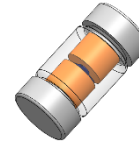


1W,3.3 - 100V Zener Diodes

Features

- Low leakage current
- Available in unidirectional
- Glass passivated junction
- Zener voltage tolerance is $\pm 5\%$
- Total power dissipation: Max 1W
- Silicon Planar Power Zener Diodes
- Moisture sensitivity: level 1, per J-STD-020



MELF

Applications

Protection from high voltage, high energy transients, voltage stabilization.

| Absolute Maximum Ratings ($T_A=25^\circ\text{C}$ unless otherwise noted) | | | |
|--|------------------|----------------|--------------------|
| Parameter | Symbol | Ratings | Unit |
| Zener voltage | V_Z | See Next Table | V |
| Power dissipation at $T_L=75^\circ\text{C}$ | P_{tot} | 1 | W |
| Typical Thermal Resistance , Junction to Ambient | $R_{\theta JA}$ | 170 | $^\circ\text{C/W}$ |
| Maximum junction temperature | T_J | 175 | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -65 to +175 | $^\circ\text{C}$ |

Note:

1. Valid provided that leads at a distance of 9.5mm from case are kept at ambient temperature.

Electrical Characteristics (TA = 25 °C unless otherwise noted)

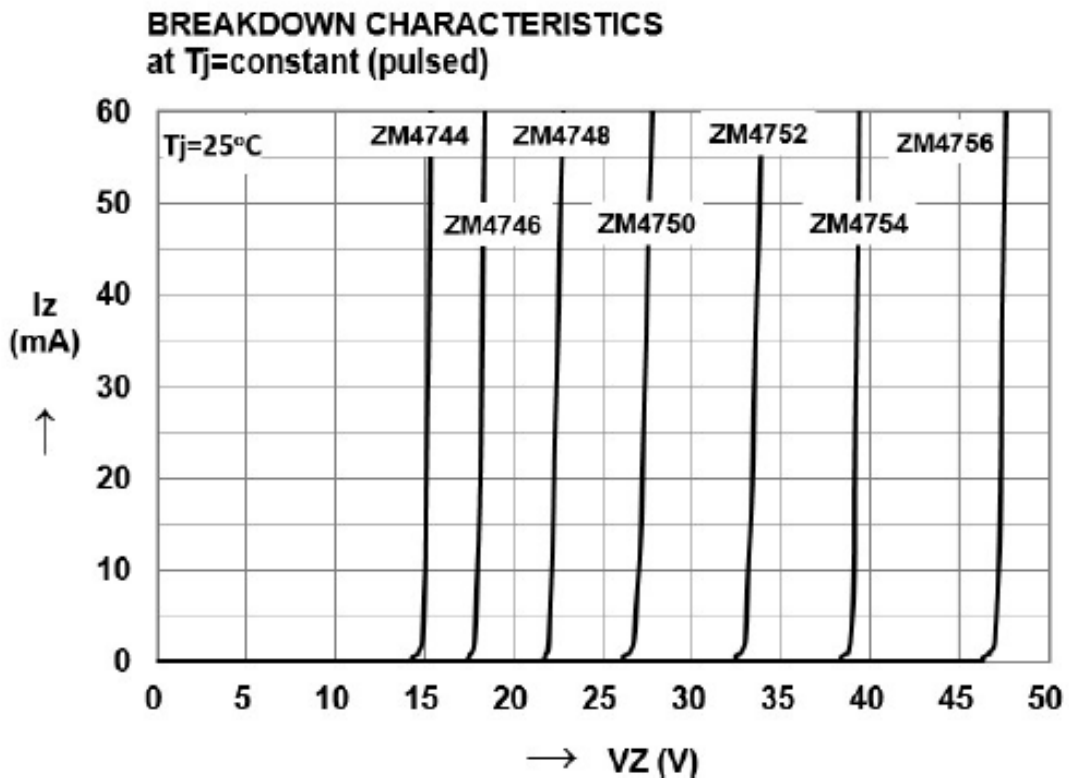
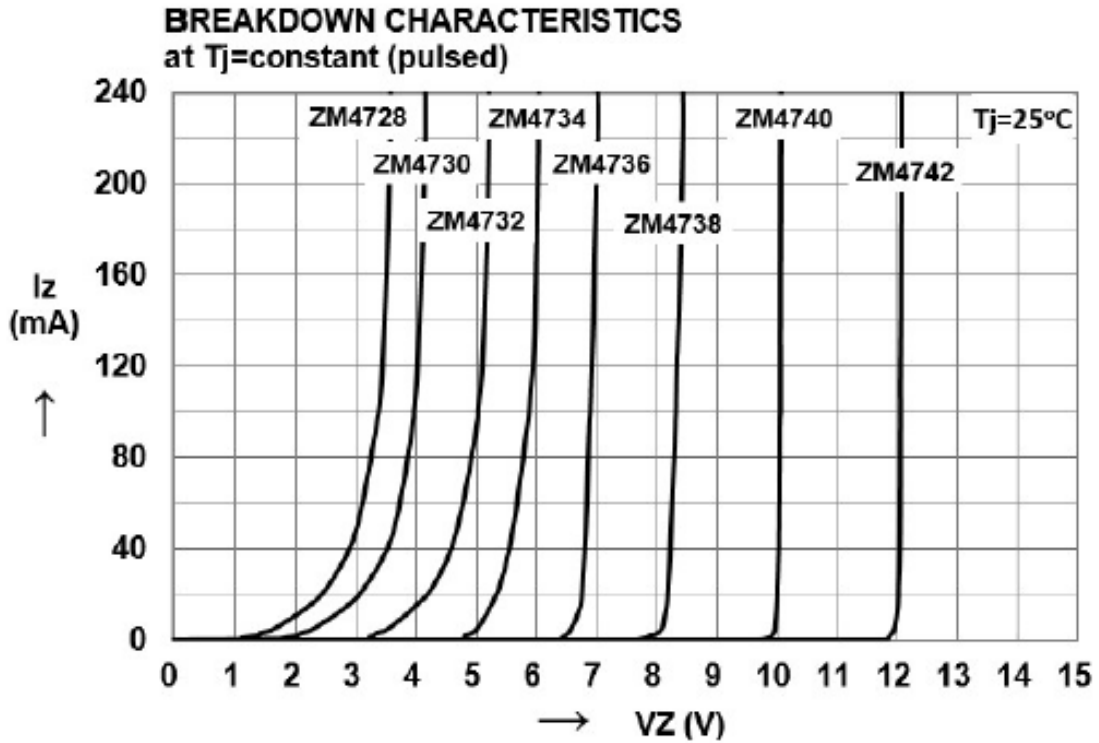
| Part Number | V _Z at I _{ZT} (V) | | | Maximum dynamic resistance | | | | Maximum reverse leakage current | | Maximum Zener Current |
