MM3Z2V0G~MM3Z75G Series

Silicon Planar Zener Diodes

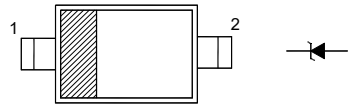
General description

General purpose Zener diode in an small SOD-323 Bend Lead Surface-Mounted plastic package.

Approximately ± 5% tolerance range with nominal working voltage from 2.0V to 75V

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-323 (Bend Lead) and symbol

Features

- Total power dissipation: 300 mW (max.)
- Working voltage range nominal 2.0 V to 75 V
- Zener voltage tolerance ± 5%
- Package designed for optimal automated board assembly
- Small package size for high density applications
- Halogen and Antimony Free(HAF), RoHS compliant

Applications

- General regulation functions

Absolute Maximum Ratings (T_a = 25℃)

Parameter	Symbol	Value	Unit
Power Dissipation	P_{tot}	300	mW
Junction Temperature	T_j	150	℃
Storage Temperature Range	T_{stg}	- 55 to + 150	℃

Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient [1)]	$R_{\theta JA}$	417	℃/W

[1)] Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

Characteristics at T_a = 25℃ (V_F = 0.9 V Max. at I_F = 10 mA)

Type	Marking Code	Zener Voltage Range [1]				Dynamic Impedance		Reverse Current	
		V_{ZT}			at I_{ZT}	Z_{ZT} (Max.) at I_{ZT}		I_R (Max.) at V_R	
		Nom. (V)	Min. (V)	Max. (V)	(mA)	Ω	mA	μA	V
MM3Z2V0G	B0	2	1.8	2.15	5	100	5	120	0.5
MM3Z2V2G	C0	2.2	2.08	2.33	5	100	5	120	0.7
MM3Z2V4G	1C	2.4	2.28	2.56	5	100	5	120	1
MM3Z2V7G	1D	2.7	2.5	2.9	5	110	5	120	1
MM3Z3V0G	1E	3	2.8	3.2	5	120	5	50	1
MM3Z3V3G	1F	3.3	3.1	3.5	5	130	5	20	1
MM3Z3V6G	1H	3.6	3.4	3.8	5	130	5	10	1
MM3Z3V9G	1J	3.9	3.7	4.1	5	130	5	5	1
MM3Z4V3G	1K	4.3	4	4.6	5	130	5	5	1
MM3Z4V7G	1M	4.7	4.4	5	5	130	5	2	1
MM3Z5V1G	1N	5.1	4.8	5.4	5	130	5	2	1.5
MM3Z5V6G	1P	5.6	5.2	6	5	80	5	1	2.5
MM3Z6V2G	1R	6.2	5.8	6.6	5	50	5	1	3
MM3Z6V8G	1X	6.8	6.4	7.2	5	30	5	0.5	3.5
MM3Z7V5G	1Y	7.5	7	7.9	5	30	5	0.5	4
MM3Z8V2G	1Z	8.2	7.7	8.7	5	30	5	0.5	5
MM3Z9V1G	2A	9.1	8.5	9.6	5	30	5	0.5	6
MM3Z10G	2B	10	9.4	10.6	5	30	5	0.1	7
MM3Z11G	2C	11	10.4	11.6	5	30	5	0.1	8
MM3Z12G	2D	12	11.4	12.7	5	35	5	0.1	9
MM3Z13G	2E	13	12.4	14.1	5	35	5	0.1	10
MM3Z15G	2F	15	13.8	15.6	5	40	5	0.1	11
MM3Z16G	2H	16	15.3	17.1	5	40	5	0.1	12
MM3Z18G	2J	18	16.8	19.1	5	45	5	0.1	13
MM3Z20G	2K	20	18.8	21.2	5	50	5	0.1	15
MM3Z22G	2M	22	20.8	23.3	5	55	5	0.1	17
MM3Z24G	2N	24	22.8	25.6	5	60	5	0.1	19
MM3Z27G	2P	27	25.1	28.9	2	70	2	0.1	21
MM3Z30G	2R	30	28	32	2	80	2	0.1	23
MM3Z33G	2X	33	31	35	2	80	2	0.1	25
MM3Z36G	2Y	36	34	38	2	90	2	0.1	27
MM3Z39G	2Z	39	37	41	2	100	2	0.1	30
MM3Z43G	3A	43	40	46	2	130	2	0.1	33
MM3Z47G	3B	47	44	50	2	150	2	0.1	36
MM3Z51G	3C	51	48	54	2	180	2	0.1	39
MM3Z56G	3D	56	52	60	2	200	2	0.1	43
MM3Z62G	3E	62	58	66	2	215	2	0.1	47
MM3Z68G	3F	68	64	72	2	240	2	0.1	52
MM3Z75G	3H	75	70	79	2	265	2	0.1	56

[1] V_{ZT} is tested with pulses (20 ms).

