

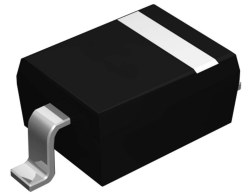
GSMM1W3V3 thru GSMM1W330

Zener Diodes

Vz Range: 3.3V to 330V Power Dissipation: 1000mW

Features

- Low profile package
- Ideal for automated placement
- Low zener impedance
- Power dissipation of 1000mW
- High stability and high reliability



SOD-123

Mechanical Characteristics

- Package: SOD-123
- Lead finish: Matte tin
- UL flammability classification rating 94V-0



Schematic Diagram

Application

- Surge protection
- Voltage stabilization
- Polarity protection

Absolute Maximum Ratings (T=25°C, RH=45%-75%, unless otherwise noted)

Parameters	Symbol	Value	Unit
Forward Voltage @ I _F =200mA	V _F	1.2	V
Power Dissipation	P _D	1000	mW
Thermal Resistance Junction to Ambient ¹	R _{θJA}	300	°C/W
Operating Junction Temperature Range	T _J	-55 to +150	°C
Storage Temperature Range	T _{STG}	-55 to +150	°C

Notes:

1. Thermal resistance from junction to ambient at P.C.B. mounted with 2.0" x 2.0" (5 x 5cm) copper areas pads.

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Electrical Characteristics (T=25°C unless otherwise specified)

Part Number	Marking Code	Nominal Zener Voltage ²				Maximum Zener Impedance	Admissible Zener Current	Maximum Reverse Leakage Current	
		V _Z			at I _{ZT}	Z _{VT} @ I _{ZT}	I _{ZM}	I _R	at V _R
		Min.(V)	Nom.(V)	Max.(V)	(mA)	(Ω)	(mA)	(uA)	(V)
GSMM1W3V3	FHD	3.10	3.3	3.50	75	10	285	100	1
GSMM1W3V6	FHE	3.40	3.6	3.80	69	10	263	100	1
GSMM1W3V9	FHF	3.70	3.9	4.10	64	9.0	243	50	1
GSMM1W4V3	FHG	4.06	4.3	4.56	58	9.0	219	25	1
GSMM1W4V7	FHJ	4.50	4.7	4.93	53	8.0	203	10	1
GSMM1W5V1	FHK	4.84	5.1	5.36	49	7.0	186	10	1
GSMM1W5V6	FHL	5.32	5.6	5.92	45	5.0	170	10	2
GSMM1W6V2	FHN	5.86	6.2	6.51	41	2.0	154	10	3
GSMM1W6V8	FHO	6.46	6.8	7.18	37	3.5	140	10	4
GSMM1W7V5	FHQ	7.12	7.5	7.88	34	4.0	127	10	5
GSMM1W8V2	FHR	7.79	8.2	8.67	31	4.5	116	10	6
GSMM1W9V1	FHT	8.60	9.1	9.59	28	5.0	104	10	7
GSMM1W10	FHU	9.50	10	10.5	25	7.0	95	10	7
GSMM1W11	FHV	10.4	11	11.6	23	8.0	86	5	8
GSMM1W12	FHW	11.4	12	12.6	21	9.0	79	5	9
GSMM1W13	FHX	12.4	13	14.1	19	10	71	5	10
GSMM1W15	FHZ	13.8	15	15.8	17	14	63	5	11
GSMM1W16	FJA	15.2	16	17.1	16	16	58	5	12
GSMM1W18	FJF	16.8	18	19.2	14	20	52	5	13
GSMM1W20	FJG	19.0	20	21.2	13	22	47	5	15
GSMM1W22	FJK	20.8	22	23.3	12	23	43	5	17
GSMM1W24	FJL	22.8	24	26.0	11	25	38	5	18
GSMM1W27	FJN	25.3	27	28.9	9.5	35	35	5	21
GSMM1W30	FJQ	28.2	30	32.0	8.5	40	31	5	23
GSMM1W33	FJR	31.3	33	34.9	7.5	45	28	5	25
GSMM1W36	FJS	34.2	36	37.9	7.0	50	26	5	27
GSMM1W39	FJT	37.2	39	41.5	6.5	60	24	5	30
GSMM1W43	FLG	40.9	43	45.6	6.0	70	22	1	32
GSMM1W47	FLJ	44.9	47	49.8	5.5	80	20	1	35
GSMM1W51	FLK	48.6	51	54.0	5.0	95	18	1	38
GSMM1W56	FLL	53.6	56	58.8	4.5	110	17	1	42
GSMM1W62	FLN	58.9	62	65.6	4.0	125	15	1	47
GSMM1W68	FLO	64.6	68	71.7	3.7	150	14	1	52
GSMM1W75	FLQ	71.2	75	78.8	3.3	175	12	1	56
GSMM1W82	FLR	77.9	82	87.0	3.0	200	11	1	62
GSMM1W91	FLT	86.0	91	96.0	2.8	250	10	1	69
GSMM1W100	FLU	95.0	100	105	2.5	350	9.5	1	76