|-------------|---------------------------------------|-----|-------|--------------------------------------|----------------------|--------------------------------------|----------------------|--------------------------------------|--------------------|-----------------------|
| | Min | Typ | Max | Z _{ZT} @I _{ZT} (Ω) | I _{ZT} (mA) | Z _{ZK} @I _{ZK} (Ω) | I _{ZK} (mA) | I _R @ V _R (uA) | V _R (V) | |
| | | | | | | | | | | |
| ZM4728A | 3.14 | 3.3 | 3.47 | 10 | 76 | 400 | 1 | 100 | 1 | 276 |
| ZM4729A | 3.42 | 3.6 | 3.78 | 10 | 69 | 400 | 1 | 100 | 1 | 252 |
| ZM4730A | 3.71 | 3.9 | 4.10 | 9 | 64 | 400 | 1 | 50 | 1 | 234 |
| ZM4731A | 4.09 | 4.3 | 4.52 | 9 | 58 | 400 | 1 | 10 | 1 | 217 |
| ZM4732A | 4.47 | 4.7 | 4.94 | 8 | 53 | 500 | 1 | 10 | 1 | 193 |
| ZM4733A | 4.85 | 5.1 | 5.36 | 7 | 49 | 550 | 1 | 10 | 1 | 178 |
| ZM4734A | 5.32 | 5.6 | 5.88 | 5 | 45 | 600 | 1 | 10 | 2 | 162 |
| ZM4735A | 5.89 | 6.2 | 6.51 | 2 | 41 | 700 | 1 | 10 | 3 | 146 |
| ZM4736A | 6.46 | 6.8 | 7.14 | 3.5 | 37 | 700 | 1 | 10 | 4 | 133 |
| ZM4737A | 7.13 | 7.5 | 7.88 | 4 | 34 | 700 | 0.5 | 10 | 5 | 121 |
| ZM4738A | 7.79 | 8.2 | 8.61 | 4.5 | 31 | 700 | 0.5 | 10 | 6 | 110 |
| ZM4739A | 8.65 | 9.1 | 9.56 | 5 | 28 | 700 | 0.5 | 10 | 7 | 100 |
| ZM4740A | 9.50 | 10 | 10.50 | 7 | 25 | 700 | 0.25 | 10 | 7.6 | 91 |
| ZM4741A | 10.45 | 11 | 11.55 | 8 | 23 | 700 | 0.25 | 5 | 8.4 | 83 |
| ZM4742A | 11.40 | 12 | 12.60 | 9 | 21 | 700 | 0.25 | 5 | 9.1 | 76 |
| ZM4743A | 12.35 | 13 | 13.65 | 10 | 19 | 700 | 0.25 | 5 | 9.9 | 69 |
