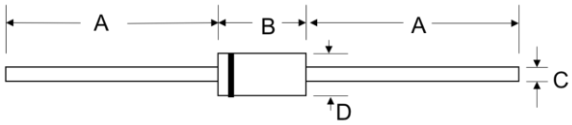
# 1.5W ZENER DIODES

## Features

- Low profile package.
- Low Zener impedance.
- High reliability chips.
- Halogen free and RoHS compliant
- Lead-free finish




DO-15

| REF. | DIMENSIONS | | | |
|---|---|---|---|---|
| | Millimeters | | Inches | |
| | Min. | Max. | Min. | Max. |
| A | 25.4 | --- | 1.000 | --- |
| B | 4.20 | 5.20 | 0.165 | 0.205 |
| C | 0.65 | 0.90 | 0.026 | 0.034 |
| D | 2.00 | 2.85 | 0.080 | 0.112 |

## Mechanical Characteristics

- CASE: DO-41 Molded Plastic.
- Mounting Position: Any
- Polarity: cathode by color band
- Terminal: Solder plated

## Maximum Ratings and Characteristics @ 25°C Ambient Temperature (unless otherwise noted)

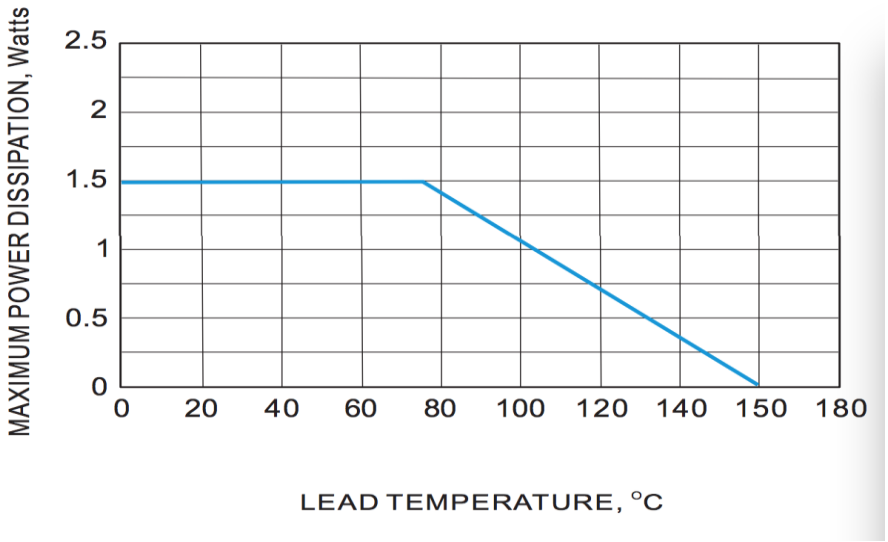
| Parameter | Symbol | Value | Units |
|---|---|---|---|
| Power Dissipation | $P_D$ | 1.5 | W |
| Thermal Resistance Junction To Ambient Air | $R_{\theta JA}$ | 100 | °C/W |
| Thermal Resistance Junction To Leads | $R_{\theta JL}$ | 25 | °C/W |
| Forward voltage @ $I_F$=200mA | $V_F$ | 1.2 | V |
| Storage Temperature Range | $T_{STG}$ | -55 to 150 | °C |
| Operating Junction Temperature Range | $T_J$ | -55 to 150 | °C |

