



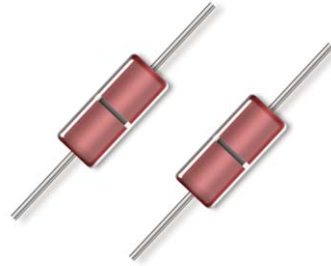
Low Noise Zener Diode Series

1N5518B-1 thru 1N5546B-1



Features

- 1N5518-1 THRU 1N5546B-1 Available in JAN, JANTX and JANTXV PER MIL-PRF-19500/437
- Low Reverse Leakage Characteristics
- Low Noise Characteristics
- Double Plug Construction
- Metallurgically Bonded
- Also available in DO-213 MELF style package.



Maximum Ratings

Junction and Storage Temperature: -65°C to +175°C

DC Power Dissipation: 500 mW @ +50°C

Power Derating: 4 mW / °C above +50°C

Forward Voltage @ 200mA: 1.1 volts maximum

Electrical Specifications @ +25 °C (Unless Otherwise Specified)

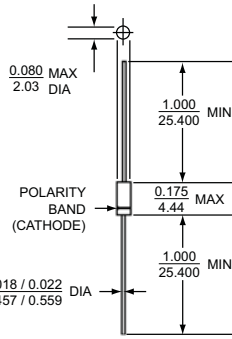
| JEDEC TYPE Number (Note 1) | Normal Zener Voltage $V_Z @ I_{ZT}$ | Zener Test Current I_{ZT} | Maximum Zener Impedance B-C-D Suffix $Z_{ZT} @ I_{ZT}$ | Maximum Reverse Leakage Current | | | B-C-D Suffix Maximum DC Zener Current I_{ZM} | B-C-D Suff Maximum Noise Density @ $I_Z=250 \mu A N_D$ | Regulation Factor ΔV_Z (Note 2) | Low V_Z Current I_{ZL} |
|----------------------------|-------------------------------------|-----------------------------|--|---------------------------------|----------------------|-----------------|--|--|---|----------------------------|
| | | | | I_R | $V_R = \text{Volts}$ | | | | | |
| | | | | | $\mu A dc$ | NON & A- Suffix | | | | |
| Volts | mA | Ohms | $\mu A dc$ | | | mAdc | $\mu V / \sqrt{Hz}$ | Volts | mAdc | |
| 1N5518B | 3.3 | 20 | 26 | 5.0 | 0.90 | 1.0 | 115 | 0.5 | 0.90 | 2.0 |
| 1N5519B | 3.6 | 20 | 24 | 3.0 | 0.90 | 1.0 | 105 | 0.5 | 0.90 | 2.0 |
| 1N5520B | 3.9 | 20 | 22 | 1.0 | 0.90 | 1.0 | 98 | 0.5 | 0.85 | 2.0 |
| 1N5521B | 4.3 | 20 | 18 | 3.0 | 1.0 | 1.5 | 88 | 0.5 | 0.75 | 2.0 |
| 1N5522B | 4.7 | 10 | 22 | 2.0 | 1.5 | 2.0 | 81 | 0.5 | 0.60 | 1.0 |
| 1N5523B | 5.1 | 5.0 | 26 | 2.0 | 2.0 | 2.5 | 75 | 0.5 | 0.65 | 0.25 |
| 1N5524B | 5.6 | 3.0 | 30 | 2.0 | 3.0 | 3.5 | 68 | 1.0 | 0.30 | 0.25 |
| 1N5525B | 6.2 | 1.0 | 30 | 1.0 | 4.5 | 5.0 | 61 | 1.0 | 0.20 | 0.01 |
| 1N5526B | 6.8 | 1.0 | 30 | 1.0 | 5.5 | 6.2 | 56 | 1.0 | 0.10 | 0.01 |
| 1N5527B | 7.5 | 1.0 | 35 | 0.5 | 6.0 | 6.8 | 51 | 2.0 | 0.05 | 0.01 |
| 1N5528B | 8.2 | 1.0 | 40 | 0.5 | 6.5 | 7.5 | 46 | 4.0 | 0.05 | 0.01 |
| 1N5529B | 9.1 | 1.0 | 45 | 0.1 | 7.0 | 8.2 | 42 | 4.0 | 0.05 | 0.01 |
| 1N5530B | 10.0 | 1.0 | 60 | 0.05 | 8.0 | 9.1 | 38 | 4.0 | 0.10 | 0.01 |
| 1N5531B | 11.0 | 1.0 | 80 | 0.05 | 9.0 | 9.9 | 35 | 5.0 | 0.20 | 0.01 |
| 1N5532B | 12.0 | 1.0 | 90 | 0.05 | 9.5 | 0.8 | 32 | 10 | 0.20 | 0.01 |
| 1N5533B | 13.0 | 1.0 | 90 | 0.01 | 10.5 | 11.7 | 29 | 15 | 0.20 | 0.01 |
| 1N5534B | 14.0 | 1.0 | 100 | 0.01 | 11.5 | 12.6 | 27 | 20 | 0.20 | 0.01 |
| 1N5535B | 15.0 | 1.0 | 100 | 0.01 | 12.5 | 13.5 | 25 | 20 | 0.20 | 0.01 |
| 1N5536B | 16.0 | 1.0 | 100 | 0.01 | 13.0 | 14.4 | 24 | 20 | 0.20 | 0.01 |
| 1N5537B | 17.0 | 1.0 | 100 | 0.01 | 14.0 | 15.3 | 22 | 20 | 0.20 | 0.01 |
| 1N5538B | 18.0 | 1.0 | 100 | 0.01 | 15.0 | 16.2 | 21 | 20 | 0.20 | 0.01 |
| 1N5539B | 19.0 | 1.0 | 100 | 0.01 | 16.0 | 17.1 | 20 | 20 | 0.20 | 0.01 |
| 1N5540B | 20.0 | 1.0 | 100 | 0.01 | 17.0 | 18.0 | 19 | 20 | 0.20 | 0.01 |
| 1N5541B | 22.0 | 1.0 | 100 | 0.01 | 18.0 | 19.8 | 17 | 20 | 0.25 | 0.01 |
| 1N5542B | 24.0 | 1.0 | 100 | 0.01 | 20.0 | 21.6 | 16 | 20 | 0.30 | 0.01 |
| 1N5543B | 25.0 | 1.0 | 100 | 0.01 | 21.0 | 22.4 | 15 | 20 | 0.35 | 0.01 |
| 1N5544B | 28.0 | 1.0 | 100 | 0.01 | 23.0 | 25.2 | 14 | 20 | 0.40 | 0.01 |
| 1N5545B | 30.0 | 1.0 | 100 | 0.01 | 24.0 | 27.0 | 13 | 20 | 0.45 | 0.01 |
| 1N5546B | 33.0 | 1.0 | 100 | 0.01 | 28.0 | 29.7 | 12 | 20 | 0.50 | 0.01 |

