



V_Z : 5.6 to 200 V
 P_D : 1.5 W

Axial Lead
Zener Diodes

DO-41

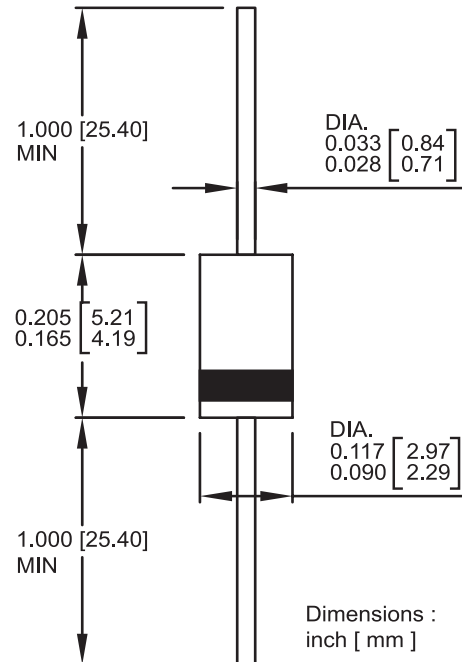
Zener
1.5W Axial

Features

- Glass passivated chip
- Low leakage
- Built-in strain relief
- Low inductance
- High peak reverse power dissipation
- Lead (Pb)-free component
- For use in stabilizing and clipping circuits with high power rating

Mechanical Data

- Case: Molded plastic
- Epoxy: UL 94V-0 rate flame retardant
- Lead: Axial leads, solderable per MIL-STD-202, method 208 guaranteed
- Polarity: Color band denotes cathode end
- Mounting position: Any



Maximum Ratings($T_A=25^\circ\text{C}$ unless otherwise noted)

| Parameter | Symbol | Value | Unit |
|--|-----------|-------------|------------------|
| DC power dissipation at $T_L = 75^\circ\text{C}^{(1)}$ | P_D | 1.5 | W |
| Maximum forward voltage at $I_F = 200\text{ mA}$ | V_F | 1.5 | V |
| Junction temperature range | T_J | -55 to +175 | $^\circ\text{C}$ |
| Storage temperature range | T_{STG} | -55 to +175 | $^\circ\text{C}$ |

Note:

(1) T_L = Lead temperature at 3/8 " (9.5mm) from body



Ratings and Characteristics Curves ($T_A=25^\circ\text{C}$ unless otherwise noted)