| ZM4744A | 14.25 | 15 | 15.75 | 14 | 17 | 700 | 0.25 | 5 | 11.4 | 61 |
| ZM4745A | 15.20 | 16 | 16.80 | 16 | 15.5 | 700 | 0.25 | 5 | 12.2 | 57 |
| ZM4746A | 17.10 | 18 | 18.90 | 20 | 14 | 750 | 0.25 | 5 | 13.7 | 50 |
| ZM4747A | 19.00 | 20 | 21.00 | 22 | 12.5 | 750 | 0.25 | 5 | 15.2 | 45 |
| ZM4748A | 20.90 | 22 | 23.10 | 23 | 11.5 | 750 | 0.25 | 5 | 16.7 | 41 |
| ZM4749A | 22.80 | 24 | 25.20 | 25 | 10.5 | 750 | 0.25 | 5 | 18.2 | 38 |
| ZM4750A | 25.65 | 27 | 28.35 | 35 | 9.5 | 750 | 0.25 | 5 | 20.6 | 34 |
| ZM4751A | 28.50 | 30 | 31.50 | 40 | 8.5 | 1000 | 0.25 | 5 | 22.8 | 30 |
| ZM4752A | 31.35 | 33 | 34.65 | 45 | 7.5 | 1000 | 0.25 | 5 | 25.1 | 27 |
| ZM4753A | 34.20 | 36 | 37.80 | 50 | 7 | 1000 | 0.25 | 5 | 27.4 | 25 |
| ZM4754A | 37.05 | 39 | 40.95 | 60 | 6.5 | 1000 | 0.25 | 5 | 29.7 | 23 |
| ZM4755A | 40.85 | 43 | 45.15 | 70 | 6 | 1500 | 0.25 | 5 | 32.7 | 22 |
| ZM4756A | 44.65 | 47 | 49.35 | 80 | 5.5 | 1500 | 0.25 | 5 | 35.8 | 19 |
| ZM4757A | 48.45 | 51 | 53.55 | 95 | 5 | 1500 | 0.25 | 5 | 38.8 | 18 |
| ZM4758A | 53.20 | 56 | 58.80 | 110 | 4.5 | 2000 | 0.25 | 5 | 42.6 | 16 |
| ZM4759A | 58.90 | 62 | 65.10 | 125 | 4 | 2000 | 0.25 | 5 | 47.1 | 14 |
| ZM4760A | 64.60 | 68 | 71.40 | 150 | 3.7 | 2000 | 0.25 | 5 | 51.7 | 13 |
| ZM4761A | 71.25 | 75 | 78.75 | 175 | 3.3 | 2000 | 0.25 | 5 | 56 | 12 |
| ZM4762A | 77.90 | 82 | 86.10 | 200 | 3 | 3000 | 0.25 | 5 | 62.2 | 11 |
| ZM4763A | 86.45 | 91 | 95.55 | 250 | 2.8 | 3000 | 0.25 | 5 | 69.2 | 10 |