NOTE 1: No Suffix type numbers are $\pm 20\%$ with guaranteed limits for only V_Z , I_R , and V_F . Units with "A" suffix are $\pm 10\%$ with guaranteed limits for V_Z , I_R , and V_F . Units with guaranteed limits for all six parameters are indicated by a "B" suffix for $\pm 5.0\%$ units, "C" suffix for $\pm 2.0\%$ and "D" suffix for $\pm 1.0\%$.

NOTE 2: Delta V_Z is the maximum difference between $V_Z @ I_{ZT}$ and $V_Z @ I_{ZL}$ measured with the device junction in thermal equilibrium.



Outline Drawing



All dimensions in $\frac{\text{INCH}}{\text{mm}}$

LEADED DESIGN DATA

CASE: Hermetically sealed, DO – 35

LEAD MATERIAL: Copper clad steel

LEAD FINISH: Tin / Lead

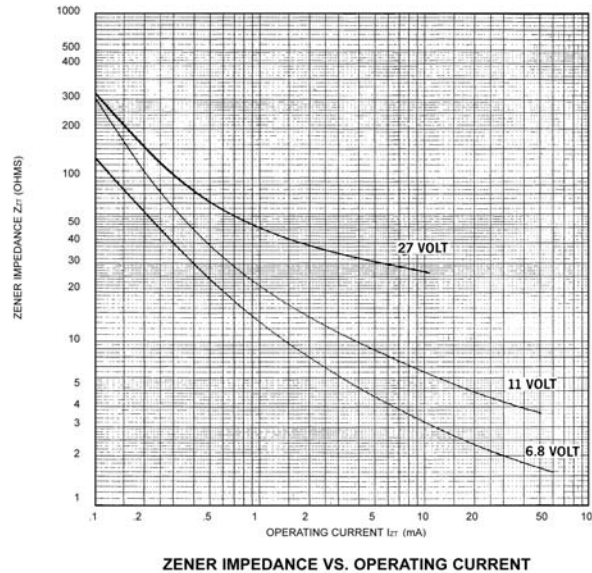
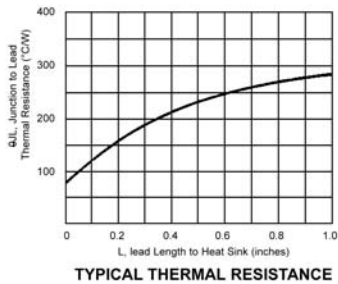
THERMAL RESISTANCE: ($R_{\theta JEC}$): 250 °C/W maximum at L = 0.375 in

THERMAL IMPEDANCE: ($Z_{\theta J\lambda}$): 35 °C/W maximum

POLARITY: Diode to be operated with the banded (cathode) end positive.

MOUNTING POSITION: Any

Graphs



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Our passion for performance is defined by three attributes represented by these three icons: solution-minded, performance-driven and customer-focused.