Prisemi®

PMM1W3V3 THRU PMM1W330

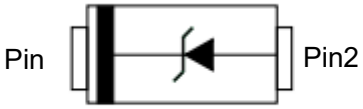
Silicon Planar Zener Diodes

Description

Total power dissipation: Max. 1 W.

Wide zener reverse voltage range 3.3V to 330V.

Small plastic package suitable for surface mounted design.



SOD123-FL

Absolute Maximum Ratings And Characteristics （Ta=25℃）

Parameter	Symbol	Value	Unit
Power Dissipation at TL=75°C	P_D	1	W
Forward Voltage at IF = 200 mA	V_F	1.2	V
Typical thermal resistance juncting to ambient (1)	$R_{\theta JA}$	55	℃/W
Operating and Storage Temperature Range	T_j,T_{stg}	-55~+150	℃

(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

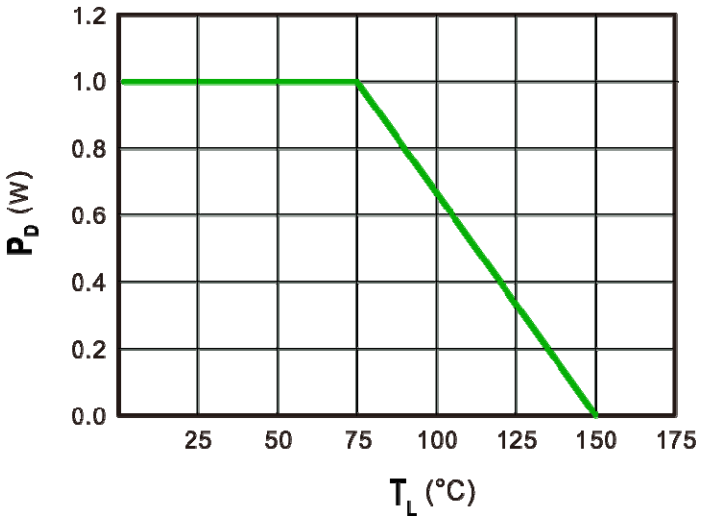


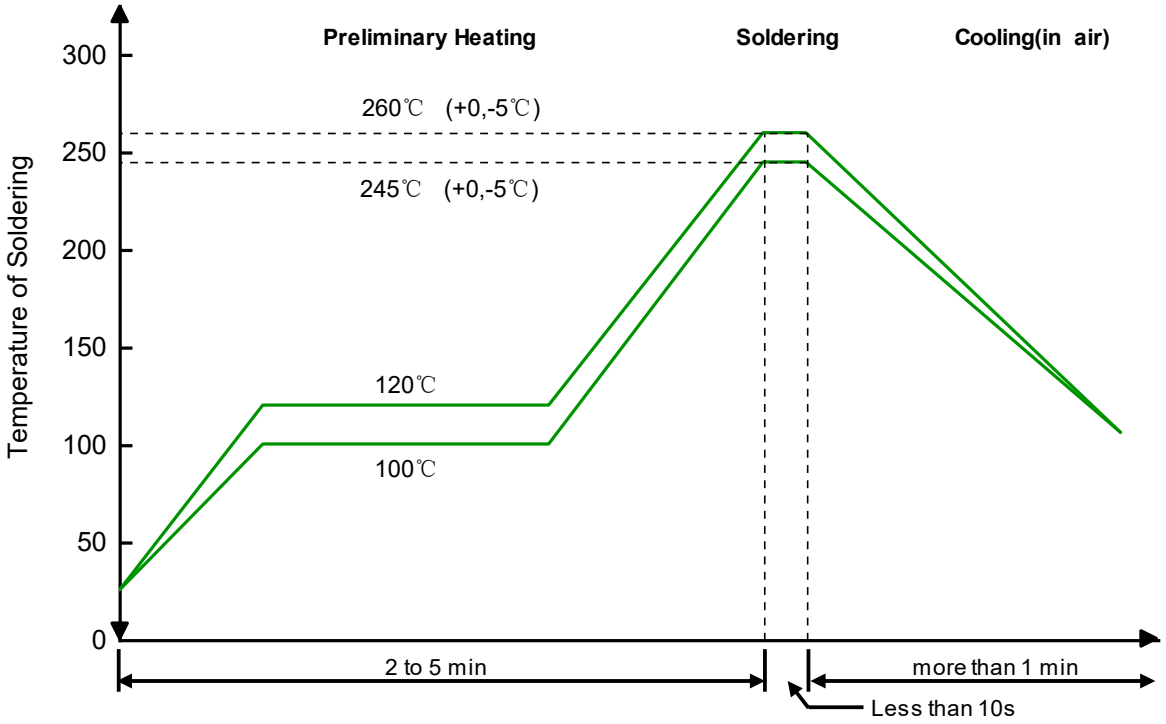
Fig.1 Maximum Continuous Power Derating

Characteristics at Ta = 25°C

Type	Zener Voltage Range （1）			IZT	Dynamic	Reverse Current		Admissible
	VZT（at IZT）				Z_{ZT}（at I_{ZT}）	I_R	at V_R	
	Min（V）	Nom（V）	Max（V）	(mA)	Max (Ω)	Max（μA）	（V）	I_{ZM} (mA)
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	Dynamic	Reverse Current		Admissible
	VZT（at IZT）				Z_{ZT}（at I_{ZT}）	I_R	at V_R	
	Min（V）	Nom（V）	Max（V）	(mA)	Max (Ω)	Max（μA）	（V）	I_{ZM} (mA)
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



