Silicon Planar Zener Diodes

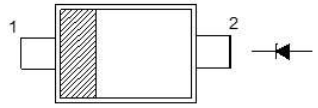
General description

General purpose Zener diode in an small SOD-323F flat-lead Surface-Mounted plastic package.

Approximately ± 2% tolerance range with nominal working voltage from 2.2V to 39V

PINNING

PIN	DESCRIPTION
1	Cathode
2	Anode



Top View
Simplified outline SOD-323F and symbol

Features

- AEC-Q101 Qualified
- Total power dissipation: 300 mW (max.)
- Working voltage range nominal 2.2 V to 39 V
- Zener voltage tolerance ± 2%
- 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	°C/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) **Table 1**

Type	Marking Code	Zener Voltage Range [1]			Dynamic Impedance [2]		Reverse Leakage Current	
		V_{ZT}		I_{ZT}	Z_{ZT} (Max.)	at I_{ZT}	I_R (Max.)	at V_R
		Min.(V)	Max.(V)	mA	Ω	mA	μA	V
MM3Z2V2B	MF	2.1	2.4	5	100	5	120	0.7
MM3Z2V4B	7C	2.3	2.65	5	100	5	120	1
MM3Z2V7B	7D	2.65	2.95	5	110	5	120	1
MM3Z3V0B	7E	2.95	3.25	5	120	5	50	1
MM3Z3V3B	7F	3.25	3.55	5	120	5	20	1
MM3Z3V6B	7H	3.6	3.845	5	100	5	10	1
MM3Z3V9B	7J	3.89	4.16	5	100	5	5	1
MM3Z4V3B	7K	4.17	4.43	5	100	5	5	1
MM3Z4V7B	7M	4.55	4.75	5	100	5	2	1
MM3Z5V1B	7N	4.98	5.2	5	80	5	2	1.5
MM3Z5V6B	7P	5.49	5.73	5	60	5	1	2.5
MM3Z6V2B	7R	6.06	6.33	5	60	5	1	3
MM3Z6V8B	7X	6.65	6.93	5	40	5	0.5	3.5
MM3Z7V5B	7Y	7.28	7.6	5	30	5	0.5	4
MM3Z8V2B	7Z	8.02	8.36	5	30	5	0.5	5
MM3Z9V1B	8A	8.85	9.23	5	30	5	0.5	6
MM3Z10B	8B	9.77	10.21	5	30	5	0.1	7
MM3Z11B	8C	10.76	11.22	5	30	5	0.1	8
MM3Z12B	8D	11.74	12.24	5	30	5	0.1	9
MM3Z13B	8E	12.91	13.49	5	37	5	0.1	10
MM3Z15B	8F	14.34	14.98	5	42	5	0.1	11
MM3Z16B	8H	15.85	16.51	5	50	5	0.1	12
MM3Z18B	8J	17.56	18.35	5	65	5	0.1	13
MM3Z20B	8K	19.52	20.39	5	85	5	0.1	15
MM3Z22B	8M	21.54	22.47	5	100	5	0.1	17
MM3Z24B	8N	23.72	24.78	5	120	5	0.1	19
MM3Z27B	8P	26.19	27.53	5	150	5	0.1	21
MM3Z30B	8R	29.19	30.69	5	200	5	0.1	23
MM3Z33B	8X	32.15	33.79	5	250	5	0.1	25
MM3Z36B	8Y	35.07	36.87	5	300	5	0.1	27
MM3Z39B	8Z	37	41	5	100	5	2	30

[1] V_Z is tested with pulses (20 ms).

[2] Z_{ZT} is measured at I_Z by given a very small A.C. current signal.