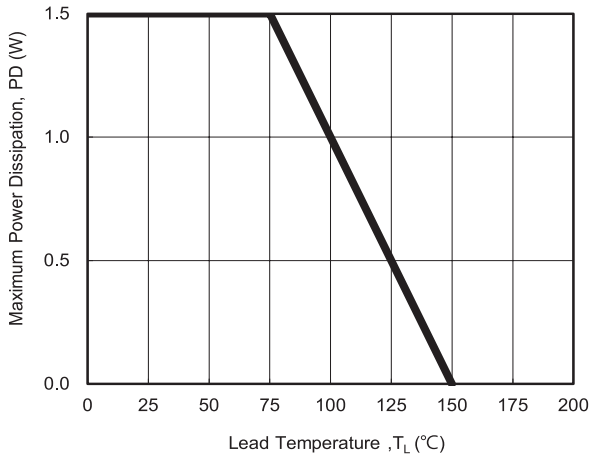


Fig. 1 - Power Temperature Derating Curve

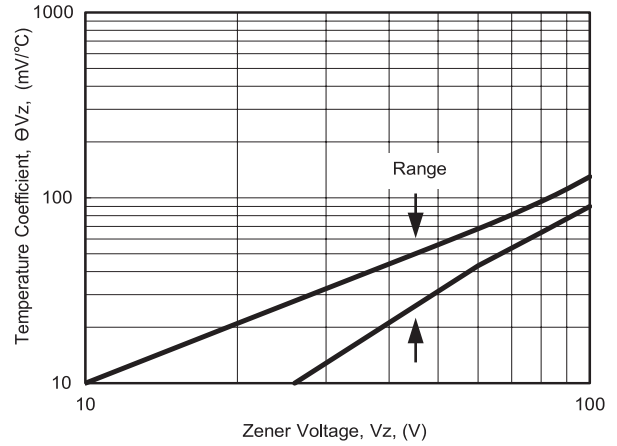


Fig. 2 - Temperature Coefficients v.s. Zener Voltage

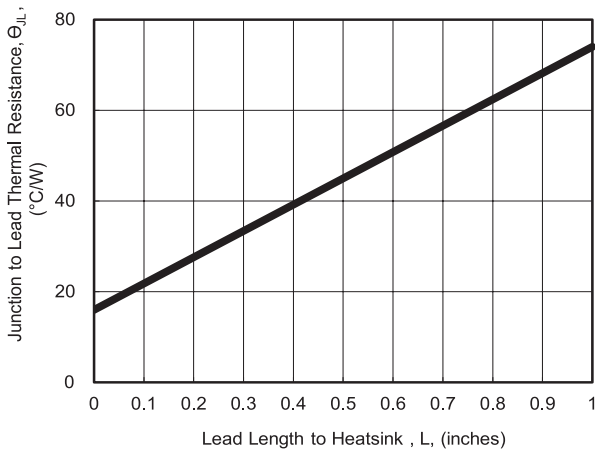


Fig. 3 - Typical Thermal Resistance v.s. Lead Length

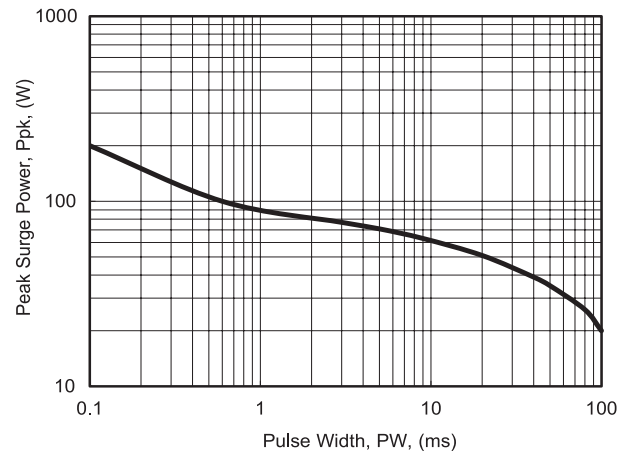


Fig. 4 - Maximum Surge Power

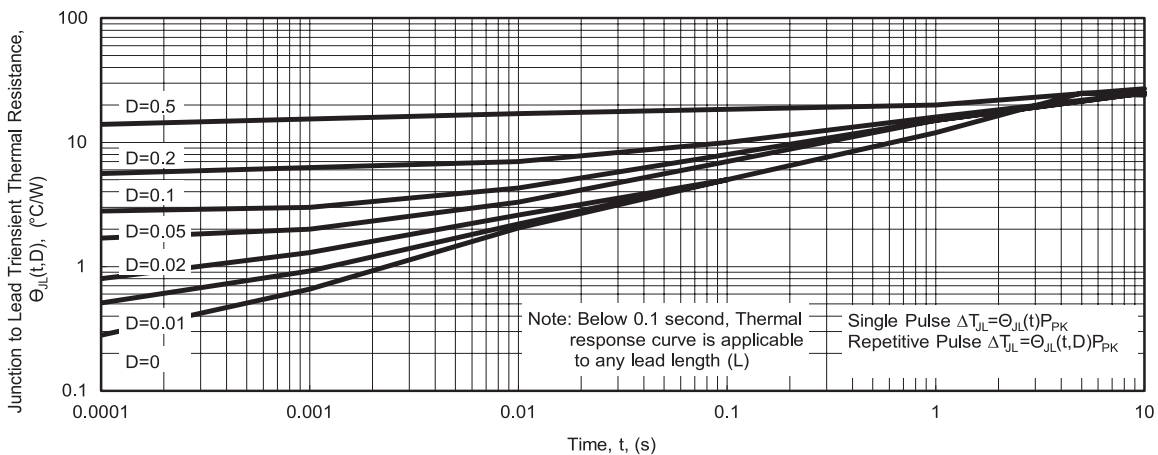


Fig. 5 - Typical Thermal Response L, Lead Length=3/8inch



Electrical Characteristics($T_A=25^\circ\text{C}$ unless otherwise noted)