Electrical Characteristics (TA = 25 °C unless otherwise noted)

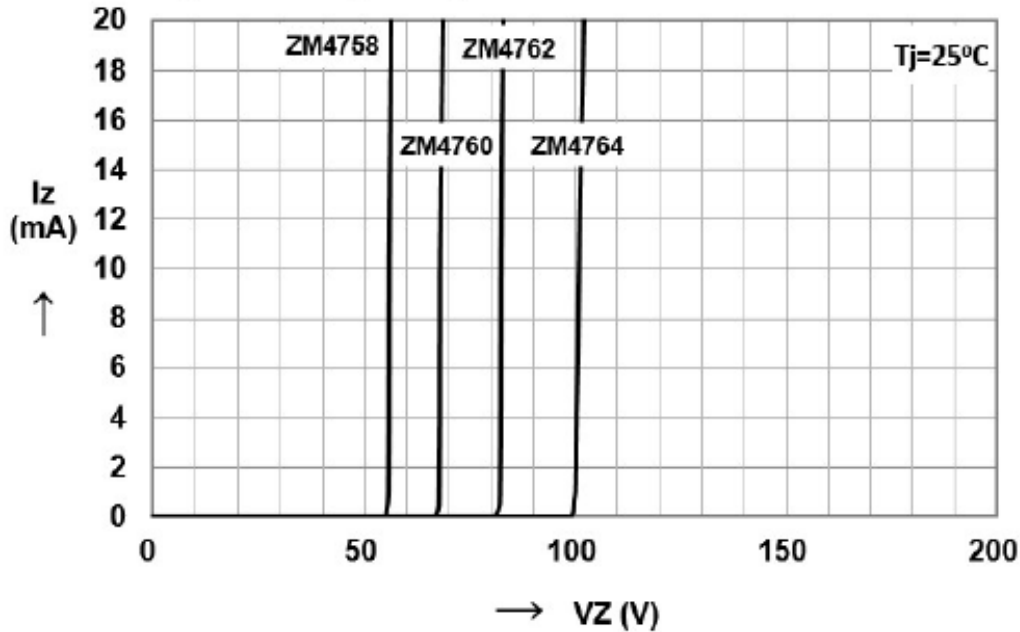
| Part Number | V _Z at I _{ZT} (V) | | | Maximum dynamic resistance | | | | Maximum reverse leakage current | | Maximum Zener Current |
|-------------|---------------------------------------|-----|-----|---|----------------------|---|----------------------|---|--------------------|-----------------------|
| | Min | Typ | Max | Z _{ZT} @I _{ZT} (Ω) | I _{ZT} (mA) | Z _{ZK} @I _{ZK} (Ω) | I _{ZK} (mA) | I _R @ V _R (uA) | V _R (V) | |
| | | | | | | | | | | |
| ZM4764A | 95.00 | 100 | 105 | 350 | 2.5 | 3000 | 0.25 | 5 | 76 | 9 |

