

1N5344B - 1N5388B

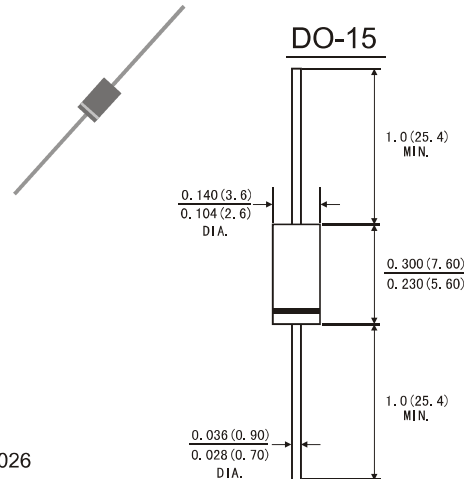
5W ZENER DIODE

Features

- Voltage Range 8.2V - 200V
- Glass Passivated Junction
- 5W Steady State
- High Surge Capability
- $\pm 5\%$ Voltage Tolerance on Nominal V_Z is Standard
- 100% Tested

MECHANICA DATA

- *Case*: JEDEC DO-15 molded plastic body
- *TerMINals* Plated axial leads, solderable per MIL-STD-750, method 2026
- *Polarity*: color band denotes cathode end
- *Mounting Position*: Any
- *Weight*: 0.014ounce, 0.39 gram



Dimensions in inches and (millimeters)

Maximum Ratings @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| | Symbol | Value | Unit |
|---|----------------|-------------|---------------------------|
| DC Power Dissipation @ $T_L = 75^\circ\text{C}$ 9.5mm from Body (Board Mounted) | P_d | 5.0 | W |
| Power Derating Above 75°C Lead Temperature | — | 20 | $^\circ\text{C}/\text{W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +200 | $^\circ\text{C}$ |

- Notes:
1. Nominal Zener Voltage (V_Z) is read with the device in standard test clips with 3/8- to 1/2-inch spacing between clip and case of the diode. Before reading, the diode is allowed to stabilize for a period of 40 ± 10 milliseconds at $25^\circ\text{C} +8, -2^\circ\text{C}$.
 2. The Zener Impedance (Z_Z or Z_{ZK}) is derived from the 60 Hz ac voltage, which results when an ac current having an rms value equal to 10% of the dc zener current (I_{ZT} or I_{ZK}) is superimposed on I_{ZT} or I_{ZK} , respectively.
 3. The Surge Current (I_{ZSM}) is specified as the maximum peak of a nonrecurrent sine wave of 8.3 milliseconds duration.
 4. Voltage regulation (ΔV_Z) is the difference between the voltage measured at 10% and 50% of I_{ZM} .

Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Part Number | Regulator Voltage (V _Z) Volts | Test Current (I _Z) mA dc | Maximum Dynamic Impedance (Z _Z) Ohms | Maximum Reverse Current (I _R) μA | I _R Test Voltage (V _R) Volts | Maximum Regulator Current (I _{ZM}) mA | Maximum Dynamic Knee Impedance (Z _{ZK} @ 1.0mA) Ohms | Maximum Surge Current (I _{ZSM}) Amperes | Maximum Voltage Regulation (ΔV _Z) Volts |
|-------------|---|--|--|--|---|---|---|---|---|
| 1N5344B | 8.2 | 150 | 1.5 | 10 | 6.2 | 580 | 200 | 10.0 | 0.20 |
| 1N5345B | 8.7 | 150 | 2.0 | 10 | 6.6 | 545 | 200 | 9.5 | 0.20 |
| 1N5346B | 9.1 | 150 | 2.0 | 7.5 | 6.9 | 520 | 150 | 9.2 | 0.22 |
| 1N5347B | 10 | 125 | 2.0 | 5.0 | 7.6 | 475 | 125 | 8.6 | 0.22 |
| 1N5348B | 11 | 125 | 2.5 | 5.0 | 8.4 | 430 | 125 | 8.0 | 0.25 |
| 1N5349B | 12 | 100 | 2.5 | 2.0 | 9.1 | 395 | 125 | 7.5 | 0.25 |
| 1N5350B | 13 | 100 | 2.5 | 1.0 | 9.9 | 365 | 100 | 7.0 | 0.25 |
| 1N5351B | 14 | 100 | 2.5 | 1.0 | 10.6 | 340 | 75.0 | 6.7 | 0.25 |
| 1N5352B | 15 | 75 | 2.5 | 1.0 | 11.5 | 315 | 75.0 | 6.3 | 0.25 |
| 1N5353B | 16 | 75 | 2.5 | 1.0 | 12.2 | 295 | 75.0 | 6.0 | 0.30 |
| 1N5354B | 17 | 70 | 2.5 | 0.5 | 12.9 | 280 | 75.0 | 5.8 | 0.35 |
| 1N5355B | 18 | 65 | 2.5 | 0.5 | 13.7 | 264 | 75.0 | 5.5 | 0.40 |
| 1N5356B | 19 | 65 | 3.0 | 0.5 | 14.4 | 250 | 75.0 | 5.3 | 0.40 |
| 1N5357B | 20 | 65 | 3.0 | 0.5 | 15.2 | 237 | 75.0 | 5.1 | 0.40 |
| 1N5358B | 22 | 50 | 3.5 | 0.5 | 16.7 | 216 | 75.0 | 4.7 | 0.45 |
| 1N5359B | 24 | 50 | 3.5 | 0.5 | 18.2 | 198 | 100 | 4.4 | 0.55 |
| 1N5360B | 25 | 50 | 4.0 | 0.5 | 19.0 | 190 | 110 | 4.3 | 0.55 |
| 1N5361B | 27 | 50 | 5.0 | 0.5 | 20.6 | 176 | 120 | 4.1 | 0.60 |
| 1N5362B | 28 | 50 | 6.0 | 0.5 | 21.2 | 170 | 130 | 3.9 | 0.60 |
| 1N5363B | 30 | 40 | 8.0 | 0.5 | 22.8 | 158 | 140 | 3.7 | 0.60 |
| 1N5364B | 33 | 40 | 10 | 0.5 | 25.1 | 144 | 150 | 3.5 | 0.60 |
| 1N5365B | 36 | 30 | 11 | 0.5 | 27.4 | 132 | 160 | 3.3 | 0.65 |
| 1N5366B | 39 | 30 | 14 | 0.5 | 29.7 | 122 | 170 | 3.1 | 0.65 |
| 1N5367B | 43 | 30 | 20 | 0.5 | 32.7 | 110 | 190 | 2.8 | 0.70 |
| 1N5368B | 47 | 25 | 25 | 0.5 | 35.8 | 100 | 210 | 2.7 | 0.80 |
| 1N5369B | 51 | 25 | 27 | 0.5 | 38.8 | 93.0 | 230 | 2.5 | 0.90 |
| 1N5370B | 56 | 20 | 35 | 0.5 | 42.6 | 86.0 | 280 | 2.3 | 1.00 |
| 1N5371B | 60 | 20 | 40 | 0.5 | 45.5 | 79.0 | 350 | 2.2 | 1.20 |
| 1N5372B | 62 | 20 | 42 | 0.5 | 47.1 | 76.0 | 400 | 2.1 | 1.35 |
| 1N5373B | 68 | 20 | 44 | 0.5 | 51.7 | 70.0 | 500 | 2.0 | 1.50 |
| 1N5374B | 75 | 20 | 45 | 0.5 | 56.0 | 63.0 | 620 | 1.9 | 1.60 |
| 1N5375B | 82 | 15 | 65 | 0.5 | 62.2 | 58.0 | 720 | 1.8 | 1.80 |
| 1N5376B | 87 | 15 | 75 | 0.5 | 66.0 | 54.5 | 760 | 1.7 | 2.00 |
| 1N5377B | 91 | 15 | 75 | 0.5 | 69.2 | 52.5 | 760 | 1.6 | 2.20 |
| 1N5378B | 100 | 12 | 90 | 0.5 | 76.0 | 47.5 | 800 | 1.5 | 2.30 |
| 1N5379B | 110 | 12 | 125 | 0.5 | 83.6 | 43.0 | 1000 | 1.4 | 2.50 |
| 1N5380B | 120 | 10 | 170 | 0.5 | 91.2 | 39.5 | 1150 | 1.3 | 2.50 |
| 1N5381B | 130 | 10 | 190 | 0.5 | 98.8 | 36.6 | 1250 | 1.2 | 2.50 |
| 1N5382B | 140 | 8.0 | 230 | 0.5 | 106 | 34.0 | 1500 | 1.2 | 2.50 |
| 1N5383B | 150 | 8.0 | 330 | 0.5 | 114 | 31.6 | 1500 | 1.1 | 3.00 |
| 1N5384B | 160 | 8.0 | 350 | 0.5 | 122 | 29.4 | 1650 | 1.1 | 3.00 |
| 1N5385B | 170 | 8.0 | 380 | 0.5 | 129 | 28.0 | 1750 | 1.0 | 3.00 |
| 1N5386B | 180 | 5.0 | 430 | 0.5 | 137 | 26.4 | 1750 | 1.0 | 4.00 |
| 1N5387B | 190 | 5.0 | 450 | 0.5 | 144 | 25.0 | 1850 | 0.9 | 5.00 |
| 1N5388B | 200 | 5.0 | 480 | 0.5 | 152 | 23.6 | 1850 | 0.9 | 5.00 |

V_F = 1.2V max at I_F = 1.0A all types.

