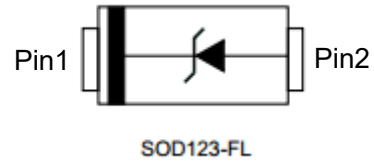


**Description**

Total power dissipation: Max. 1 W.  
Wide zener reverse voltage range 3.3V to 330V.  
Small plastic package suitable for surface mounted design.

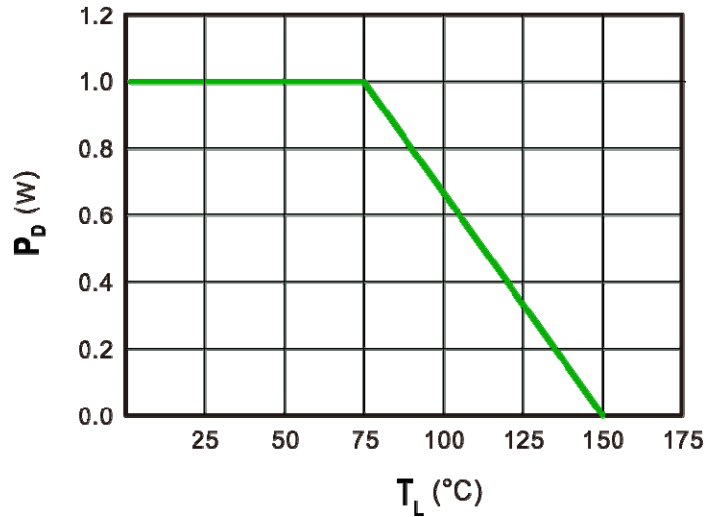


**Absolute Maximum Ratings And Characteristics (Ta=25°C)**

Parameter	Symbol	Value	Unit
Power Dissipation at TL=75°C	P <sub>D</sub>	1	W
Forward Voltage at I <sub>F</sub> = 200 mA	V <sub>F</sub>	1.2	V
Typical thermal resistance junction to ambient <sup>(1)</sup>	R <sub>θJA</sub>	55	°C/W
Operating and Storage Temperature Range	T <sub>j</sub> , T <sub>stg</sub>	-55~+150	°C

(1) Thermal resistance from junction to ambient at P.C.B. mounted with 0.2 X 0.2" (5 X 5 mm) copper areas p

**Typical Characteristics**



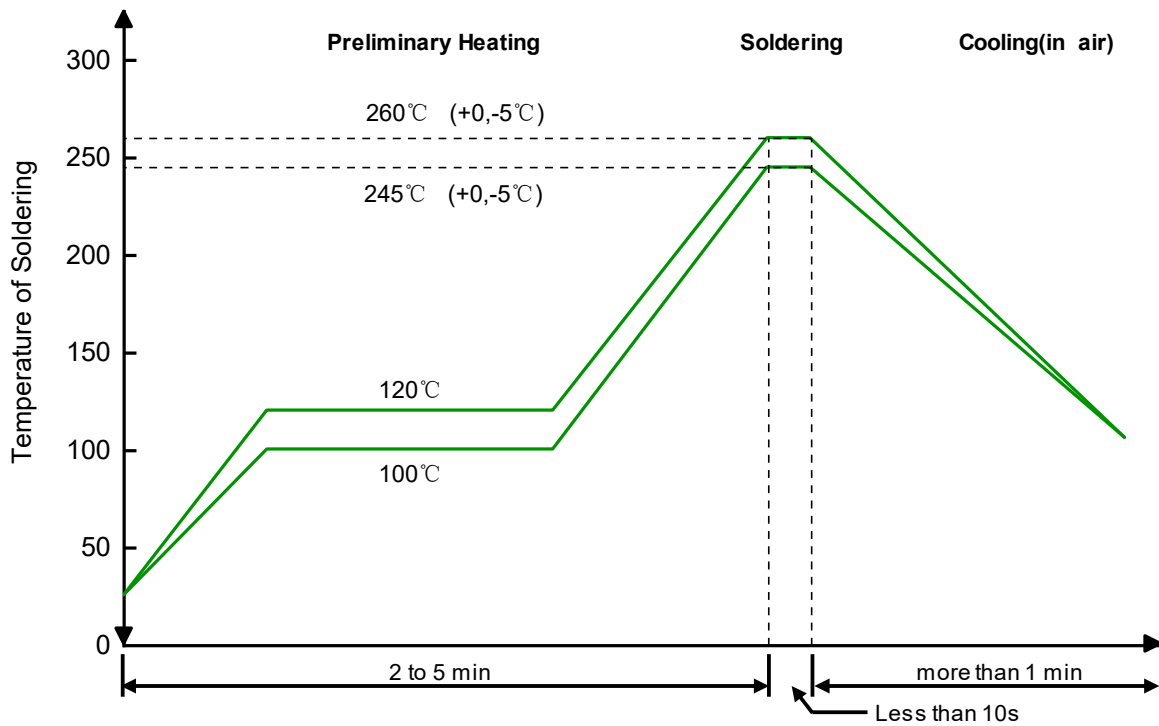
**Fig.1 Maximum Continuous Power Derating**