Ratings and Characteristics Curves

(TA = 25°C unless otherwise noted)

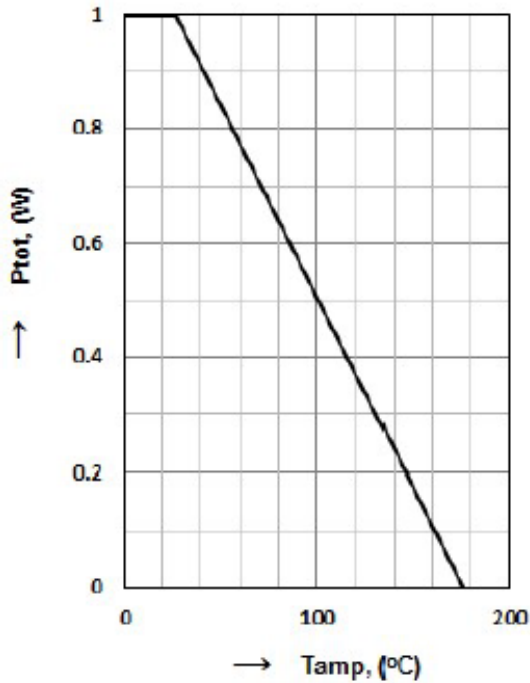


BREAKDOWN CHARACTERISTICS at $T_j = \text{constant}$ (pulsed)



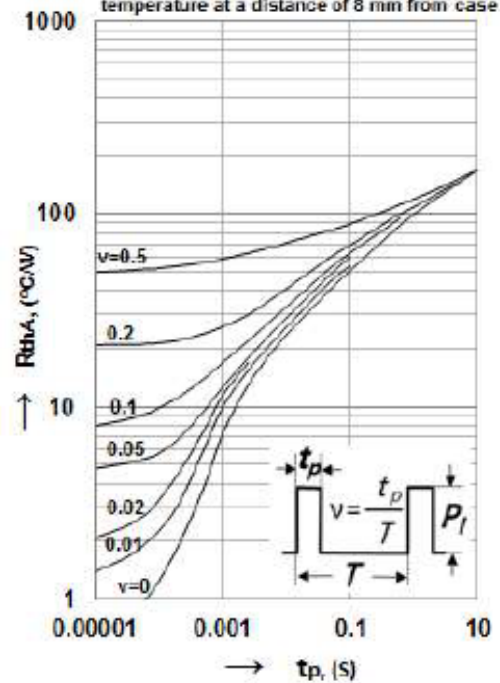
Admissible power dissipation versus ambient temperature

Valid provided that electrodes are kept ambient temperature



Pulse thermal resistance versus pulse duration

Valid provided that leads are kept at ambient temperature at a distance of 8 mm from case

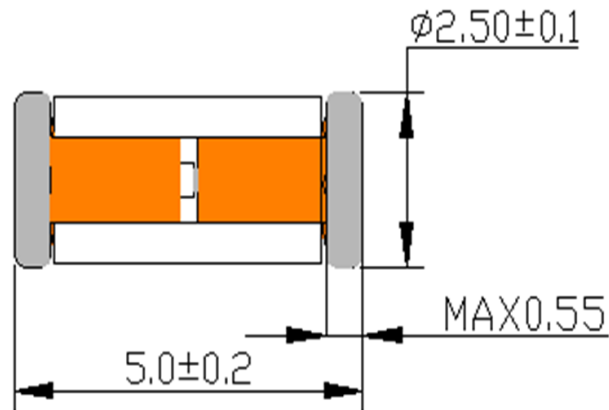


Package Outline Dimensions

in inches (millimeters)

MELF

CASE DIMENSION (MELF Type) Unit mm



Revision History

| Document Version | Date of release | Description of changes |
|------------------|-----------------|------------------------|
| Rev.A | 2021.06.15 | Released Datasheet |
| Rev.B | 2023.10.31 | Modify document format |

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