

1N5518D THRU 1N5546D

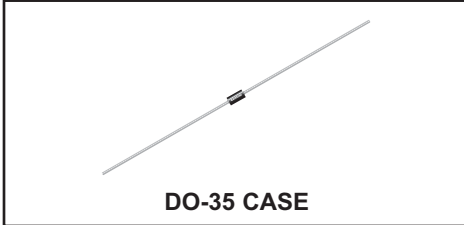
SILICON ZENER DIODES
400mW, 3.3 THRU 33 VOLT
±1% TOLERANCE



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DESCRIPTION:

The CENTRAL SEMICONDUCTOR 1N5518D series silicon Zener diode is designed for low leakage, low current, and low noise applications.



DO-35 CASE

MARKING: FULL PART NUMBER

MAXIMUM RATINGS: (T_A=25°C)

Power Dissipation
Operating and Storage Junction Temperature

SYMBOL

P_D
T_J, T_{stg}

UNITS

400
-65 to +200
mW
°C

ELECTRICAL CHARACTERISTICS: (T_A=25°C) V_F=1.1V MAX @ I_F=200mA (for all types)

| Type | Zener Voltage V _Z @ I _{ZT} | | | Test Current I _{ZT} | Maximum Zener Impedance (Note 1) Z _{ZT} @ I _{ZT} | Maximum Reverse Current I _R @ V _R | | Maximum Voltage Regulation (Note 2) ΔV _Z @ I _{ZL} | | Maximum Regulator Current I _{ZM} | Maximum Noise Density (Note 3) N _D @ 250μA μV/√Hz | Maximum Temperature Coefficient @ I _{ZT} %/°C |
|---------|---|-----|-------|------------------------------------|--|--|------|---|------|--|--|--|
| | MIN | NOM | MAX | | | μA | V | V | mA | | | |
| | V | V | V | mA | Ω | μA | V | V | mA | | | |
| 1N5518D | 3.267 | 3.3 | 3.333 | 20 | 26 | 5.0 | 1.0 | 0.9 | 2.0 | 115 | 0.5 | -0.070 |
| 1N5519D | 3.564 | 3.6 | 3.636 | 20 | 24 | 3.0 | 1.0 | 0.9 | 2.0 | 105 | 0.5 | -0.065 |
| 1N5520D | 3.861 | 3.9 | 3.939 | 20 | 22 | 1.0 | 1.0 | 0.85 | 2.0 | 98 | 0.5 | -0.060 |
| 1N5521D | 4.257 | 4.3 | 4.343 | 20 | 18 | 3.0 | 1.5 | 0.75 | 2.0 | 88 | 0.5 | -0.055 +0.020 |
| 1N5522D | 4.653 | 4.7 | 4.747 | 10 | 22 | 2.0 | 2.0 | 0.60 | 1.0 | 81 | 0.5 | -0.043 +0.025 |
| 1N5523D | 5.049 | 5.1 | 5.151 | 5.0 | 26 | 2.0 | 2.5 | 0.65 | 0.25 | 75 | 0.5 | -0.030 +0.030 |
| 1N5524D | 5.544 | 5.6 | 5.656 | 3.0 | 30 | 2.0 | 3.5 | 0.30 | 0.25 | 68 | 1.0 | -0.030 +0.045 |
| 1N5525D | 6.138 | 6.2 | 6.262 | 1.0 | 30 | 1.0 | 5.0 | 0.20 | 0.01 | 61 | 1.0 | +0.050 |
| 1N5526D | 6.732 | 6.8 | 6.868 | 1.0 | 30 | 1.0 | 6.2 | 0.10 | 0.01 | 56 | 1.0 | +0.052 |
| 1N5527D | 7.425 | 7.5 | 7.575 | 1.0 | 35 | 0.5 | 6.8 | 0.05 | 0.01 | 51 | 2.0 | +0.058 |
| 1N5528D | 8.118 | 8.2 | 8.282 | 1.0 | 40 | 0.5 | 7.5 | 0.05 | 0.01 | 46 | 4.0 | +0.062 |
| 1N5529D | 9.009 | 9.1 | 9.191 | 1.0 | 45 | 0.1 | 8.2 | 0.05 | 0.01 | 42 | 4.0 | +0.068 |
| 1N5530D | 9.900 | 10 | 10.10 | 1.0 | 60 | 0.05 | 9.1 | 0.10 | 0.01 | 38 | 4.0 | +0.075 |
| 1N5531D | 10.89 | 11 | 11.11 | 1.0 | 80 | 0.05 | 9.9 | 0.20 | 0.01 | 35 | 5.0 | +0.075 |
| 1N5532D | 11.88 | 12 | 12.12 | 1.0 | 90 | 0.05 | 10.8 | 0.20 | 0.01 | 32 | 10 | +0.080 |
| 1N5533D | 12.87 | 13 | 13.13 | 1.0 | 90 | 0.01 | 11.7 | 0.20 | 0.01 | 29 | 15 | +0.080 |
| 1N5534D | 13.86 | 14 | 14.14 | 1.0 | 100 | 0.01 | 12.6 | 0.20 | 0.01 | 27 | 20 | +0.082 |
| 1N5535D | 14.85 | 15 | 15.15 | 1.0 | 100 | 0.01 | 13.5 | 0.20 | 0.01 | 25 | 20 | +0.082 |
| 1N5536D | 15.84 | 16 | 16.16 | 1.0 | 100 | 0.01 | 14.4 | 0.20 | 0.01 | 24 | 20 | +0.083 |
| 1N5537D | 16.83 | 17 | 17.17 | 1.0 | 100 | 0.01 | 15.3 | 0.20 | 0.01 | 22 | 20 | +0.085 |
| 1N5538D | 17.82 | 18 | 18.18 | 1.0 | 100 | 0.01 | 16.2 | 0.20 | 0.01 | 21 | 20 | +0.085 |

- Notes: 1. Measured with 10%, 60Hz AC superimposed on I_{ZT}.
2. Difference between V_Z @ I_{ZT} and I_{ZL}.
3. Measured from 1.0kHz to 3.0kHz.