Characteristics at  $T_a = 25^\circ\text{C}$ 

Type	Zener Voltage Range (1)			IZT	Dynamic	Reverse Current		Admissible I <sub>ZM</sub> (mA)
	VZT (at IZT)				Z <sub>ZT</sub> (at I <sub>ZT</sub> )	I <sub>R</sub>	at V <sub>R</sub>	
	Min (V)	Nom (V)	Max (V)	(mA)	Max (Ω)	Max (μA)	(V)	
PMM1W3V3	3.10	3.3	3.50	75	10	100	1	285
PMM1W3V6	3.40	3.6	3.80	69	10	100	1	263
PMM1W3V9	3.70	3.9	4.10	64	9.0	50	1	243
PMM1W4V3	4.05	4.3	4.56	58	9.0	25	1	219
PMM1W4V7	4.50	4.7	4.93	53	8.0	10	1	202
PMM1W5V1	4.84	5.1	5.36	49	7.0	10	1	186
PMM1W5V6	5.32	5.6	5.88	45	5.0	10	2	170
PMM1W6V2	5.89	6.2	6.51	41	2.0	10	3	153
PMM1W6V8	6.46	6.8	7.14	37	3.5	10	4	140
PMM1W7V5	7.12	7.5	7.88	34	4.0	10	5	126
PMM1W8V2	7.79	8.2	8.67	31	4.5	10	6	116
PMM1W9V1	8.64	9.1	9.56	28	5.0	10	7	104
PMM1W10	9.50	10	10.5	25	7.0	10	7	95
PMM1W11	10.4	11	11.6	23	8.0	5	8	86
PMM1W12	11.4	12	12.6	21	9.0	5	9	79
PMM1W13	12.3	13	13.7	19	10	5	10	72
PMM1W15	14.2	15	15.8	17	14	5	11	63
PMM1W16	15.2	16	16.8	16	16	5	12	59
PMM1W18	17.1	18	18.9	14	20	5	13	52
PMM1W20	19.0	20	21.0	13	22	5	15	47
PMM1W22	20.9	22	23.1	12	23	5	17	43
PMM1W24	22.8	24	25.2	11	25	5	18	39
PMM1W27	25.6	27	28.4	9.5	35	5	21	35
PMM1W30	28.5	30	31.5	8.5	40	5	23	31
PMM1W33	31.3	33	34.7	7.5	45	5	25	28
PMM1W36	34.2	36	37.8	7.0	50	5	27	26
PMM1W39	37.0	39	41.0	6.5	60	5	30	24
PMM1W43	40.9	43	45.2	6.0	70	1	32	22
PMM1W47	44.7	47	49.4	5.5	80	1	35	20
PMM1W51	48.5	51	53.6	5.0	95	1	38	18
PMM1W56	53.2	56	58.8	4.5	110	1	42	17
PMM1W62	58.9	62	65.1	4.0	125	1	47	15
PMM1W68	64.6	68	71.4	3.7	150	1	52	14
PMM1W75	71.2	75	78.8	3.3	175	1	56	12
PMM1W82	77.9	82	86.1	3.0	200	1	62	11
PMM1W91	86.0	91	96.0	2.8	250	1	69	10
PMM1W100	95.0	100	105	2.5	350	1	76	9.5
PMM1W110	103	110	116	2.3	450	1	84	8.6
PMM1W120	114	120	127	2.0	550	1	91	7.8
PMM1W135	125	135	142	1.9	700	1	100	7.0

