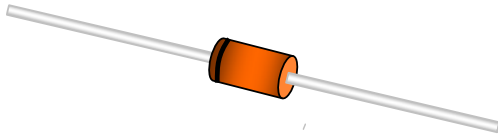
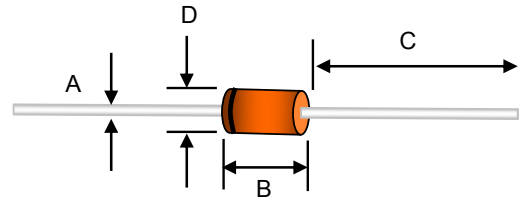


Small Signal Diode



DO-41 Axial Lead
HERMETICALLY SEALED GLASS



Features

- ✧Wide zener voltage range selection : 3.3V to 56V
- ✧V_z Tolerance Selection of ±5%
- ✧Designed for through-hole Device Type Mounting.
- ✧Hermetically Sealed Glass.
- ✧Pb free version and RoHS compliant
- ✧High reliability glass passivation insuring parameter stability and protection against junction contamination.

Mechanical Data

- ✧Case :DO-41 Solder Hot Dip Tin (Sn) lead finish
- ✧Lead: Axial leads, solderable per MIL-STD-202, Method 2025
- ✧Polarity : Indicated by cathode band
- ✧Weight : 310 mg

| Dimensions | Unit (mm) | | Unit (inch) | |
|------------|-----------|------|-------------|-------|
| | Min | Max | Min | Max |
| A | 0.68 | 0.81 | 0.027 | 0.032 |
| B | 3.70 | 4.25 | 0.146 | 0.167 |
| C | 25.40 | - | 1.000 | - |
| D | 2.10 | 2.60 | 0.083 | 0.102 |

Ordering Information

| Part No. | Package code | Package | Packing |
|--------------|--------------|---------|------------------|
| BZX85C3V3-56 | A0 | DO-41 | 3Kpcs / Ammo |
| BZX85C3V3-56 | R0 | DO-41 | 5Kpcs / 14" Reel |

Maximum Ratings and Electrical Characteristics

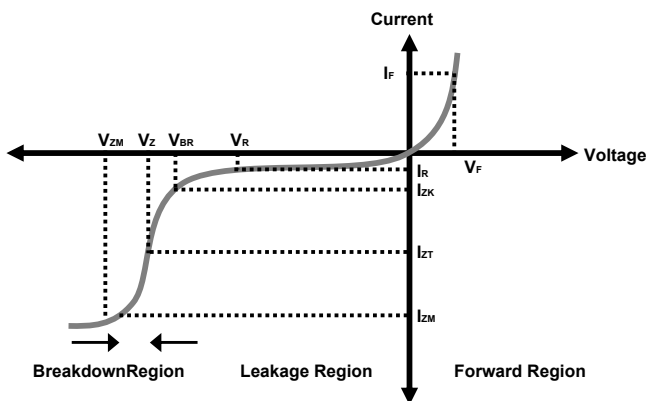
Rating at 25°C ambient temperature unless otherwise specified.

Maximum Ratings

| Type Number | Symbol | Value | Units |
|--|-----------------------------------|--------------|-------|
| Power Dissipation | P _D | 1.3 | W |
| Forward Voltage | V _F | 1.2 | V |
| Thermal Resistance (Junction to Ambient) | R _{θJA} | 130 | °C/W |
| Junction and Storage Temperature Range | T _J , T _{STG} | -55 to + 175 | °C |

Notes:1. Valid provided that electrodes are kept at ambient temperature

Zener I vs. V Characteristics



- V_{BR} : Voltage at I_{ZK}
- I_{ZK} : Test current for voltage V_{BR}
- Z_{ZK} : Dynamic impedance at I_{ZK}
- I_{ZT} : Test current for voltage V_Z
- V_Z : Voltage at current I_{ZT}
- Z_{ZT} : Dynamic impedance at I_{ZT}
- I_{ZM} : Maximum steady state current
- V_{ZM} : Voltage at I_{ZM}