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Part Number	Marking Code	Nominal Zener Voltage ²				Maximum Zener Impedance	Admissible Zener Current	Maximum Reverse Leakage Current	
		V _Z			at I _{ZT}	Z _{VT} @ I _{ZT}	I _{ZM}	I _R	at V _R
		Min.(V)	Nom.(V)	Max.(V)	(mA)	(Ω)	(mA)	(uA)	(V)
GSMM1W110	FLV	104	110	116	2.3	450	8.6	1	84
GSMM1W120	FLW	114	120	127	2.0	550	7.8	1	91
GSMM1W135	FLX	125	135	142	1.9	700	7.0	1	100
GSMM1W150	FLZ	140	150	157	1.7	900	6.3	1	110
GSMM1W165	FPA	155	165	172	1.6	1100	5.8	1	120
GSMM1W180	FPF	170	180	191	1.4	1200	5.2	1	135
GSMM1W200	FPG	189	200	211	1.2	1400	4.7	1	150
GSMM1W220	FPK	209	220	231	1.0	1600	4.3	1	165
GSMM1W240	FPL	229	240	251	1.0	1800	3.9	1	180
GSMM1W260	FPM	249	260	271	1.0	2000	3.7	1	190
GSMM1W280	FPN	269	280	291	1.0	2100	3.4	1	205
GSMM1W300	FPQ	289	300	315	1.0	2300	3.1	1	230
GSMM1W330	FPR	313	330	346	1.0	2500	2.8	1	250

Notes:

2. V_Z is tested with pulses (20ms)

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Typical Characteristics Curves

