



MM1W3V3FL THRU MM1W330FL

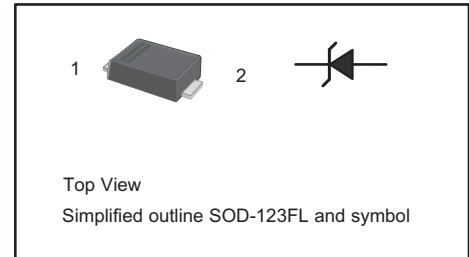
Silicon Planar Zener Diodes

Features

- ◆ Total power dissipation: 1W max.
- ◆ Wide zener reverse voltage range:3.3V to 330V
- ◆ Designed for surface mount

PINNING

PIN	Description
1	Cathode
2	Anode



Absolute Maximum Ratings and Characteristics (T_A = 25 °C)

Parameter	Symbol	Value	Unit
Power Dissipation at T _L =75°C	P _D	1	W
Forward Voltage at I _F = 200 mA	V _F	1.2	V
Thermal Resistance Juncting to Ambient(Note)	R _{θJA}	55	°C/W
Operating and Storage Temperature Range	T _J , T _{STG}	-55 ~ +150	°C

Note: P.C.B. mounted with 2.0" X 2.0" (5 X 5 cm) copper areas pads.



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

Type	Zener Voltage Range (Note)			I_{ZT}	Dynamic Impedance	Reverse Current		Maximum Zener Current
	V_{ZT} at I_{ZT}				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)
MM1W3V3FL	3.10	3.3	3.50	75	10	100	1	285
MM1W3V6FL	3.40	3.6	3.80	69	10	100	1	263
MM1W3V9FL	3.70	3.9	4.10	64	9.0	50	1	243
MM1W4V3FL	4.06	4.3	4.56	58	9.0	25	1	219
MM1W4V7FL	4.50	4.7	4.93	53	8.0	10	1	203
MM1W5V1FL	4.84	5.1	5.36	49	7.0	10	1	186
MM1W5V6FL	5.32	5.6	5.92	45	5.0	10	2	170
MM1W6V2FL	5.86	6.2	6.51	41	2.0	10	3	154
MM1W6V8FL	6.46	6.8	7.18	37	3.5	10	4	140
MM1W7V5FL	7.12	7.5	7.88	34	4.0	10	5	127
MM1W8V2FL	7.79	8.2	8.67	31	4.5	10	6	116
MM1W9V1FL	8.60	9.1	9.59	28	5.0	10	7	104
MM1W10FL	9.50	10	10.5	25	7.0	10	7	95
MM1W11FL	10.4	11	11.6	23	8.0	5	8	86
MM1W12FL	11.4	12	12.6	21	9.0	5	9	79
MM1W13FL	12.4	13	14.1	19	10	5	10	71
MM1W15FL	13.8	15	15.8	17	14	5	11	63
MM1W16FL	15.2	16	17.1	16	16	5	12	58
MM1W18FL	16.8	18	19.2	14	20	5	13	52
MM1W20FL	19.0	20	21.2	13	22	5	15	47
MM1W22FL	20.8	22	23.3	12	23	5	17	43
MM1W24FL	22.8	24	26.0	11	25	5	18	38
MM1W27FL	25.3	27	28.9	9.5	35	5	21	35
MM1W30FL	28.2	30	32.0	8.5	40	5	23	31
MM1W33FL	31.3	33	34.9	7.5	45	5	25	28
MM1W36FL	34.2	36	37.9	7.0	50	5	27	26
MM1W39FL	37.2	39	41.5	6.5	60	5	30	24



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MM1W43FL	40.9	43	45.6	6.0	70	1	32	22
MM1W47FL	44.9	47	49.8	5.5	80	1	35	20
MM1W51FL	48.6	51	54.0	5.0	95	1	38	18
MM1W56FL	53.6	56	58.8	4.5	110	1	42	17
MM1W62FL	58.9	62	65.6	4.0	125	1	47	15
MM1W68FL	64.6	68	71.7	3.7	150	1	52	14
MM1W75FL	71.2	75	78.8	3.3	175	1	56	12
MM1W82FL	77.9	82	87.0	3.0	200	1	62	11
MM1W91FL	86.0	91	96.0	2.8	250	1	69	10
MM1W100FL	95.0	100	105	2.5	350	1	76	9.5
MM1W110FL	104	110	116	2.3	450	1	84	8.6
MM1W120FL	114	120	127	2.0	550	1	91	7.8
MM1W135FL	125	135	142	1.9	700	1	100	7.0
MM1W150FL	140	150	157	1.7	900	1	110	6.3
MM1W165FL	155	165	172	1.6	1100	1	120	5.8
MM1W180FL	170	180	191	1.4	1200	1	135	5.2
MM1W200FL	189	200	211	1.2	1400	1	150	4.7
MM1W220FL	209	220	231	1.0	1600	1	165	4.3
MM1W240FL	229	240	251	1.0	1800	1	180	3.9
MM1W260FL	249	260	271	1.0	2000	1	190	3.7
MM1W280FL	269	280	291	1.0	2100	1	205	3.4
MM1W300FL	289	300	315	1.0	2300	1	230	3.1
MM1W330FL	313	330	346	1.0	2500	1	250	2.8

Note: V_{ZT} is tested with 20ms pulse.