R0 (3-August 2017)

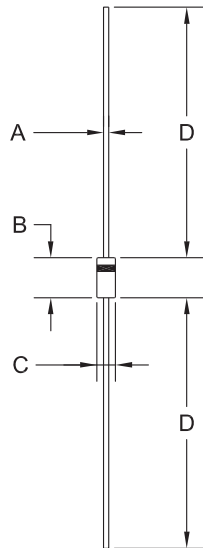
1N5518D THRU 1N5546D
SILICON ZENER DIODES
400mW, 3.3 THRU 33 VOLT
±1% TOLERANCE



ELECTRICAL CHARACTERISTICS - Continued: ($T_A=25^\circ\text{C}$) $V_F=1.1\text{V MAX @ } I_F=200\text{mA}$ (for all types)

| Type | Zener Voltage $V_Z @ I_{ZT}$ | | | Test Current | Maximum Zener Impedance (Note 1) | Maximum Reverse Current | | Maximum Voltage Regulation (Note 2) | | Maximum Regulator Current | Maximum Noise Density (Note 3) | Maximum Temperature Coefficient @ I_{ZT} |
|---------|------------------------------|-----|-------|--------------|----------------------------------|-------------------------|-------------------|-------------------------------------|-----------------------|---------------------------|--------------------------------|--|
| | MIN | NOM | MAX | | | I_{ZT} | $Z_{ZT} @ I_{ZT}$ | $I_R @ V_R$ | $\Delta V_Z @ I_{ZL}$ | | | |
| | V | V | V | mA | Ω | μA | V | V | mA | mA | $\mu\text{V}/\sqrt{\text{Hz}}$ | % / $^\circ\text{C}$ |
| 1N5539D | 18.81 | 19 | 19.19 | 1.0 | 100 | 0.01 | 17.1 | 0.20 | 0.01 | 20 | 20 | +0.086 |
| 1N5540D | 19.80 | 20 | 20.20 | 1.0 | 100 | 0.01 | 18.0 | 0.20 | 0.01 | 19 | 20 | +0.086 |
| 1N5541D | 21.78 | 22 | 22.22 | 1.0 | 100 | 0.01 | 19.8 | 0.25 | 0.01 | 17 | 20 | +0.087 |
| 1N5542D | 23.76 | 24 | 24.24 | 1.0 | 100 | 0.01 | 21.6 | 0.30 | 0.01 | 16 | 20 | +0.088 |
| 1N5543D | 24.75 | 25 | 25.25 | 1.0 | 100 | 0.01 | 22.4 | 0.35 | 0.01 | 15 | 20 | +0.090 |
| 1N5544D | 27.72 | 28 | 28.28 | 1.0 | 100 | 0.01 | 25.2 | 0.40 | 0.01 | 14 | 20 | +0.091 |
| 1N5545D | 29.70 | 30 | 30.30 | 1.0 | 100 | 0.01 | 27.0 | 0.45 | 0.01 | 13 | 20 | +0.091 |
| 1N5546D | 32.67 | 33 | 33.33 | 1.0 | 100 | 0.01 | 29.7 | 0.50 | 0.01 | 12 | 20 | +0.092 |

DO-35 CASE - MECHANICAL OUTLINE



R1

| SYMBOL | DIMENSIONS | | | |
|--------|------------|-------|-------------|------|
| | INCHES | | MILLIMETERS | |
| | MIN | MAX | MIN | MAX |
| A | 0.018 | 0.022 | 0.46 | 0.56 |
| B | 0.120 | 0.200 | 3.05 | 5.08 |
| C | 0.060 | 0.090 | 1.52 | 2.29 |
| D | 1.000 | - | 25.40 | - |

DO-35 (REV: R1)

MARKING: FULL PART NUMBER

R0 (3-August 2017)

OUTSTANDING SUPPORT AND SUPERIOR SERVICES



PRODUCT SUPPORT

Central's operations team provides the highest level of support to insure product is delivered on-time.

- Supply management (Customer portals)
- Inventory bonding
- Consolidated shipping options
- Custom bar coding for shipments
- Custom product packing

DESIGNER SUPPORT/SERVICES

Central's applications engineering team is ready to discuss your design challenges. Just ask.

- Free quick ship samples (2nd day air)
- Online technical data and parametric search
- SPICE models
- Custom electrical curves
- Environmental regulation compliance
- Customer specific screening
- Up-screening capabilities
- Special wafer diffusions
- PbSn plating options
- Package details
- Application notes
- Application and design sample kits
- Custom product and package development

REQUESTING PRODUCT PLATING

1. If requesting Tin/Lead plated devices, add the suffix " TIN/LEAD" to the part number when ordering (example: 2N2222A TIN/LEAD).
2. If requesting Lead (Pb) Free plated devices, add the suffix " PBFREE" to the part number when ordering (example: 2N2222A PBFREE).

CONTACT US

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