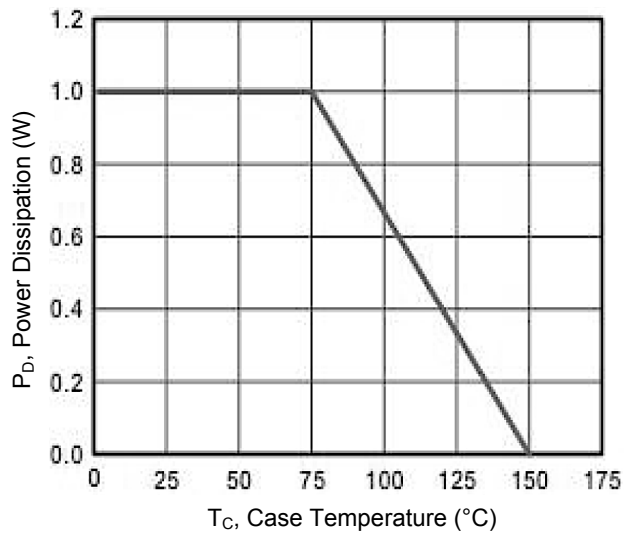


Figure 1. Maximum Continuous Power Derating

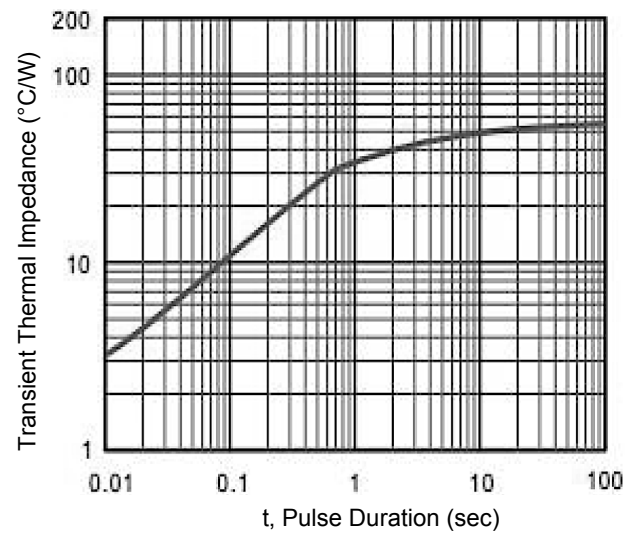
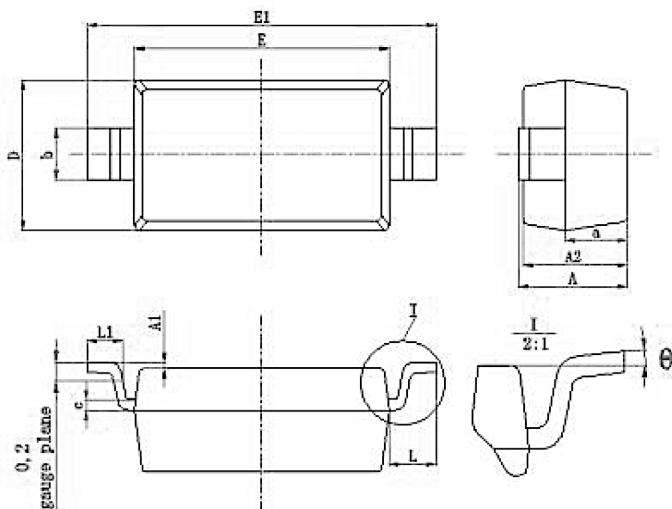


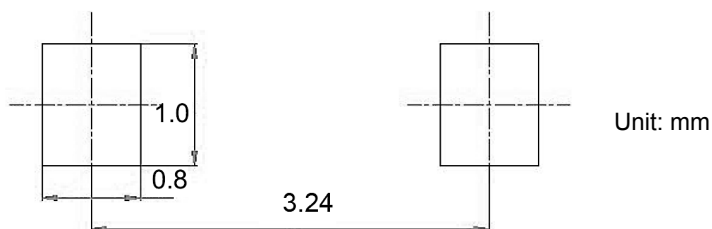
Figure 2. Typical Transient Thermal Impedance

Package Outline Dimensions (SOD-123)



Symbol	Dimensions In Millimeters		Dimensions In Inches	
	Min	Max	Min	Max
A	1.05	1.25	0.041	0.049
A1	0.00	0.10	0.000	0.004
A2	1.05	1.15	0.041	0.045
a	0.65 Typ		0.026 Typ	
D	1.50	1.70	0.059	0.067
E	2.60	2.80	0.102	0.110
E1	3.55	3.85	0.140	0.152
b	0.45	0.65	0.018	0.026
c	0.08	0.15	0.003	0.006
L	0.50 Typ		0.020 Typ	
L1	0.25	0.45	0.010	0.018
θ	0°	8°	0°	8°

Recommended Pad Layout



Order Information

Device	Package	Carrier	Quantity
GSMM1Wxx	SOD-123	Tape & Reel	3,000 Pcs / Reel