

Silicon Planar Zener Diodes

General description

General purpose Zener diode in an small SOD-323F flat-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 ¹⁾	$R_{\theta JA}$	417	$^\circ\text{C/W}$

¹⁾ 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 ¹⁾			Dynamic Impedance		Reverse Leakage Current	
		V_{znom}	I_{zT} for	V_{zT}	Z_{zT} (Max.)	at I_{zT}	I_R (Max.)	at V_R
		V	mA	V	Ω	mA	μA	V
MM3Z2V0A	B0	2.0	5	1.8...2.15	100	5	120	0.5
MM3Z2V2A	C0	2.2	5	2.08...2.33	100	5	120	0.7
MM3Z2V4A	1C	2.4	5	2.28...2.56	100	5	120	1
MM3Z2V7A	1D	2.7	5	2.5...2.9	110	5	120	1
MM3Z3V0A	1E	3.0	5	2.8...3.2	120	5	50	1
MM3Z3V3A	1F	3.3	5	3.1...3.5	130	5	20	1
MM3Z3V6A	1H	3.6	5	3.4...3.8	130	5	10	1
MM3Z3V9A	1J	3.9	5	3.7...4.1	130	5	5	1
MM3Z4V3A	1K	4.3	5	4...4.6	130	5	5	1
MM3Z4V7A	1M	4.7	5	4.4...5	130	5	2	1
MM3Z5V1A	1N	5.1	5	4.8...5.4	130	5	2	1.5
MM3Z5V6A	1P	5.6	5	5.2...6	80	5	1	2.5
MM3Z6V2A	1R	6.2	5	5.8...6.6	50	5	1	3
MM3Z6V8A	1X	6.8	5	6.4...7.2	30	5	0.5	3.5
MM3Z7V5A	1Y	7.5	5	7...7.9	30	5	0.5	4
MM3Z8V2A	1Z	8.2	5	7.7...8.7	30	5	0.5	5
MM3Z9V1A	2A	9.1	5	8.5...9.6	30	5	0.5	6
MM3Z10A	2B	10	5	9.4...10.6	30	5	0.1	7
MM3Z11A	2C	11	5	10.4...11.6	30	5	0.1	8
MM3Z12A	2D	12	5	11.4...12.7	35	5	0.1	9
MM3Z13A	2E	13	5	12.4...14.1	35	5	0.1	10
MM3Z15A	2F	15	5	13.8...15.6	40	5	0.1	11
MM3Z16A	2H	16	5	15.3...17.1	40	5	0.1	12
MM3Z18A	2J	18	5	16.8...19.1	45	5	0.1	13
MM3Z20A	2K	20	5	18.8...21.2	50	5	0.1	15
MM3Z22A	2M	22	5	20.8...23.3	55	5	0.1	17
MM3Z24A	2N	24	5	22.8...25.6	60	5	0.1	19
MM3Z27A	2P	27	2	25.1...28.9	70	2	0.1	21
MM3Z30A	2R	30	2	28...32	80	2	0.1	23
MM3Z33A	2X	33	2	31...35	80	2	0.1	25
MM3Z36A	2Y	36	2	34...38	90	2	0.1	27
MM3Z39A	2Z	39	2	37...41	100	2	0.1	30
MM3Z43A	3A	43	2	40...46	130	2	0.1	33
MM3Z47A	3B	47	2	44...50	150	2	0.1	36
MM3Z51A	3C	51	2	48...54	180	2	0.1	39
MM3Z56A	3D	56	2	52...60	200	2	0.1	43
MM3Z62A	3E	62	2	58...66	215	2	0.1	47
MM3Z68A	3F	68	2	64...72	240	2	0.1	52
MM3Z75A	3H	75	2	70...79	265	2	0.1	56

¹⁾ V_z is tested with pulses (20 ms).

