

1N5518 thru 1N5546

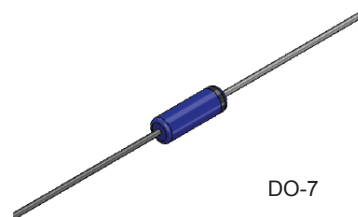


Low Noise Zener Diode Series

Rev. V1

Features

- Designed For Use @ Low Current
- Low Leakage Current
- Low Impedance
- Low Noise
- Axial Leaded DO-7 Package
- RoHS* Compliant



DO-7

Electrical Specifications¹: $T_A = +25^\circ\text{C}$ (unless otherwise specified)

| Part # | Zener Voltage $V_Z @ I_{ZT}$ | Test Current I_{ZT} | Zener Impedance $Z_{ZT} @ I_{ZT}$ | Reverse Leakage Current | | | Noise Density @ $I_Z = 250 \mu\text{A}$ | Regulation Factor | | Regulator Current |
|--------|---------------------------------|--------------------------|--------------------------------------|-------------------------|------------------------|---------------------|--|-------------------|------|-------------------|
| | | | | | No suffix, A suffix | B, C, D suffixes | | | | |
| | | | | Typ. | Typ. | Max. | | Max. | | |
| | (V) | (mA) | (Ω) | (μA) | (V) | (V) | ($\mu\text{V}/\sqrt{\text{Hz}}$) | (V) | (mA) | (mA) |
| 1N5518 | 3.3 | 20 | 26 | 5 | 0.9 | 1 | 0.5 | 0.9 | 2 | 115 |
| 1N5519 | 3.6 | 20 | 24 | 3 | 0.9 | 1 | 0.5 | 0.9 | 2 | 105 |
| 1N5520 | 3.9 | 20 | 22 | 1 | 0.9 | 1 | 0.5 | 0.85 | 2 | 98 |
| 1N5521 | 4.3 | 20 | 18 | 3 | 1 | 1.5 | 0.5 | 0.75 | 2 | 88 |
| 1N5522 | 4.7 | 10 | 22 | 2 | 1.5 | 2 | 0.5 | 0.6 | 1 | 81 |
| 1N5523 | 5.1 | 5 | 26 | 2 | 2 | 2.5 | 0.5 | 0.65 | 0.25 | 75 |
| 1N5524 | 5.6 | 3 | 30 | 2 | 3 | 3.5 | 1 | 0.3 | 0.25 | 68 |
| 1N5525 | 6.2 | 1 | 30 | 1 | 4.5 | 5 | 1 | 0.2 | 0.01 | 61 |
| 1N5526 | 6.8 | 1 | 30 | 1 | 5.5 | 6.2 | 1 | 0.1 | 0.01 | 56 |
| 1N5527 | 7.5 | 1 | 35 | 0.5 | 6 | 6.8 | 2 | 0.05 | 0.01 | 51 |
| 1N5528 | 8.2 | 1 | 40 | 0.5 | 6.5 | 7.5 | 4 | 0.05 | 0.01 | 46 |
| 1N5529 | 9.1 | 1 | 45 | 0.1 | 7 | 8.2 | 4 | 0.05 | 0.01 | 42 |
| 1N5530 | 10 | 1 | 60 | 0.05 | 8 | 9.1 | 4 | 0.1 | 0.01 | 38 |
| 1N5531 | 11 | 1 | 80 | 0.05 | 9 | 9.9 | 5 | 0.2 | 0.01 | 35 |
| 1N5532 | 12 | 1 | 90 | 0.05 | 9.5 | 10.8 | 10 | 0.2 | 0.01 | 32 |
| 1N5533 | 13 | 1 | 90 | 0.01 | 10.5 | 11.7 | 15 | 0.2 | 0.01 | 29 |
| 1N5534 | 14 | 1 | 100 | 0.01 | 11.5 | 12.6 | 20 | 0.2 | 0.01 | 27 |
| 1N5535 | 15 | 1 | 100 | 0.01 | 12.5 | 13.5 | 20 | 0.2 | 0.01 | 25 |
| 1N5536 | 16 | 1 | 100 | 0.01 | 13 | 14.4 | 20 | 0.2 | 0.01 | 24 |
| 1N5537 | 17 | 1 | 100 | 0.01 | 14 | 15.3 | 20 | 0.2 | 0.01 | 22 |
| 1N5538 | 18 | 1 | 100 | 0.01 | 15 | 16.2 | 20 | 0.2 | 0.01 | 21 |
| 1N5539 | 19 | 1 | 100 | 0.01 | 16 | 17.1 | 20 | 0.2 | 0.01 | 20 |

(Continued next page)

¹ * Restrictions on Hazardous Substances, European Union Directive 2011/65/EU.

