

## Silicon Planar Zener Diodes

### General description

General purpose Zener diode in an small SOD-323 Bend Lead Surface-Mounted plastic package.  
Approximately  $\pm 5\%$  tolerance range with nominal working voltage from 2.0V to 75V

### Features

- AEC-Q101 Qualified
- Power dissipation : max. 300 mW
- Small plastic package suitable for surface mounted design
- Halogen and Antimony Free(HAF), RoHS compliant

### Applications

- General regulation functions

### PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



### Absolute Maximum Ratings ( $T_a = 25^\circ\text{C}$ )

Parameter	Symbol	Value	Unit
Power Dissipation	$P_D$	300	mW
Operating Junction Temperature Range	$T_j$	- 40 to + 150	$^\circ\text{C}$
Storage Temperature Range	$T_{stg}$	- 55 to + 150	$^\circ\text{C}$

### Thermal Characteristics

Parameter	Symbol	Max.	Unit
Thermal Resistance Junction to Ambient <sup>1)</sup>	$R_{\theta JA}$	417	$^\circ\text{C/W}$

<sup>1)</sup> Device mounted on FR-4 substrate PC board, 2oz copper, with minimum recommended pad layout.

**Characteristics at  $T_a = 25^\circ\text{C}$  ( $V_F = 0.9\text{ V Max. at } I_F = 10\text{ mA}$ )**

Type	Marking Code	Zener Voltage Range <sup>1)</sup>			Dynamic Impedance		Reverse Leakage Current	
		$V_{znom}$	$V_{ZT}$	at $I_{ZT}$	$Z_{ZT}$	at $I_{ZT}$	$I_R$	at $V_R$
		(V)	(V)	(mA)	Max. ( $\Omega$ )	(mA)	Max. ( $\mu\text{A}$ )	(V)
MM3Z2V0GA	B0	2.0	1.8...2.15	5	100	5	120	0.5
MM3Z2V2GA	C0	2.2	2.08...2.33	5	100	5	120	0.7
MM3Z2V4GA	1C	2.4	2.28...2.56	5	100	5	120	1
MM3Z2V7GA	1D	2.7	2.5...2.9	5	110	5	120	1
MM3Z3V0GA	1E	3.0	2.8...3.2	5	120	5	50	1
MM3Z3V3GA	1F	3.3	3.1...3.5	5	130	5	20	1
MM3Z3V6GA	1H	3.6	3.4...3.8	5	130	5	10	1
MM3Z3V9GA	1J	3.9	3.7...4.1	5	130	5	5	1
MM3Z4V3GA	1K	4.3	4...4.6	5	130	5	5	1
MM3Z4V7GA	1M	4.7	4.4...5	5	130	5	2	1
MM3Z5V1GA	1N	5.1	4.8...5.4	5	130	5	2	1.5
MM3Z5V6GA	1P	5.6	5.2...6	5	80	5	1	2.5
MM3Z6V2GA	1R	6.2	5.8...6.6	5	50	5	1	3
MM3Z6V8GA	1X	6.8	6.4...7.2	5	30	5	0.5	3.5
MM3Z7V5GA	1Y	7.5	7...7.9	5	30	5	0.5	4
MM3Z8V2GA	1Z	8.2	7.7...8.7	5	30	5	0.5	5
MM3Z9V1GA	2A	9.1	8.5...9.6	5	30	5	0.5	6
MM3Z10GA	2B	10	9.4...10.6	5	30	5	0.1	7
MM3Z11GA	2C	11	10.4...11.6	5	30	5	0.1	8
MM3Z12GA	2D	12	11.4...12.7	5	35	5	0.1	9
MM3Z13GA	2E	13	12.4...14.1	5	35	5	0.1	10
MM3Z15GA	2F	15	13.8...15.6	5	40	5	0.1	11
MM3Z16GA	2H	16	15.3...17.1	5	40	5	0.1	12
MM3Z18GA	2J	18	16.8...19.1	5	45	5	0.1	13
MM3Z20GA	2K	20	18.8...21.2	5	50	5	0.1	15
MM3Z22GA	2M	22	20.8...23.3	5	55	5	0.1	17
MM3Z24GA	2N	24	22.8...25.6	5	60	5	0.1	19
MM3Z27GA	2P	27	25.1...28.9	2	70	2	0.1	21
MM3Z30GA	2R	30	28...32	2	80	2	0.1	23
MM3Z33GA	2X	33	31...35	2	80	2	0.1	25
MM3Z36GA	2Y	36	34...38	2	90	2	0.1	27
MM3Z39GA	2Z	39	37...41	2	100	2	0.1	30
MM3Z43GA	3A	43	40...46	2	130	2	0.1	33
MM3Z47GA	3B	47	44...50	2	150	2	0.1	36
MM3Z51GA	3C	51	48...54	2	180	2	0.1	39
MM3Z56GA	3D	56	52...60	2	200	2	0.1	43
MM3Z62GA	3E	62	58...66	2	215	2	0.1	47
MM3Z68GA	3F	68	64...72	2	240	2	0.1	52
MM3Z75GA	3H	75	70...79	2	265	2	0.1	56

<sup>1)</sup>  $V_{ZT}$  is tested with pulses (20 ms).