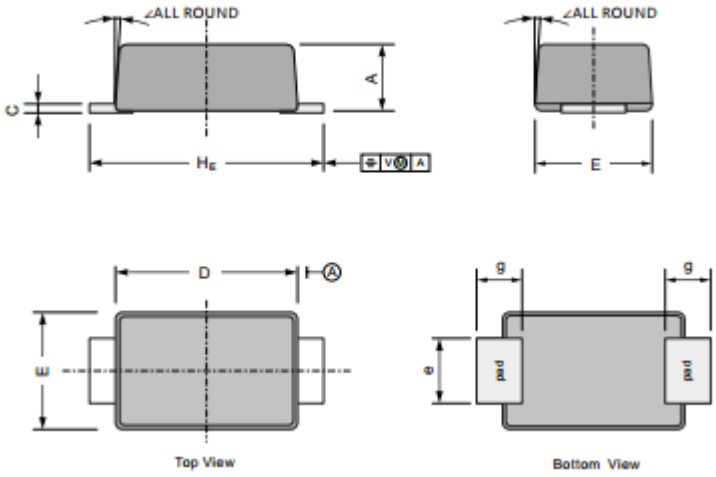
Remark: Pb free for 260℃； Pb for 245℃.

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:

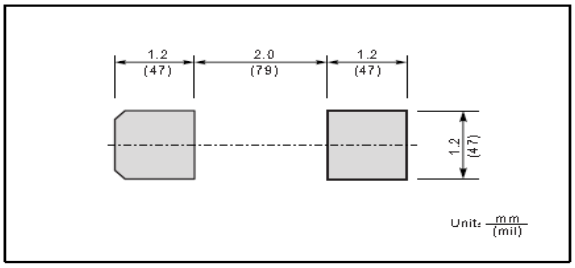
- Do not use stubs, but place the cathode of the TVS diode directly on the signal trace.
- Do not make false economies and save copper for the ground connection.
- Place via holes to ground as close as possible to the anode of the TVS diode.
- Use as many via holes as possible for the ground connection.
- 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
H_E	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°			

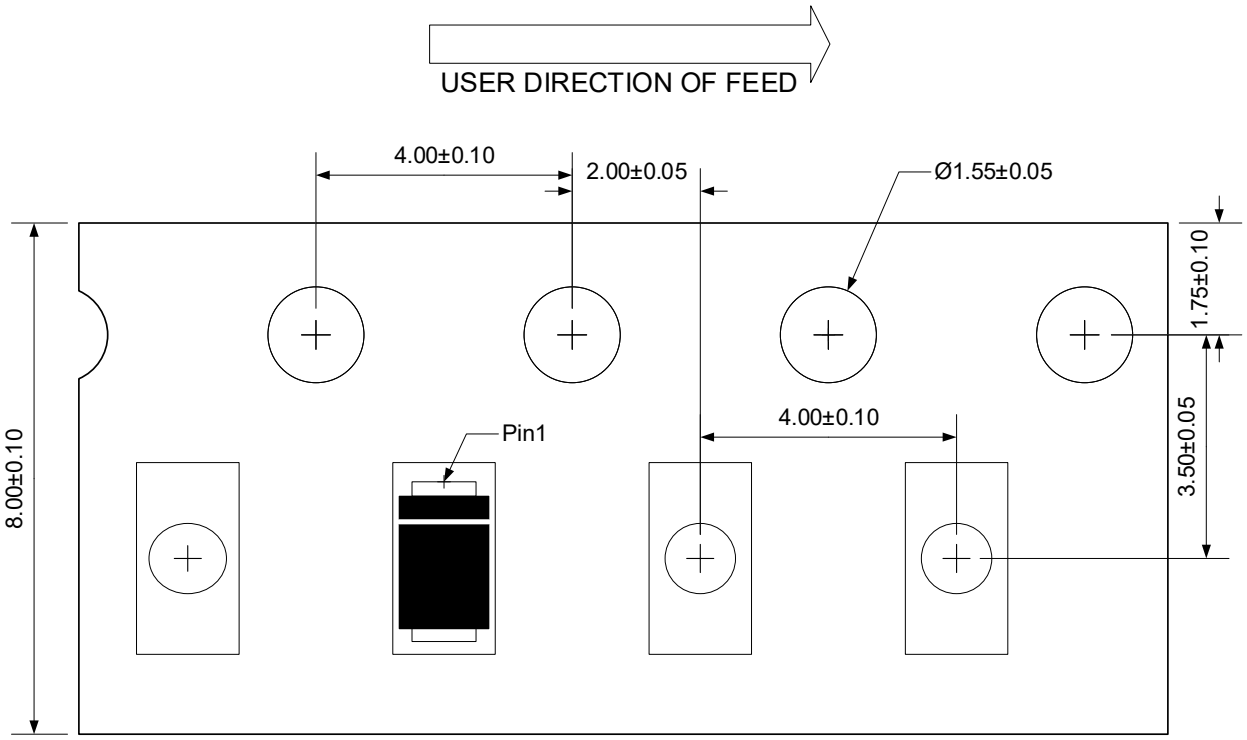
The recommended mounting pad size



Ordering information

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

Load with information



Unit:mm

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