Electrical Characteristics Curves

Fig 1. Power Derating Curve

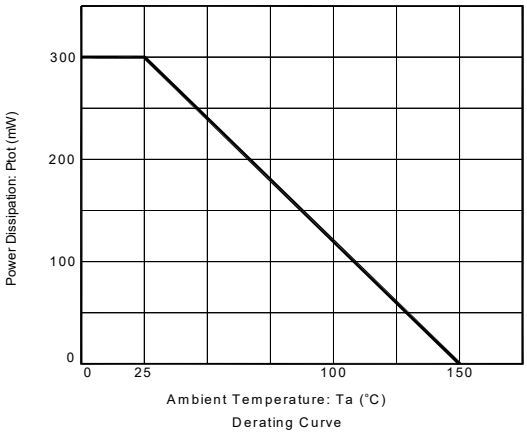


Fig 2. Forward Characteristics Curve

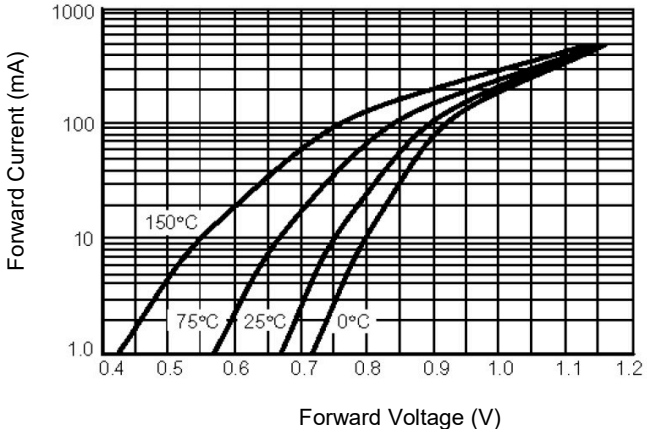


Fig 3. Zener Characteristics Curve

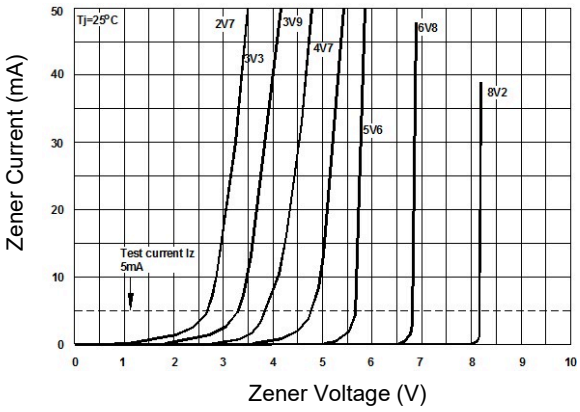
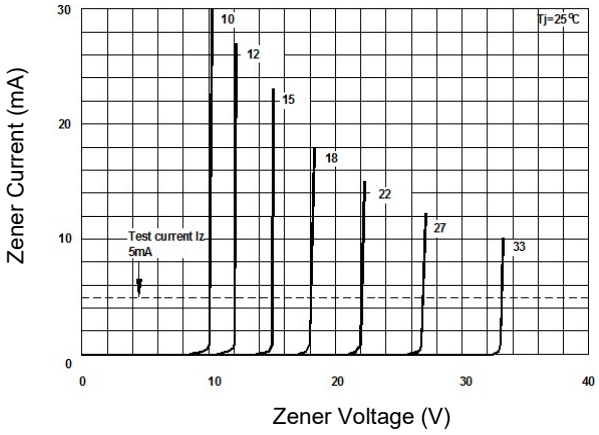
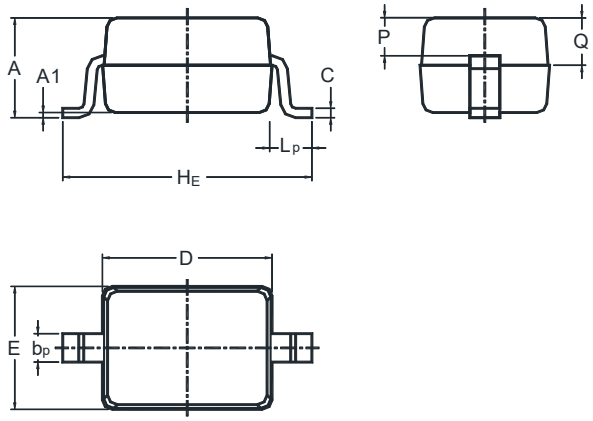


Fig 4. Zener Characteristics Curve



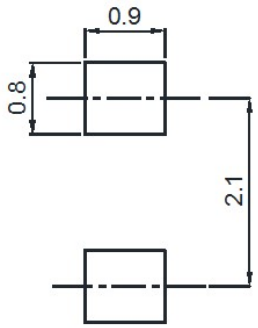
PACKAGE OUTLINE

Plastic surface mounted package; 2 leads **SOD-323 (Bend Lead)**



UNIT	A	A_1	b_p	C	D	E	H_E	L_p	Q	P
mm	1.1 0.8	0.1 0	0.4 0.25	0.18 0.09	1.8 1.6	1.35 1.15	2.8 2.3	0.5 0.1	0.5 0.3	0.4 0.3

Recommended Soldering Footprint



Packing information

Package	Tape Width (mm)	Pitch		Reel Size		Per Reel Packing Quantity
		mm	inch	mm	inch	
SOD-323	8	4 ± 0.1	0.157 ± 0.004	178	7	3,000

Marking information

" III " = Cathode line

" ** " = Part No.

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