## Electrical Characteristics Curves

Fig 1. Power Derating Curve

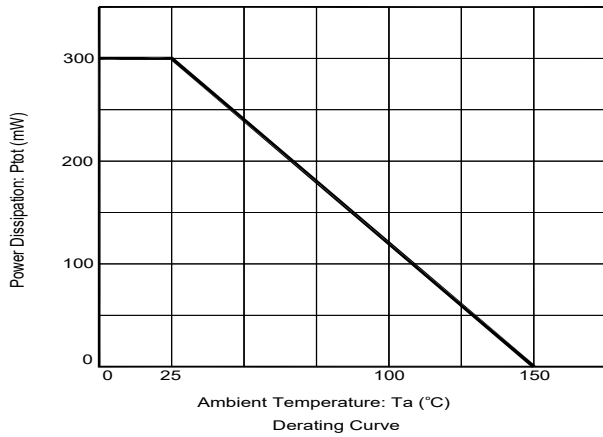


Fig 2. Forward Characteristics Curve

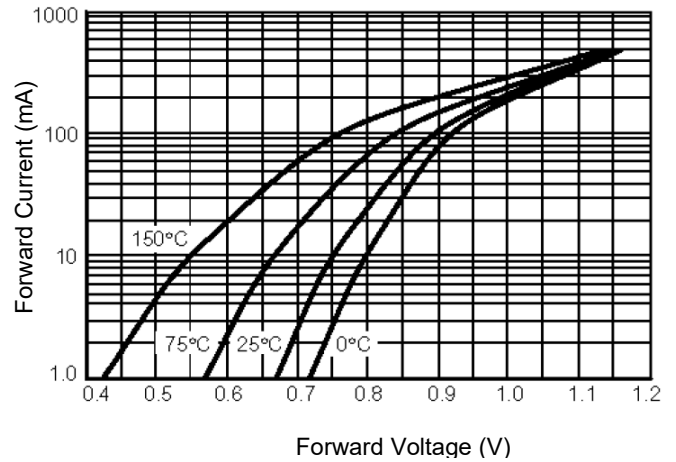


Fig 3. Zener Characteristics Curve

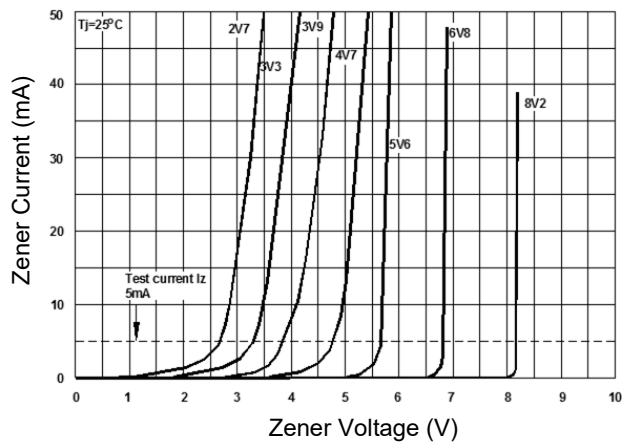
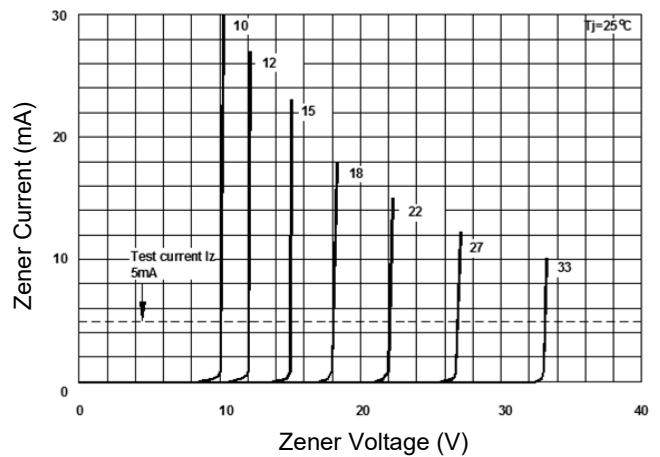


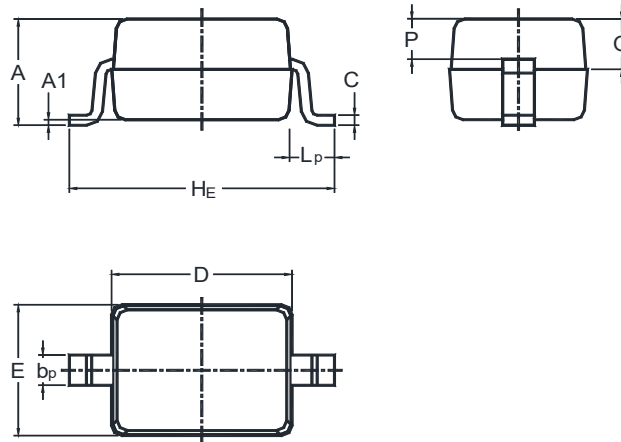
Fig 4. Zener Characteristics Curve



## PACKAGE OUTLINE

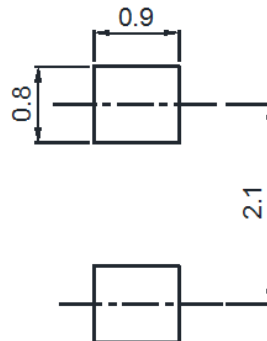
Plastic surface mounted package; 2 leads

SOD-323



UNIT	A	A <sub>1</sub>	b <sub>p</sub>	C	D	E	H <sub>E</sub>	L <sub>p</sub>	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

" • " = HAF (Halogen and Antimony Free)

" \*\* " = Part No.

Font type: Arial