## Electrical Characteristics (Ratings at 25℃ ambient temperature unless otherwise specified).

| Part Number | Zener voltage | | Test current | Dynamic impedance | Knee current | Knee impedance | Reverse current | Reverse voltage | Max.DC current |
|---|---|---|---|---|---|---|---|---|---|
| | VZ /V | | IZT | ZZT | IZK | ZZK | IR(Max.) | VR | IZM |
| | Vz(MIN) | Vz(MAX) | m A | Ω | m A | Ω | μAdc | V | m A |
| 1N5916B | 4.1 | 4.5 | 87.2 | 6.0 | 1 | 500 | 5 | 1.0 | 348 |
| 1N5917B | 4.5 | 4.9 | 79.8 | 5.0 | 1 | 500 | 5 | 1.5 | 319 |
| 1N5918B | 4.8 | 5.4 | 73.5 | 4.0 | 1 | 350 | 5 | 2.0 | 294 |
| 1N5919B | 5.3 | 5.9 | 66.9 | 2.0 | 1 | 250 | 5 | 3.0 | 267 |
| 1N5920B | 5.9 | 6.5 | 60.5 | 2.0 | 1 | 200 | 5 | 4.0 | 241 |
| 1N5921B | 6.5 | 7.1 | 55.1 | 2.5 | 1 | 200 | 5 | 5.2 | 220 |
| 1N5922B | 7.1 | 7.9 | 50.0 | 3.0 | 0.5 | 400 | 5 | 6.0 | 200 |
| 1N5923B | 7.8 | 8.6 | 45.7 | 3.5 | 0.5 | 400 | 5 | 6.5 | 182 |
| 1N5924B | 8.6 | 9.6 | 41.2 | 4.0 | 0.5 | 500 | 5 | 7.0 | 164 |
| 1N5925B | 9.5 | 10.5 | 37.5 | 4.5 | 0.25 | 500 | 5 | 8.0 | 150 |
| 1N5926B | 10.5 | 11.6 | 34.1 | 5.5 | 0.25 | 550 | 1 | 8.4 | 136 |
| 1N5927B | 11.4 | 12.6 | 31.2 | 6.5 | 0.25 | 550 | 1 | 9.1 | 125 |
| 1N5928B | 12.4 | 13.7 | 28.8 | 7.0 | 0.25 | 550 | 1 | 9.9 | 115 |
| 1N5929B | 14.3 | 15.8 | 25.0 | 9.0 | 0.25 | 600 | 1 | 11.4 | 100 |
| 1N5930B | 15.2 | 16.8 | 23.4 | 10.0 | 0.25 | 600 | 1 | 12.2 | 93 |
| 1N5931B | 17.1 | 18.9 | 20.8 | 12.0 | 0.25 | 650 | 1 | 13.7 | 83 |
| 1SMA5932B | 19.0 | 21.0 | 18.7 | 14.0 | 0.25 | 650 | 1 | 15.2 | 75 |
| 1N5933B | 20.9 | 23.1 | 17.0 | 17.5 | 0.25 | 650 | 1 | 16.7 | 68 |
| 1N5934B | 22.8 | 25.2 | 15.6 | 19.0 | 0.25 | 700 | 1 | 18.2 | 62 |
| 1N5935B | 25.7 | 28.4 | 13.9 | 23.0 | 0.25 | 700 | 1 | 20.6 | 55 |
| 1N5936B | 28.5 | 31.5 | 12.5 | 28.0 | 0.25 | 750 | 1 | 22.8 | 50 |
| 1N5937B | 31.4 | 34.7 | 11.4 | 33.0 | 0.25 | 800 | 1 | 25.1 | 45 |
| 1N5938B | 34.2 | 37.8 | 10.4 | 38.0 | 0.25 | 850 | 1 | 27.4 | 41 |
| 1N5939B | 37.1 | 41.0 | 9.6 | 45.0 | 0.25 | 900 | 1 | 29.7 | 38 |
| 1N5940B | 40.9 | 45.2 | 8.7 | 53.0 | 0.25 | 950 | 1 | 32.7 | 34 |
| 1N5941B | 44.7 | 49.4 | 8.0 | 67.0 | 0.25 | 1000 | 1 | 35.8 | 31 |
| 1N5942B | 48.5 | 53.6 | 7.3 | 70.0 | 0.25 | 1100 | 1 | 38.8 | 29 |

| Part Number | Zener voltage | | Test current | Dynamic impedance | Knee current | Knee impedance | Reverse current | Reverse voltage | Max.DC current |
|---|---|---|---|---|---|---|---|---|---|
| | VZ /V | | IZT | ZZT | IZK | ZZK | IR(Max.) | VR | IZM |
| | Vz(MIN) | Vz(MAX) | m A | Ω | m A | Ω | μAdc | V | m A |
| 1N5943B | 53.2 | 58.8 | 6.7 | 86 | 0.25 | 1300 | 1 | 42.6 | 26 |
| 1N5944B | 58.9 | 65.1 | 6.0 | 100 | 0.25 | 1500 | 1 | 47.1 | 24 |
| 1N5945B | 64.6 | 71.4 | 5.5 | 120 | 0.25 | 1700 | 1 | 51.7 | 22 |
| 1N5946B | 71.3 | 78.8 | 5.0 | 140 | 0.25 | 2000 | 1 | 56.0 | 20 |
| 1N5947B | 77.9 | 86.1 | 4.6 | 160 | 0.25 | 2500 | 1 | 62.2 | 18 |
| 1N5948B | 86.5 | 95.6 | 4.1 | 200 | 0.25 | 3000 | 1 | 69.2 | 16 |
| 1N5949B | 95.0 | 105.0 | 3.7 | 250 | 0.25 | 3100 | 1 | 76.0 | 15 |
| 1N5950B | 104.5 | 115.5 | 3.4 | 300 | 0.25 | 4000 | 1 | 83.6 | 13 |
| 1N5951B | 114.0 | 126.0 | 3.1 | 380 | 0.25 | 4500 | 1 | 91.2 | 12 |
| 1N5952B | 123.5 | 136.5 | 2.9 | 450 | 0.25 | 5000 | 1 | 98.8 | 11 |
| 1N5953B | 142.5 | 157.5 | 2.5 | 600 | 0.25 | 6000 | 1 | 114.0 | 10 |
| 1N5954B | 152.0 | 168.0 | 2.3 | 700 | 0.25 | 6500 | 1 | 121.6 | 9 |
| 1N5955B | 171.0 | 189.0 | 2.1 | 900 | 0.25 | 7000 | 1 | 136.8 | 8 |
| 1N5956B | 190.0 | 210.0 | 1.9 | 1200 | 0.25 | 8000 | 1 | 152.0 | 7 |