Electrical Characteristics Curves

Fig 1. Power Derating Curve

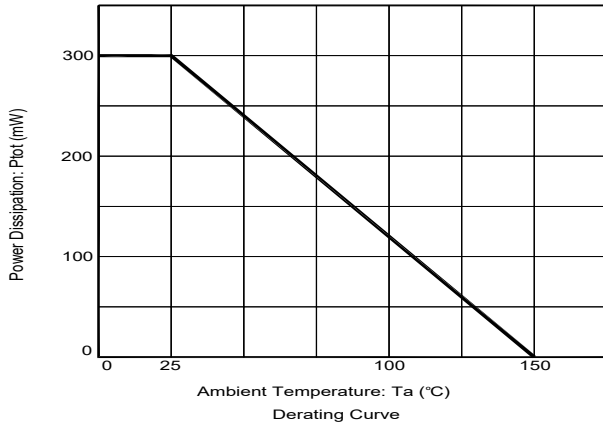


Fig 2. Forward Characteristics Curve

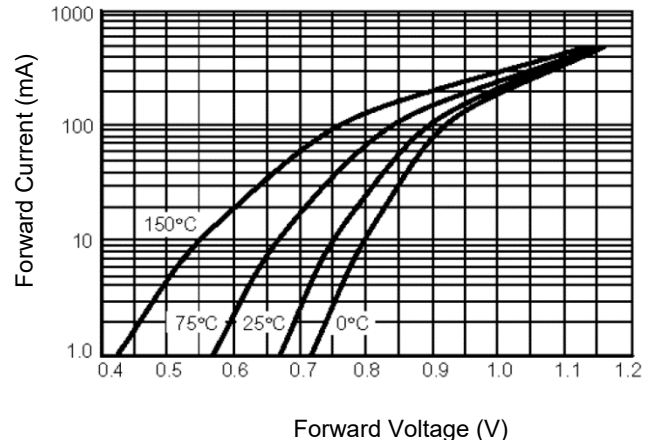


Fig 3. Zener Characteristics Curve

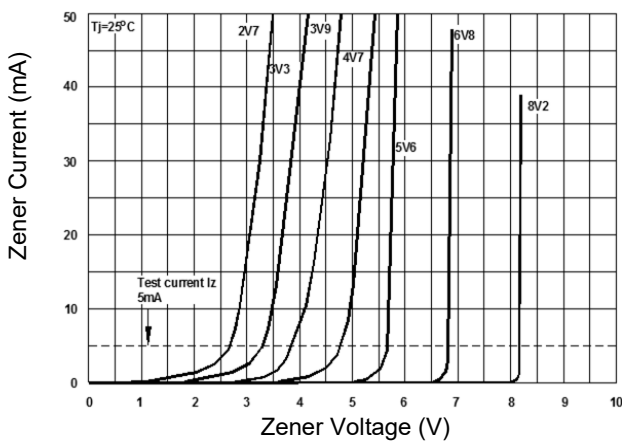
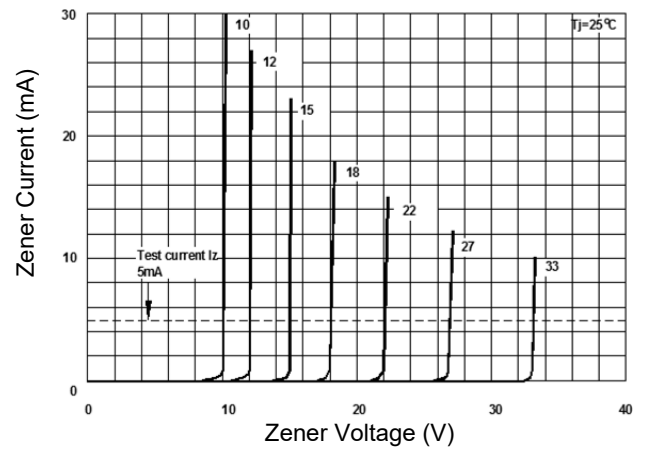


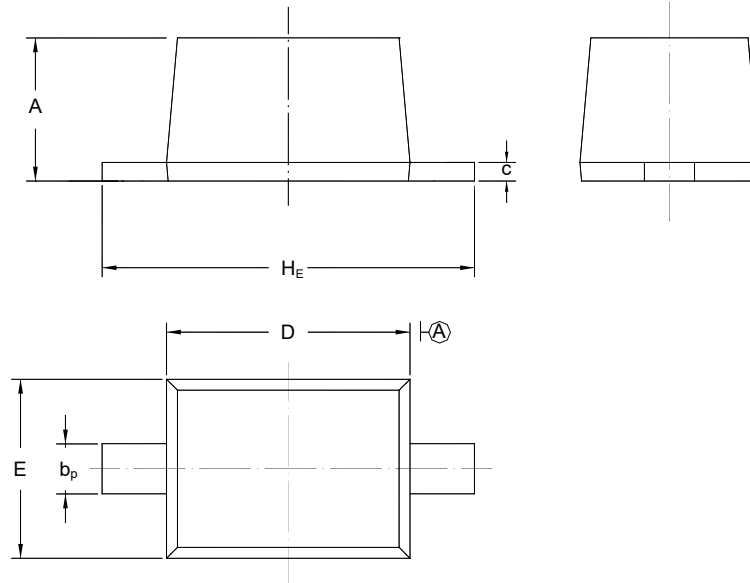
Fig 4. Zener Characteristics Curve



PACKAGE OUTLINE

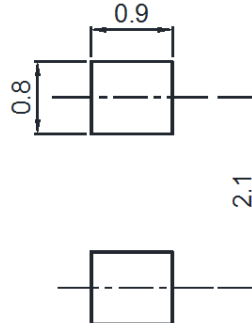
Plastic surface mounted package; 2 leads

SOD-323F



UNIT	A	b_p	C	D	E	H_E
mm	1.10 0.80	0.40 0.25	0.15 0.10	1.80 1.60	1.35 1.15	2.80 2.30

Recommended Soldering Footprint



Packing information

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

Marking information

- "**" = Part No.
 - "•" = HAF (Halogen and Antimony Free)
 - "III" = Cathode line
- Font type: Arial