Suffix 'B' denotes 5% tolerance which is standard.

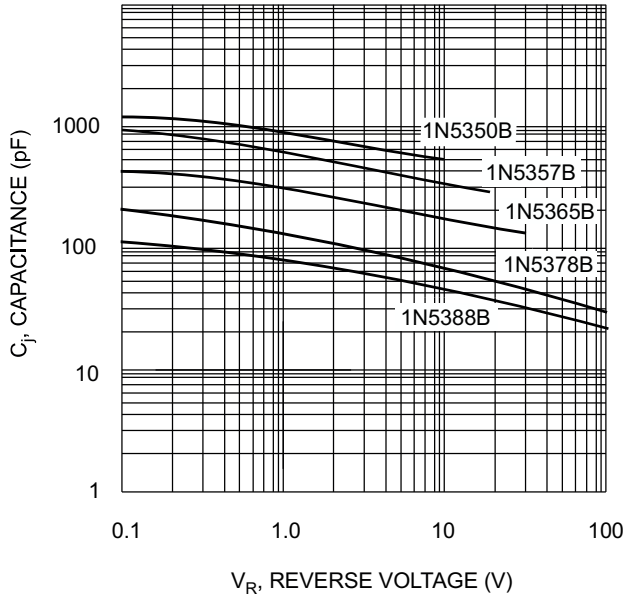


Fig. 1, Typ. Capacitance vs. Reverse Voltage

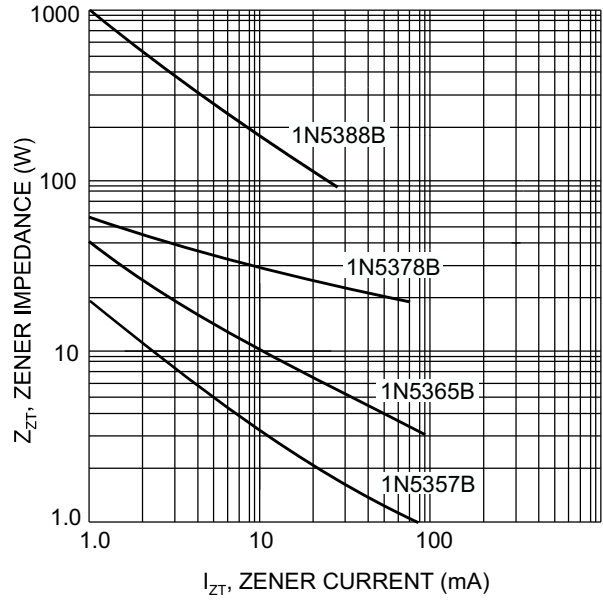


Fig. 2, Typ. Zener Impedance vs. Zener Current

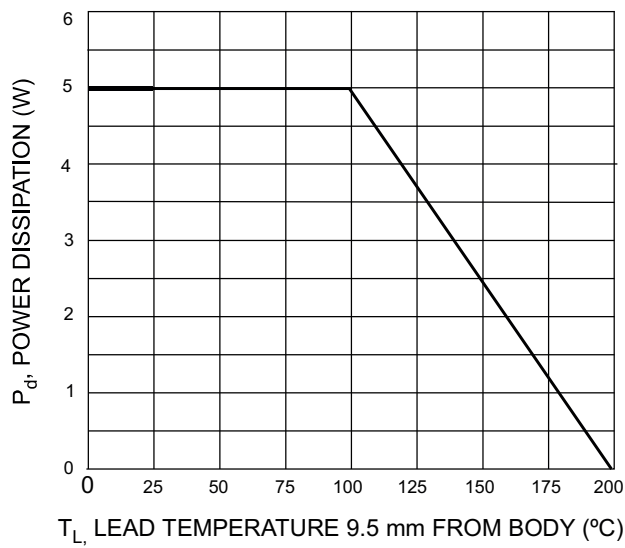


Fig. 3, Power Derating Curve