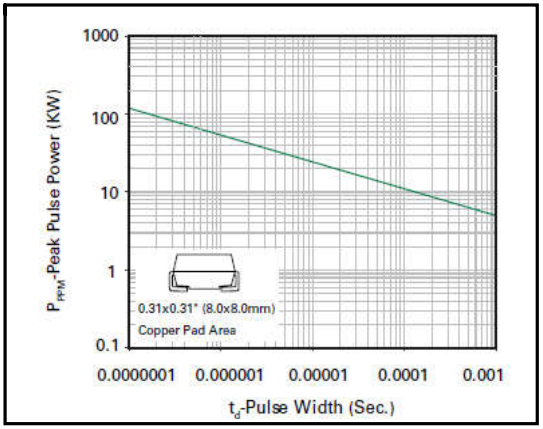
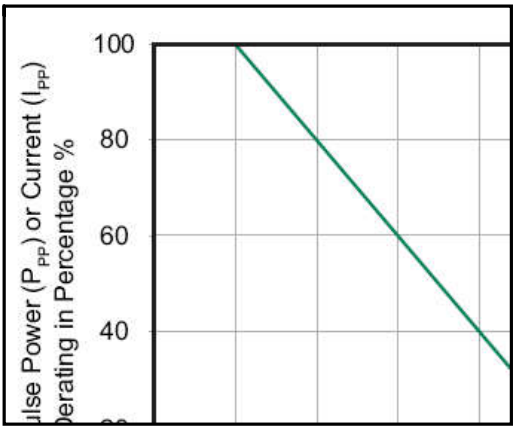


Figure 2 - Pulse Derating Curve



Figu re 3 - Pulse Waveform

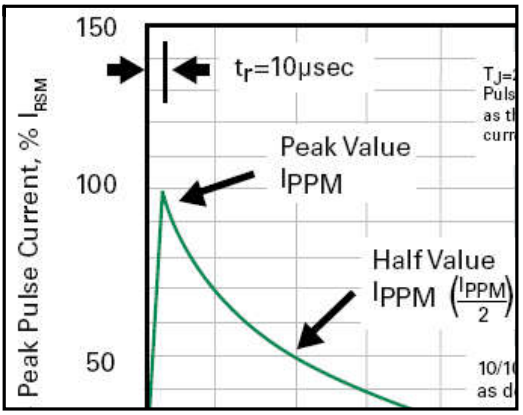
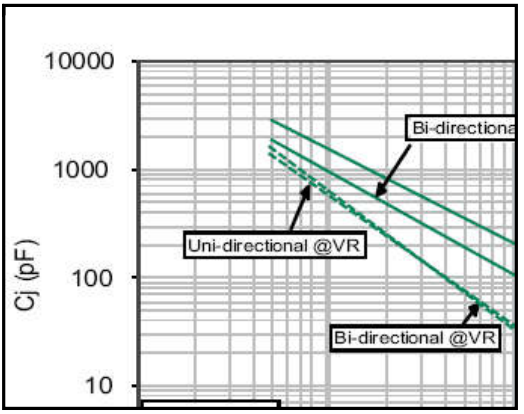


Figure 4 - Typical Junction Capacitance



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Ratings and Characteristic Curves (TA=25°C unless otherwise noted)

Figure 5 - Steady State Power Dissipation Derating Curve

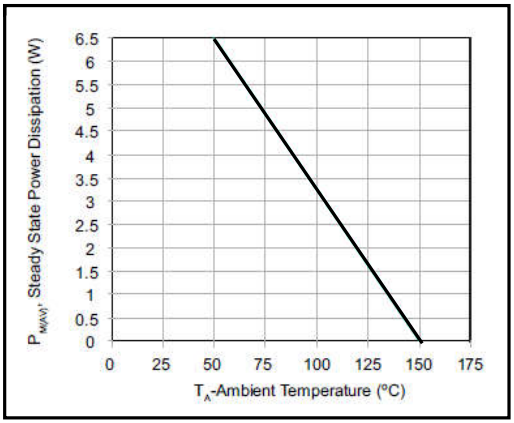
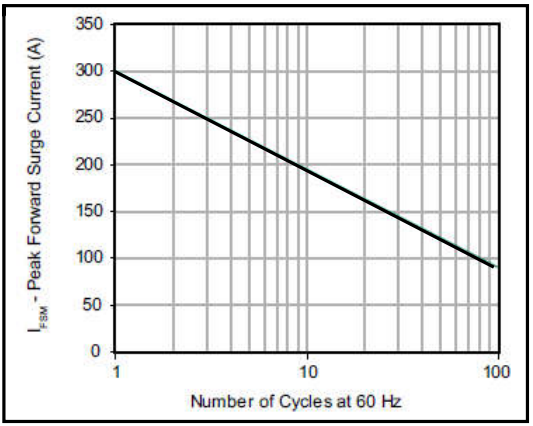


Figure 6 - Maximum Non-Repetitive Forward Surge Current Uni-Directional Only



Part Numbering System

P4SMFJ XXX C A

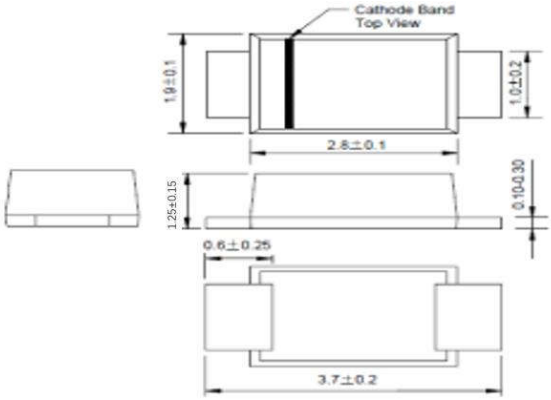
(1) (2) (3) (4)

(1) SERIES.
(2) V_R VOLTAGE.
(3) BI-DIRECTIONAL.
(4) 5% VOLTAGE TOLERANCE.

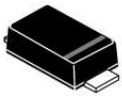
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Product Dimensions

SOD-123FL



Summary of Packing Options

Package Type	Description	Packing Quantity	Industry Standard
SOD-123(P4SMFJ) 	Embossed Carrier Reel Pack	3000PCS	EIA-481-D

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Fax : +86- 021 50477059

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