Type	Zener Voltage Range (1)			IZT (mA)	Dynamic	Reverse Current		Admissible IZM (mA)
	VZT (at IZT)				ZZT (at IZT)	IR	at VR	
	Min (V)	Nom (V)	Max (V)	Max (Ω)	Max (μA)	(V)		
PMM1W150	140	150	157	1.8	900	1	110	6.3
PMM1W165	155	165	172	1.6	1100	1	120	5.8
PMM1W180	170	180	191	1.4	1200	1	135	5.2
PMM1W200	189	200	211	1.2	1400	1	150	4.7
PMM1W220	209	220	231	1.0	1600	1	165	4.3
PMM1W240	229	240	251	1.0	1800	1	180	3.9
PMM1W260	249	260	271	1.0	2000	1	190	3.7
PMM1W280	269	280	291	1.0	2100	1	205	3.4
PMM1W300	289	300	315	1.0	2300	1	230	3.1
PMM1W330	313	330	346	1.0	2500	1	250	2.8

**Solder Reflow Recommendation**



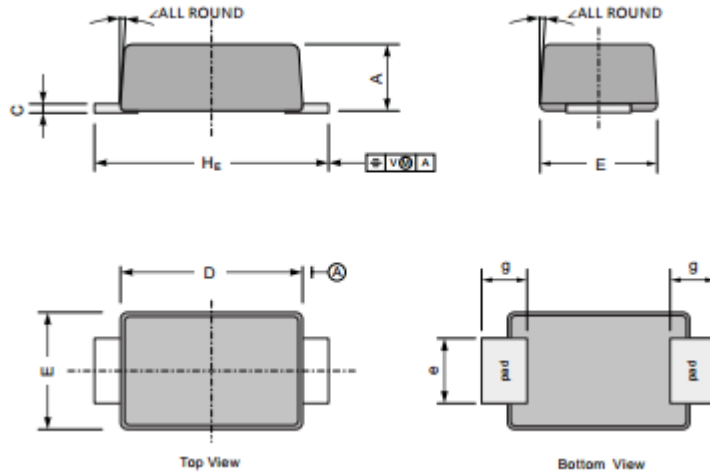
Remark: Pb free for 260°C; Pb for 245°C.

**PCB Design**

For TVS diodes a low-ohmic and low-inductive path to chassis earth is absolutely mandatory in order to achieve good ESD protection. Novices in the area of ESD protection should take following suggestions to heart:

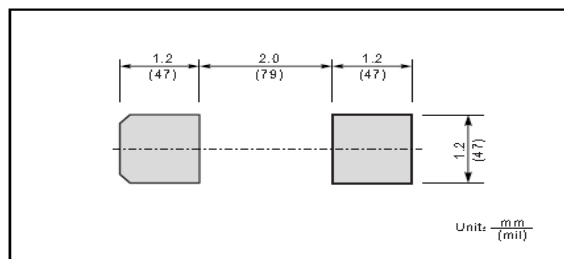
- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- Keep the length of via holes in mind! The longer the more inductance they will have.

Product dimension (SOD-123FL)



Dim	Inches		Millimeters	
	MIN	MAX	MIN	MAX
A	0.035	0.043	0.90	1.10
C	0.005	0.008	0.12	0.20
HE	0.138	0.150	3.50	3.80
E	0.067	0.075	1.70	1.90
D	0.102	0.114	2.60	2.90
g	0.028	0.035	0.70	0.90
e	0.031	0.043	0.80	1.10
∠	7°			


The recommended mounting pad size



Ordering information

Device	Package	Reel	Shipping
PMM1WXXX	SOD-123FL	7"	3000/ Tape & Reel


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