MACOM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

1N5518 thru 1N5546



Low Noise Zener Diode Series

Rev. V1

Electrical Specifications¹: $T_A = +25^\circ\text{C}$ (unless otherwise specified)

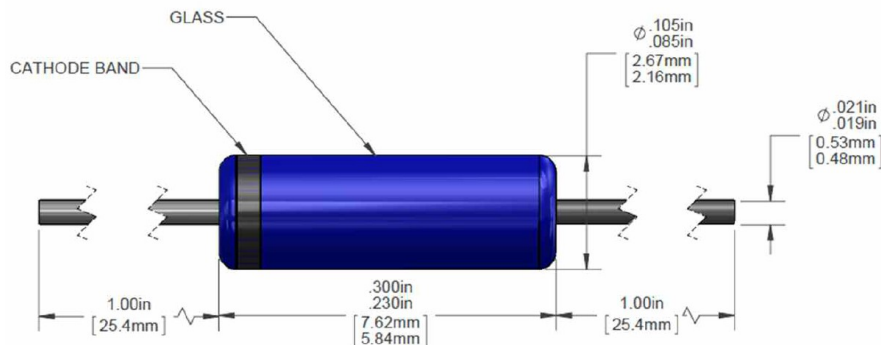
| Part # | Zener Voltage $V_Z @ I_{ZT}$ | Test Current I_{ZT} | Zener Impedance $Z_{ZT} @ I_{ZT}$ | Reverse Leakage Current | | | Noise Density @ $I_Z = 250 \mu\text{A}$ | Regulation Factor | | Regulator Current |
|--------|---------------------------------|--------------------------|--------------------------------------|-------------------------|---------------------|------------------|--|-------------------|------|-------------------|
| | | | | | No suffix, A suffix | B, C, D suffixes | | | | |
| | | | | Typ. | Typ. | Max. | | Max. | Max. | |
| | (V) | (mA) | (Ω) | (μA) | (V) | (V) | ($\mu\text{V}/\sqrt{\text{Hz}}$) | (V) | (mA) | (mA) |
| 1N5540 | 20 | 1 | 100 | 0.01 | 17 | 18 | 20 | 0.2 | 0.01 | 19 |
| 1N5541 | 22 | 1 | 100 | 0.01 | 18 | 19.8 | 25 | 0.25 | 0.01 | 17 |
| 1N5542 | 24 | 1 | 100 | 0.01 | 20 | 21.6 | 30 | 0.3 | 0.01 | 16 |
| 1N5543 | 25 | 1 | 100 | 0.01 | 21 | 22.4 | 35 | 0.35 | 0.01 | 15 |
| 1N5544 | 28 | 1 | 100 | 0.01 | 23 | 25.2 | 40 | 0.4 | 0.01 | 14 |
| 1N5545 | 30 | 1 | 100 | 0.01 | 24 | 27 | 45 | 0.45 | 0.01 | 13 |
| 1N5546 | 33 | 1 | 100 | 0.01 | 28 | 29.7 | 50 | 0.5 | 0.01 | 12 |

1. Part number suffix denotes zener voltage tolerance: No suffix = $\pm 20\%$, "A" = $\pm 10\%$, "B" = $\pm 5\%$, "C" = $\pm 2\%$, "D" = $\pm 1\%$.

Absolute Maximum Ratings

| Parameter | Absolute Maximum |
|---------------------------------|---|
| Steady State Power Dissipation | 500 mW @ $+50^\circ\text{C}$ |
| Forward Voltage | 1.1 V @ 200 mA |
| DC Power Derating | 4 mW / $^\circ\text{C}$ above $+50^\circ\text{C}$ |
| Operating & Storage Temperature | -65°C to $+175^\circ\text{C}$ |

Hermetically Sealed Glass, DO-7



Lead Material: copper clad steel
 Lead Finish: tin/lead
 Marking: part number and cathode band
 Weight: 0.2 grams
 Mounting Position: any

2

MACOM Technology Solutions Inc. (MACOM) and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit www.macom.com for additional data sheets and product information.

For further information and support please visit:
<https://www.macom.com/support>

DC-0018919

MACOM Technology Solutions Inc. All rights reserved.

Information in this document is provided in connection with MACOM Technology Solutions Inc ("MACOM") products. These materials are provided by MACOM as a service to its customers and may be used for informational purposes only. Except as provided in MACOM's Terms and Conditions of Sale for such products or in any separate agreement related to this document, MACOM assumes no liability whatsoever. MACOM assumes no responsibility for errors or omissions in these materials. MACOM may make changes to specifications and product descriptions at any time, without notice. MACOM makes no commitment to update the information and shall have no responsibility whatsoever for conflicts or incompatibilities arising from future changes to its specifications and product descriptions. No license, express or implied, by estoppel or otherwise, to any intellectual property rights is granted by this document.

THESE MATERIALS ARE PROVIDED "AS IS" WITHOUT WARRANTY OF ANY KIND, EITHER EXPRESS OR IMPLIED, RELATING TO SALE AND/OR USE OF MACOM PRODUCTS INCLUDING LIABILITY OR WARRANTIES RELATING TO FITNESS FOR A PARTICULAR PURPOSE, CONSEQUENTIAL OR INCIDENTAL DAMAGES, MERCHANTABILITY, OR INFRINGEMENT OF ANY PATENT, COPYRIGHT OR OTHER INTELLECTUAL PROPERTY RIGHT. MACOM FURTHER DOES NOT WARRANT THE ACCURACY OR COMPLETENESS OF THE INFORMATION, TEXT, GRAPHICS OR OTHER ITEMS CONTAINED WITHIN THESE MATERIALS. MACOM SHALL NOT BE LIABLE FOR ANY SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, INCLUDING WITHOUT LIMITATION, LOST REVENUES OR LOST PROFITS, WHICH MAY RESULT FROM THE USE OF THESE MATERIALS.

MACOM products are not intended for use in medical, lifesaving or life sustaining applications. MACOM customers using or selling MACOM products for use in such applications do so at their own risk and agree to fully indemnify MACOM for any damages resulting from such improper use or sale.