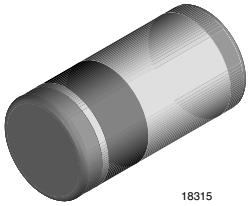
Zener Diodes

Features

- Silicon planar power Zener diodes
- For use in stablilizing and clipping circuits with high power rating
- Standard Zener voltage tolerance is ± 5 %
- These diodes are also available in the DO-41 case with type designation 1N4728A to 1N4764A
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21 definition

RoHS COMPLIANT
HALOGEN FREE



Mechanical Data

Case: MELF DO-213AB (glass)
Weight: approx. 135 mg
Cathode band color: black
Packaging codes/options:
GS18/5K per 13" reel (12 mm tape), 10K/box
GS08/1.5K per 7" reel (12 mm tape), 12K/box

Absolute Maximum Ratings

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Zener current (see Table "Characteristics")				
Power dissipation		P_{tot}	1 [1]	W

Note:
[1] Valid provided that electrodes are kept at ambient temperature.

Thermal Characteristics

T_{amb} = 25 °C, unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance junction to ambient air		R_{thJA}	170 [1]	K/W
Junction temperature		T_j	175	°C
Storage temperature		T_{stg}	- 65 to + 175	°C

Note:
[1] Valid provided that electrodes are kept at ambient temperature.

Electrical Characteristics

Part number	Nominal Zener voltage [1]	Test current	Maximum dynamic impedance			Maximum reverse leakage current		Surge current [3]	Maximum regulator current [2]
	V_Z at I_{ZT}	I_{ZT}	Z_{ZT} at I_{ZT}	Z_{ZK} at I_{ZK}	I_{ZK}	I_R	Test voltage V_R	at T_A = 25 °C I_R	I_{ZM}
	V	mA	Ω	Ω	mA	µA	V	mA	mA
ZM4728A	3.3	76	10	400	1	100	1	1380	276
ZM4729A	3.6	69	10	400	1	100	1	1260	252
ZM4730A	3.9	64	9	400	1	50	1	1190	234
ZM4731A	4.3	58	9	400	1	10	1	1070	217
ZM4732A	4.7	53	8	500	1	10	1	970	193
ZM4733A	5.1	49	7	550	1	10	1	890	178
ZM4734A	5.6	45	5	600	1	10	2	810	162
ZM4735A	6.2	41	2	700	1	10	3	730	146
ZM4736A	6.8	37	3.5	700	1	10	4	660	133
ZM4737A	7.5	34	4	700	0.5	10	5	605	121
ZM4738A	8.2	31	4.5	700	0.5	10	6	550	110
ZM4739A	9.1	28	5	700	0.5	10	7	500	100
ZM4740A	10	25	7	700	0.25	10	7.6	454	91
ZM4741A	11	23	8	700	0.25	5	8.4	414	83
ZM4742A	12	21	9	700	0.25	5	9.1	380	76
ZM4743A	13	19	10	700	0.25	5	9.9	344	69
ZM4744A	15	17	14	700	0.25	5	11.4	304	61
ZM4745A	16	15.5	16	700	0.25	5	12.2	285	57
ZM4746A	18	14	20	750	0.25	5	13.7	250	50
ZM4747A	20	12.5	22	750	0.25	5	15.2	225	45
ZM4748A	22	11.5	23	750	0.25	5	16.7	205	41
ZM4749A	24	10.5	25	750	0.25	5	18.2	190	38
ZM4750A	27	9.5	35	750	0.25	5	20.6	170	34
ZM4751A	30	8.5	40	1000	0.25	5	22.8	150	30
ZM4752A	33	7.5	45	1000	0.25	5	25.1	135	27
ZM4753A	36	7	50	1000	0.25	5	27.4	125	25
ZM4754A	39	6.5	60	1000	0.25	5	29.7	115	23
ZM4755A	43	6	70	1500	0.25	5	32.7	110	22
ZM4756A	47	5.5	80	1500	0.25	5	35.8	95	19
ZM4757A	51	5	95	1500	0.25	5	38.8	90	18
ZM4758A	56	4.5	110	2000	0.25	5	42.6	80	16
ZM4759A	62	4	125	2000	0.25	5	47.1	70	14
ZM4760A	68	3.7	150	2000	0.25	5	51.7	65	13
ZM4761A	75	3.3	175	2000	0.25	5	56	60	12
ZM4762A	82	3	200	3000	0.25	5	62.2	55	11
ZM4763A	91	2.8	250	3000	0.25	5	69.2	50	10
ZM4764A	100	2.5	350	3000	0.25	5	76	45	9

Notes:

[1] The zener impedance is derived from the 1 kHz AC voltage which results when an AC current having an RMS value equal to 10 % of the zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK}. Zener impedance is measured at two points to insure a sharp knee on the breakdown curve and to eliminate unstable units

[2] Valid provided that electrodes are kept at ambient temperature

[3] Measured under thermal equilibrium and DC test conditions.

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

Typical Characteristics

T_{amb} = 25 °C, unless otherwise specified

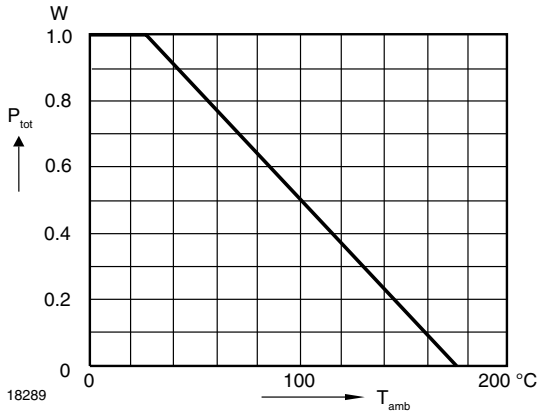
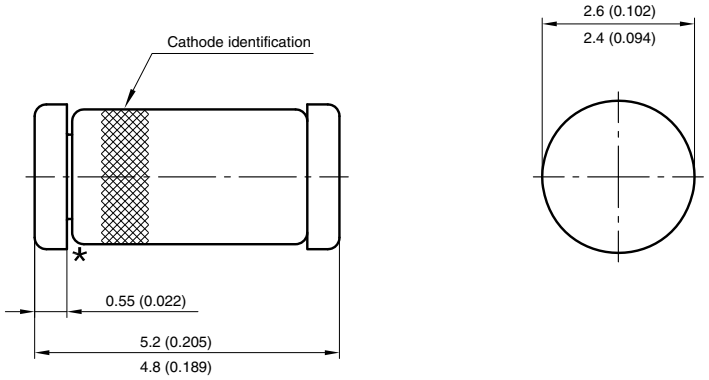


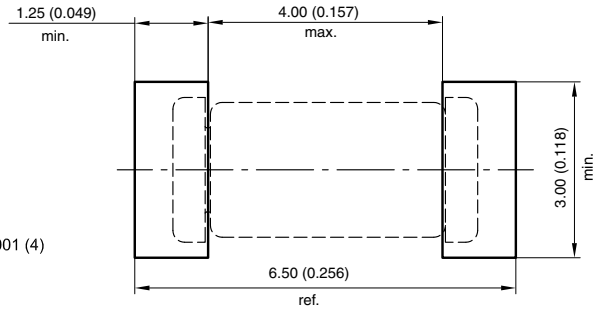
Figure 1. Admissible Power Dissipation vs. Ambient Temperature

Package Dimensions in millimeters (inches): MELF DO-213AB (glass)



* The gap between plug and glass can be either on cathode or anode side

Foot print recommendation:



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