| Part Number | Nominal Zener Voltage | | Maximum Zener Impedance | | | Maximum Reverse Leakage Current | | Maximum DC Zener Current |
|-------------|-----------------------|----------|-------------------------|-------------------|----------|---------------------------------|-------|--------------------------|
| | $V_Z @ I_{ZT}$ | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $Z_{ZK} @ I_{ZK}$ | I_{ZK} | $I_R @ V_R$ | | I_{ZM} |
| | (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | (mA) |
| 1N5919B | 5.6 | 66.9 | 2.0 | 250 | 1.00 | 5.0 | 3.0 | 267 |
| 1N5920B | 6.2 | 60.5 | 2.0 | 200 | 1.00 | 2.5 | 4.0 | 240 |
| 1N5921B | 6.8 | 55.1 | 2.5 | 200 | 1.00 | 2.5 | 5.2 | 220 |
| 1N5922B | 7.5 | 50.0 | 3.0 | 400 | 0.50 | 2.5 | 6.0 | 200 |
| 1N5923B | 8.2 | 45.7 | 3.5 | 400 | 0.50 | 2.5 | 6.5 | 182 |
| 1N5924B | 9.1 | 41.2 | 4.0 | 500 | 0.50 | 2.5 | 7.0 | 164 |
| 1N5925B | 10.0 | 37.5 | 4.5 | 500 | 0.25 | 2.5 | 8.0 | 150 |
| 1N5926B | 11.0 | 34.1 | 5.5 | 550 | 0.25 | 0.5 | 8.4 | 136 |
| 1N5927B | 12.0 | 31.2 | 6.5 | 550 | 0.25 | 0.5 | 9.1 | 125 |
| 1N5928B | 13.0 | 28.8 | 7.0 | 550 | 0.25 | 0.5 | 9.9 | 115 |
| 1N5929B | 15.0 | 25.0 | 9.0 | 600 | 0.25 | 0.5 | 11.4 | 100 |
| 1N5930B | 16.0 | 23.4 | 10.0 | 600 | 0.25 | 0.5 | 12.2 | 93 |
| 1N5931B | 18.0 | 20.8 | 12.0 | 650 | 0.25 | 0.5 | 13.7 | 83 |
| 1N5932B | 20.0 | 18.7 | 14.0 | 650 | 0.25 | 0.5 | 15.2 | 75 |
| 1N5933B | 22.0 | 17.0 | 17.5 | 650 | 0.25 | 0.5 | 16.7 | 68 |
| 1N5934B | 24.0 | 15.6 | 19.0 | 700 | 0.25 | 0.5 | 18.2 | 62 |
| 1N5935B | 27.0 | 13.9 | 23.0 | 700 | 0.25 | 0.5 | 20.6 | 55 |
| 1N5936B | 30.0 | 12.5 | 26.0 | 750 | 0.25 | 0.5 | 22.8 | 50 |
| 1N5937B | 33.0 | 11.4 | 33.0 | 800 | 0.25 | 0.5 | 25.1 | 45 |
| 1N5938B | 36.0 | 10.4 | 38.0 | 850 | 0.25 | 0.5 | 27.4 | 41 |
| 1N5939B | 39.0 | 9.6 | 45.0 | 900 | 0.25 | 0.5 | 29.7 | 38 |
| 1N5940B | 43.0 | 8.7 | 53.0 | 950 | 0.25 | 0.5 | 32.7 | 34 |
| 1N5941B | 47.0 | 8.0 | 67.0 | 1000 | 0.25 | 0.5 | 35.8 | 31 |
| 1N5942B | 51.0 | 7.3 | 70.0 | 1100 | 0.25 | 0.5 | 38.8 | 29 |
| 1N5943B | 56.0 | 6.7 | 86.0 | 1300 | 0.25 | 0.5 | 42.6 | 26 |
| 1N5944B | 62.0 | 6.0 | 100.0 | 1500 | 0.25 | 0.5 | 47.1 | 24 |
| 1N5945B | 68.0 | 5.5 | 120.0 | 1700 | 0.25 | 0.5 | 51.7 | 22 |
| 1N5946B | 75.0 | 5.0 | 140.0 | 2000 | 0.25 | 0.5 | 56.0 | 20 |
| 1N5947B | 82.0 | 4.6 | 160.0 | 2500 | 0.25 | 0.5 | 62.2 | 18 |
| 1N5948B | 91.0 | 4.1 | 200.0 | 3000 | 0.25 | 0.5 | 69.2 | 16 |
| 1N5949B | 100.0 | 3.7 | 250.0 | 3100 | 0.25 | 0.5 | 76.0 | 15 |
| 1N5950B | 110.0 | 3.4 | 300.0 | 4000 | 0.25 | 0.5 | 83.6 | 13 |
| 1N5951B | 120.0 | 3.1 | 380.0 | 4500 | 0.25 | 0.5 | 91.2 | 12 |
| 1N5952B | 130.0 | 2.9 | 450.0 | 5000 | 0.25 | 0.5 | 98.8 | 11 |
| 1N5953B | 150.0 | 2.5 | 600.0 | 6000 | 0.25 | 0.5 | 114.0 | 10 |
| 1N5954B | 160.0 | 2.3 | 700.0 | 6500 | 0.25 | 0.5 | 121.6 | 9 |
| 1N5955B | 180.0 | 2.1 | 900.0 | 7000 | 0.25 | 0.5 | 136.8 | 8 |
| 1N5956B | 200.0 | 1.9 | 1900.0 | 8000 | 0.25 | 0.5 | 152.0 | 7 |

Zener
1.5W Axial

Note:

1. The type number listed have a standard tolerance on the nominal zener voltage of $\pm 5\%$
2. The reverse surge current is a non-repetitive, 8.3ms pulse width square wave or equivalent sine-wave superimposed on I_{ZT} per JEDEC Method