Electrical Characteristics Curves

Fig 1. Forward Characteristics Curve

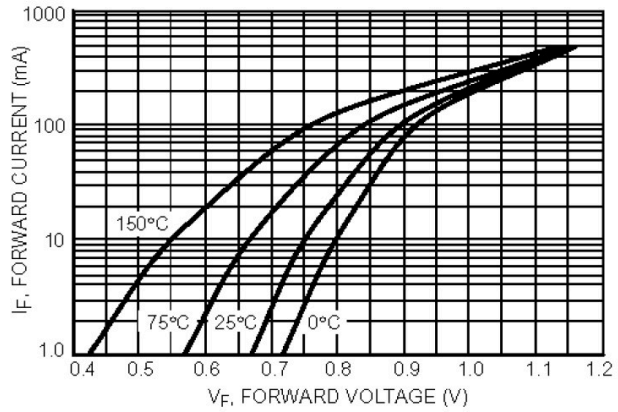


Fig 2. Zener Characteristics Curve

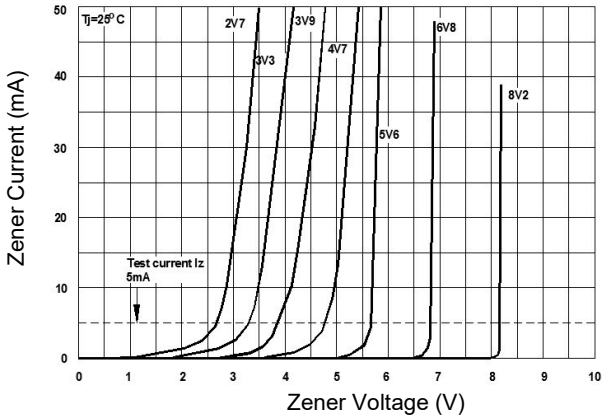


Fig 3. Zener Characteristics Curve

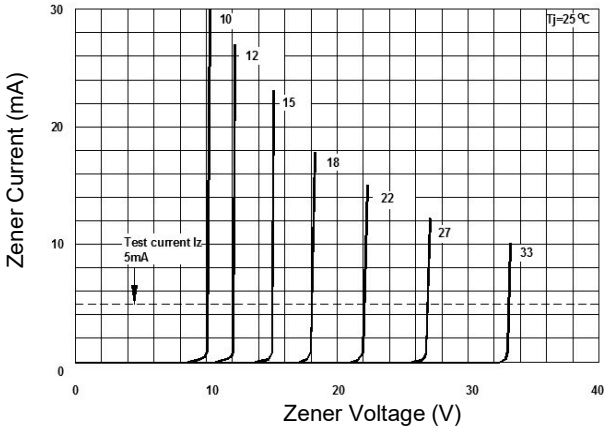
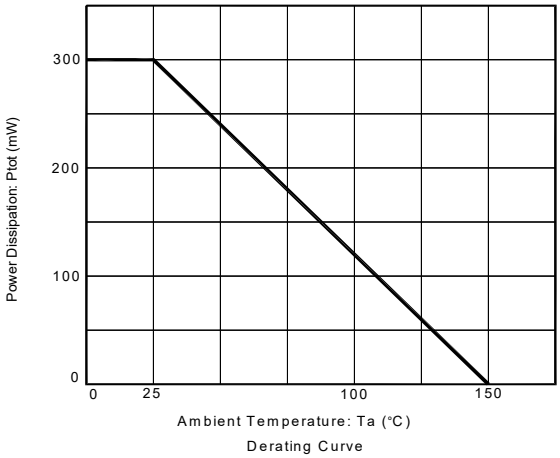
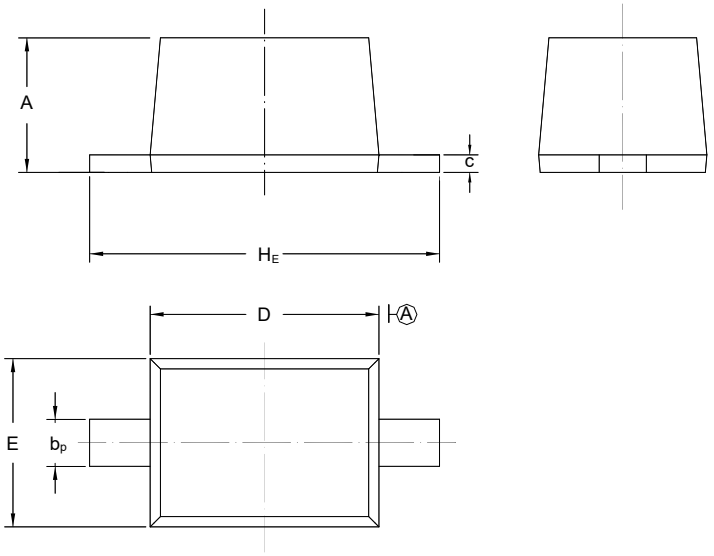


Fig 4. Power Derating Curve



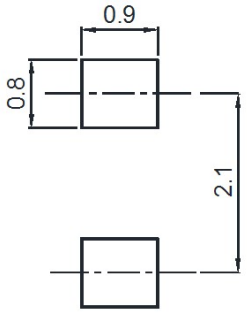
PACKAGE OUTLINE

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. (See table 1 of Marking Code)
" III " = Cathode line
" • " = HAF (Halogen and Antimony Free)
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