# 500mW 2% Zener Diodes

## FEATURES

- Wide zener voltage range selection: 2.4V to 75V
- VZ Tolerance Selection of ± 2%
- Hermetically sealed glasss
- Compliant to RoHS directive 2011/65/EU and in accordance to WEEE 2002/96/EC
- Halogen-free according to IEC 61249-2-21

## APPLICATIONS

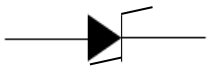
- Low voltage stabilzers or voltage references
- Adapters
- Lighting application
- On-board DC/DC converter

## MECHANICAL DATA

- Case: DO-35
- Packing code with suffix "G" means green compound (halogen-free)
- Terminal: Matte tin plated leads, solderable per J-STD-002
- Polarity: Indicated by cathode band
- Weight: 109 ± 4 mg (approximately)

| KEY PARAMETERS | | |
|---|---|---|
| **PARAMETER** | **VALUE** | **UNIT** |
| $V_Z$ | 2.4-75 | V |
| Test current $I_{ZT}$ | 2.5-5 | mA |
| $P_{tot}$ | 500 | mW |
| $V_F$ at $I_F$=100mA | 1.5 | V |
| $T_J$ MAX. | 175 | °C |
| Package | DO-35 | |
| Configuration | Single dice | |

Pb-Free RoHS COMPLIANT HALOGEN FREE



| ABSOLUTE MAXIMUM RATINGS ($T_A$ = 25°C unless otherwise noted) | | | |
|---|---|---|---|
| **PARAMETER** | **SYMBOL** | **PART NUMBER** | **UNIT** |
| Forward voltage @ $I_F$=100mA | $V_F$ | 1.5 | V |
| Total power dissipation | $P_{tot}$ | 500 | mW |
| Junction temperature range | $T_J$ | -55 ~ 175 | °C |
| Storage temperature range | $T_{STG}$ | -55 ~ 175 | °C |

## ELECTRICAL SPECIFICATIONS ($T_A$ = 25°C unless otherwise noted)

| PART NUMBER | ZENER VOLTAGE | | | TEST CURRENT | REGULAR IMPEDANCE | | TEST CURRENT | LEAKAGE CURRENT | |
|---|---|---|---|---|---|---|---|---|---|
| | $V_Z$ @ $I_{ZT}$ | | | $I_{ZT}$ | $Z_{ZT}$ @ $I_{ZT}$ | $Z_{ZK}$ @ $I_{ZK}$ | $I_{ZK}$ | $V_Z$ @ $I_{ZT}$ | |
| | V | | | mA | Ω | Ω | mA | V | mA |
| | Min. | Nom. | Max. | | Max. | Max. | | Max. | |
| BZX79B2V4 | 2.35 | 2.40 | 2.45 | 5 | 100 | 600 | 1.0 | 100 | 1.0 |
| BZX79B2V7 | 2.65 | 2.70 | 2.75 | 5 | 100 | 600 | 1.0 | 75 | 1.0 |
| BZX79B3V0 | 2.94 | 3.00 | 3.06 | 5 | 95 | 600 | 1.0 | 50 | 1.0 |
| BZX79B3V3 | 3.23 | 3.30 | 3.37 | 5 | 95 | 600 | 1.0 | 25 | 1.0 |
| BZX79B3V6 | 3.53 | 3.60 | 3.67 | 5 | 90 | 600 | 1.0 | 15 | 1.0 |
| BZX79B3V9 | 3.82 | 3.90 | 3.98 | 5 | 90 | 600 | 1.0 | 10 | 1.0 |
| BZX79B4V3 | 4.21 | 4.30 | 4.39 | 5 | 90 | 600 | 1.0 | 5 | 1.0 |
| BZX79B4V7 | 4.61 | 4.70 | 4.79 | 5 | 80 | 500 | 1.0 | 3.0 | 2.0 |
| BZX79B5V1 | 5.00 | 5.10 | 5.2 | 5 | 60 | 480 | 1.0 | 2.0 | 2.0 |
| BZX79B5V6 | 5.49 | 5.60 | 5.71 | 5 | 40 | 400 | 1.0 | 1.0 | 2.0 |
| BZX79B6V2 | 6.08 | 6.20 | 6.32 | 5 | 10 | 150 | 1.0 | 3.0 | 4.0 |
| BZX79B6V8 | 6.66 | 6.80 | 6.94 | 5 | 15 | 80 | 1.0 | 2.0 | 4.0 |
| BZX79B7V5 | 7.35 | 7.50 | 7.65 | 5 | 15 | 80 | 1.0 | 1.0 | 5.0 |
| BZX79B8V2 | 8.04 | 8.20 | 8.36 | 5 | 15 | 80 | 1.0 | 0.7 | 5.0 |
| BZX79B9V1 | 8.92 | 9.10 | 9.28 | 5 | 15 | 100 | 1.0 | 0.5 | 6.0 |
| BZX79B10 | 9.80 | 10.00 | 10.2 | 5 | 20 | 150 | 1.0 | 0.2 | 7.0 |
| BZX79B11 | 10.78 | 11.00 | 11.22 | 5 | 20 | 150 | 1.0 | 0.1 | 8.0 |
| BZX79B12 | 11.76 | 12.00 | 12.24 | 5 | 25 | 150 | 1.0 | 0.1 | 8.0 |
| BZX79B13 | 12.74 | 13.00 | 13.26 | 5 | 30 | 170 | 1.0 | 0.1 | 8.0 |
| BZX79B15 | 14.70 | 15.00 | 15.30 | 5 | 30 | 200 | 1.0 | 0.05 | 10.5 |
| BZX79B16 | 15.68 | 16.00 | 16.32 | 5 | 40 | 200 | 1.0 | 0.05 | 11.2 |
| BZX79B18 | 17.64 | 18.00 | 18.36 | 5 | 45 | 225 | 1.0 | 0.05 | 12.6 |
| BZX79B20 | 19.60 | 20.00 | 20.40 | 5 | 55 | 225 | 1.0 | 0.05 | 14.0 |
| BZX79B22 | 21.56 | 22.00 | 22.44 | 5 | 55 | 250 | 1.0 | 0.05 | 15.4 |
| BZX79B24 | 23.52 | 24.00 | 24.48 | 5 | 70 | 250 | 1.0 | 0.05 | 16.8 |
| BZX79B27 | 26.46 | 27.00 | 27.54 | 2 | 80 | 300 | 0.5 | 0.05 | 18.9 |
| BZX79B30 | 29.40 | 30.00 | 30.60 | 2 | 80 | 300 | 0.5 | 0.05 | 21.0 |
| BZX79B33 | 32.34 | 33.00 | 33.66 | 2 | 80 | 325 | 0.5 | 0.05 | 23.1 |
| BZX79B36 | 35.28 | 36.00 | 36.72 | 2 | 90 | 350 | 0.5 | 0.05 | 25.2 |
| BZX79B39 | 38.22 | 39.00 | 39.78 | 2 | 130 | 350 | 0.5 | 0.05 | 27.3 |
| BZX79B43 | 42.14 | 43.00 | 43.86 | 2 | 150 | 375 | 0.5 | 0.05 | 30.1 |
| BZX79B47 | 46.06 | 47.00 | 47.94 | 2 | 170 | 375 | 0.5 | 0.05 | 32.9 |
| BZX79B51 | 49.98 | 51.00 | 52.02 | 2 | 180 | 400 | 0.5 | 0.05 | 35.7 |
| BZX79B56 | 54.88 | 56.00 | 57.12 | 2 | 200 | 425 | 0.5 | 0.05 | 39.2 |
| BZX79B62 | 60.76 | 62.00 | 63.24 | 2.5 | 215 | 430 | 0.5 | 0.05 | 43.4 |
| BZX79B68 | 66.64 | 68.00 | 69.36 | 2.5 | 240 | 447 | 0.5 | 0.05 | 47.6 |
| BZX79B75 | 73.50 | 75.00 | 76.50 | 2.5 | 255 | 470 | 0.5 | 0.05 | 52.5 |