**Typical Characteristics**



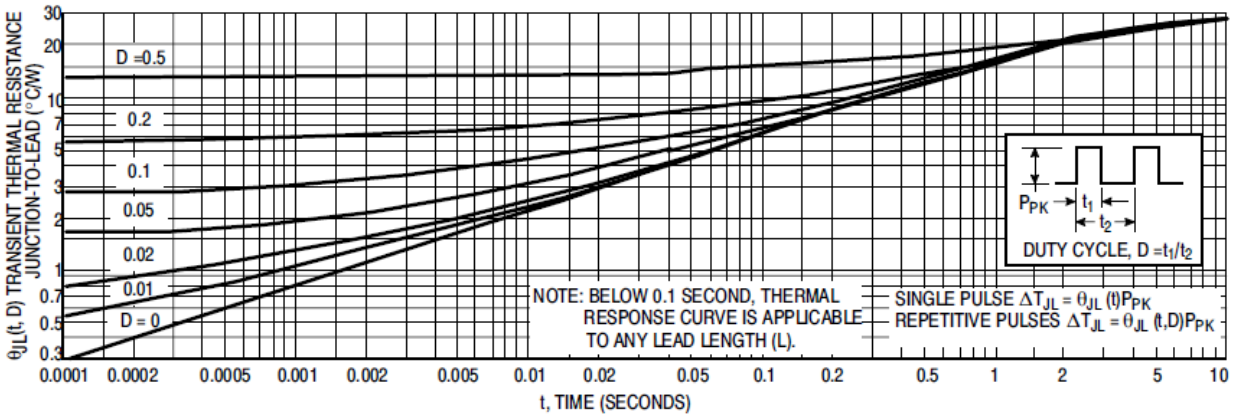



Figure 2. Typical Thermal Response L, Lead Length = 3/8 Inch

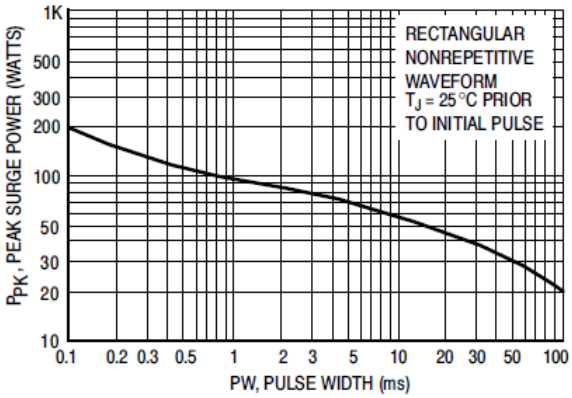



Figure 3. Maximum Surge Power

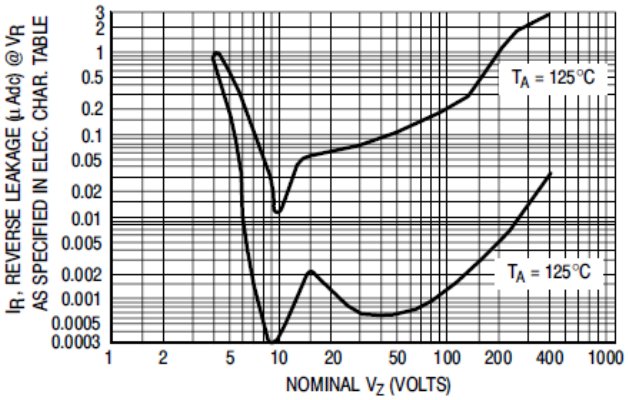



Figure 4. Typical Reverse Leakage