Ratings and Characteristic Curves

Fig.1 Maximum power derating

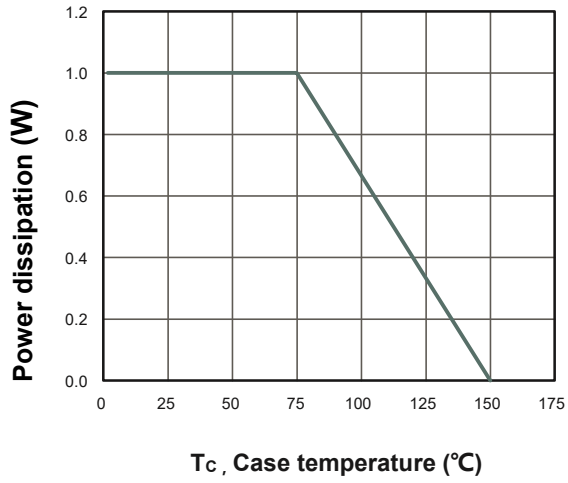
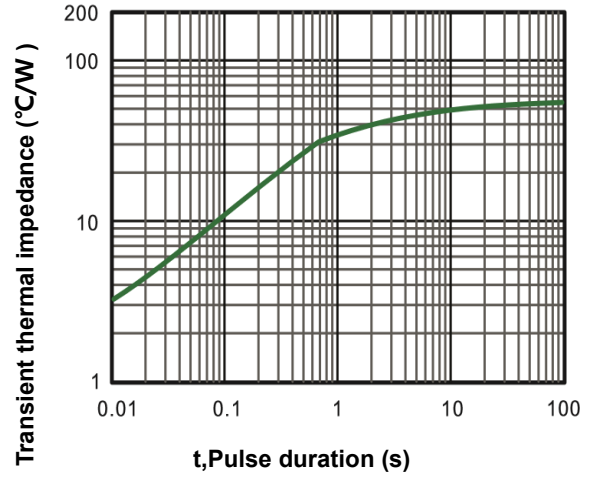


Fig.2 Typical transient thermal impedance



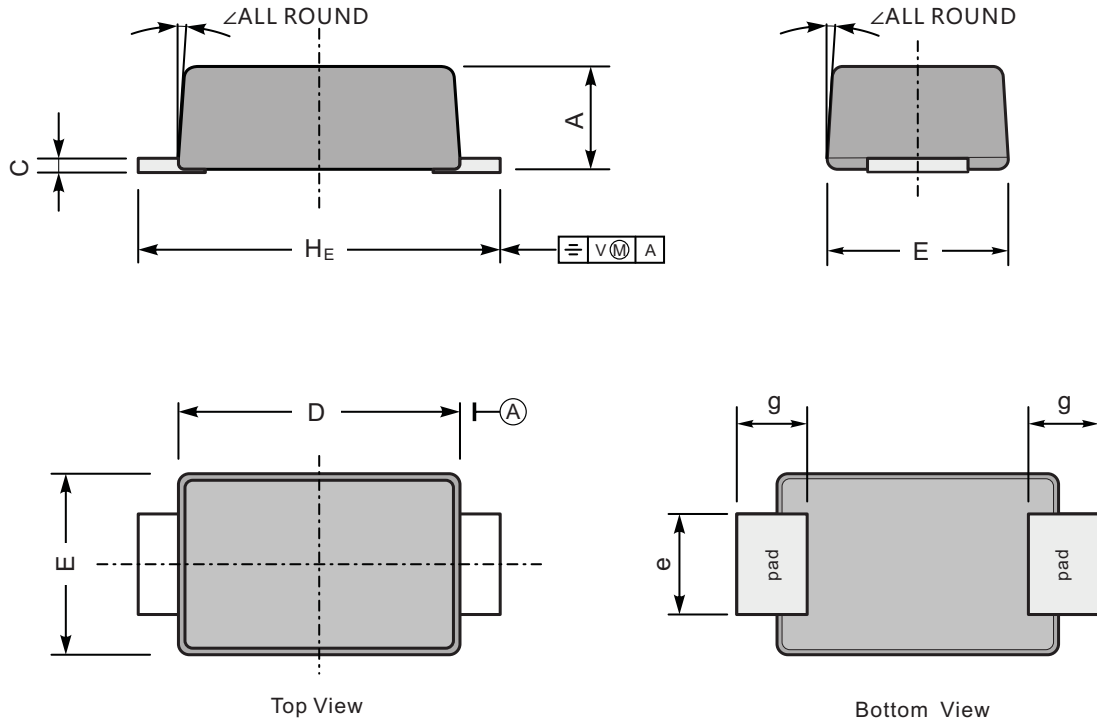


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Package Outline

SOD-123FL



UNIT		A	C	D	E	e	g	H _E	∠
mm	max	1.1	0.20	2.9	1.9	1.1	0.9	3.8	7°
	min	0.9	0.12	2.6	1.7	0.8	0.7	3.5	
mil	max	43	7.9	114	75	43	35	150	
	min	35	4.7	102	67	31	28	138	