**Notes:**

1. Tolerance and voltage designation : the type numbers listed have Zener voltage as shown
2. Specials available include, nominal zener voltages between the voltages shown and tighter voltage, for detailed
3. Zener voltage (VZ) measurement, the zener voltage is measured under pulse condicitons such that TJ is no more than 2oC above TA
4. Zener impedance (ZZ) derivaton, zener impedance is derived from the 60-cycle ac voltage, which results when an ac current having an RMS value equal to 10% of the dc zener current (IZT) is superimposed to IZT

## ORDERING INFORMATION

| PART NO. | PACKING CODE | PACKING CODE SUFFIX | PACKAGE | PACKING |
|---|---|---|---|---|
| BZX79BXXX (Note 1&2) | R0 | G | DO-35 | 10K / 14" Reel |
| | A0 | | | 5K / Box (Ammo) |

**Notes:**

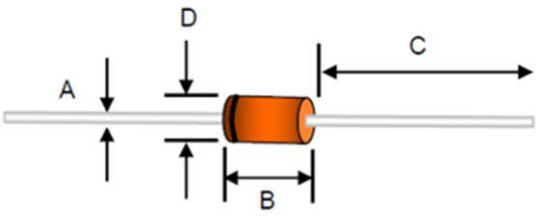
1. "xxx" defines voltage from 2.4V (BZX79B2V4) to 75V (BZX79B75)
2. Whole series with green compound

## EXAMPLE

| EXAMPLE P/N | PART NO. | PACKING CODE | PACKING CODE SUFFIX | DESCRIPTION |
|---|---|---|---|---|
| BZX79B75 R0G | BZX79B75 | R0 | G | Green compound |

## PACKAGE OUTLINE DIMENSION

DO-35




| DIM. | Unit(mm) | | Unit(inch) | |
|---|---|---|---|---|
| | Min | Max | Min | Max |
| A | 0.34 | 0.60 | 0.013 | 0.024 |
| B | 2.90 | 5.08 | 0.114 | 0.200 |
| C | 25.40 | 38.10 | 1.000 | 1.500 |
| D | 1.30 | 2.28 | 0.051 | 0.090 |

## MARKING DIAGRAM

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