Small Signal Diode

Electrical Characteristics

Ta = 25°C unless otherwise noted

V_F Forward Voltage = 1.2V Maximum @ I_F = 200 mA for all part numbers

| Part Number | Marking Code | V _Z @ I _{ZT} (Volt) | | | I _{ZT} (mA) | Z _{ZT} @ I _{ZT} (Ω) Max | I _{ZK} (mA) | Z _{ZK} @ I _{ZK} (Ω) Max | I _R @ V _R (μA) Max | V _R (V) |
|-------------|--------------|---|-----|------|----------------------|---|----------------------|---|--|--------------------|
| | | Min | Nom | Max | | | | | | |
| BZX85C3V3 | BZX85C3V3 | 3.1 | 3.3 | 3.5 | 80 | 20 | 1 | 400 | 40 | 1 |
| BZX85C3V6 | BZX85C3V6 | 3.4 | 3.6 | 3.8 | 60 | 20 | 1 | 500 | 20 | 1 |
| BZX85C3V9 | BZX85C3V9 | 3.7 | 3.9 | 4.1 | 60 | 15 | 1 | 500 | 20 | 1 |
| BZX85C4V3 | BZX85C4V3 | 4.1 | 4.3 | 4.5 | 50 | 13 | 1 | 500 | 3 | 1 |
| BZX85C4V7 | BZX85C4V7 | 4.5 | 4.7 | 4.9 | 45 | 13 | 1 | 600 | 3 | 1 |
| BZX85C5V1 | BZX85C5V1 | 4.8 | 5.1 | 5.4 | 45 | 10 | 1 | 500 | 1 | 1.5 |
| BZX85C5V6 | BZX85C5V6 | 5.3 | 5.6 | 5.9 | 45 | 7 | 1 | 400 | 1 | 2 |
| BZX85C6V2 | BZX85C6V2 | 5.9 | 6.2 | 6.5 | 35 | 4 | 1 | 300 | 1 | 3 |
| BZX85C6V8 | BZX85C6V8 | 6.5 | 6.8 | 7.1 | 35 | 3.5 | 1 | 300 | 1 | 4 |
| BZX85C7V5 | BZX85C7V5 | 7.1 | 7.5 | 7.9 | 35 | 3 | 0.5 | 200 | 1 | 4.5 |
| BZX85C8V2 | BZX85C8V2 | 7.8 | 8.2 | 8.6 | 25 | 5 | 0.5 | 200 | 1 | 6.2 |
| BZX85C9V1 | BZX85C9V1 | 8.6 | 9.1 | 9.6 | 25 | 5 | 0.5 | 200 | 1 | 6.9 |
| BZX85C10 | BZX85C10 | 9.5 | 10 | 10.5 | 25 | 7 | 0.5 | 200 | 0.5 | 7.5 |
| BZX85C11 | BZX85C11 | 10.5 | 11 | 11.6 | 20 | 8 | 0.5 | 300 | 0.5 | 8.2 |
| BZX85C12 | BZX85C12 | 11.4 | 12 | 12.6 | 20 | 9 | 0.5 | 350 | 0.5 | 9.1 |
| BZX85C13 | BZX85C13 | 12.4 | 13 | 13.7 | 20 | 10 | 0.5 | 400 | 0.5 | 10 |
| BZX85C15 | BZX85C15 | 14.3 | 15 | 15.8 | 15 | 15 | 0.5 | 500 | 0.5 | 11 |
| BZX85C16 | BZX85C16 | 15.2 | 16 | 16.8 | 15 | 15 | 0.5 | 500 | 0.5 | 12 |
| BZX85C18 | BZX85C18 | 17.1 | 18 | 18.9 | 15 | 20 | 0.5 | 500 | 0.5 | 13 |
| BZX85C20 | BZX85C20 | 19.0 | 20 | 21.0 | 10 | 24 | 0.5 | 600 | 0.5 | 15 |
| BZX85C22 | BZX85C22 | 20.9 | 22 | 23.1 | 10 | 25 | 0.5 | 600 | 0.5 | 16 |
| BZX85C24 | BZX85C24 | 22.8 | 24 | 25.2 | 10 | 25 | 0.5 | 600 | 0.5 | 18 |
| BZX85C27 | BZX85C27 | 25.7 | 27 | 28.4 | 8 | 30 | 0.25 | 750 | 0.5 | 20 |
| BZX85C30 | BZX85C30 | 28.5 | 30 | 31.5 | 8 | 30 | 0.25 | 1000 | 0.5 | 22 |
| BZX85C33 | BZX85C33 | 31.4 | 33 | 34.7 | 8 | 35 | 0.25 | 1000 | 0.5 | 24 |
| BZX85C36 | BZX85C36 | 34.2 | 36 | 37.8 | 8 | 40 | 0.25 | 1000 | 0.5 | 25 |
| BZX85C39 | BZX85C39 | 37.1 | 39 | 41.0 | 6 | 45 | 0.25 | 1000 | 0.5 | 27 |
| BZX85C43 | BZX85C43 | 40.9 | 43 | 45.2 | 6 | 50 | 0.25 | 1000 | 0.5 | 30 |
| BZX85C47 | BZX85C47 | 44.7 | 47 | 49.4 | 4 | 90 | 0.25 | 1500 | 0.5 | 33 |
| BZX85C51 | BZX85C51 | 48.5 | 51 | 53.6 | 4 | 115 | 0.25 | 1500 | 0.5 | 36 |
| BZX85C56 | BZX85C56 | 53.2 | 56 | 58.8 | 4 | 120 | 0.25 | 2000 | 0.5 | 39 |

Notes:

1. The Zener Voltage (V_Z) is tested under pulse condition of 10ms.
2. The device numbers listed have a standard tolerance on the nominal zener voltage of **±5%**.
3. For detailed information on price, availability and delivery of nominal zener voltages between the voltages shown and tighter voltage tolerances, contact your nearest **Taiwan semiconductor** representative.
4. The 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 (I_{ZT} or I_{ZK}) is superimposed to I_{ZT} or I_{ZK}.

Small Signal Diode

Rating and Characteristic Curves

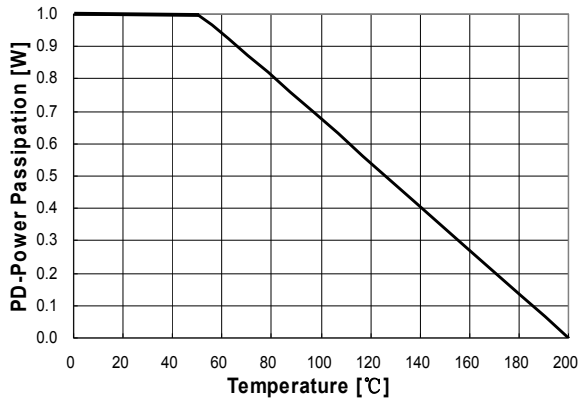


Figure 1. Power Dissipation vs Ambient Temperature
 Valid provided leads at a distance of 0.8mm from case are kept at ambient temperature

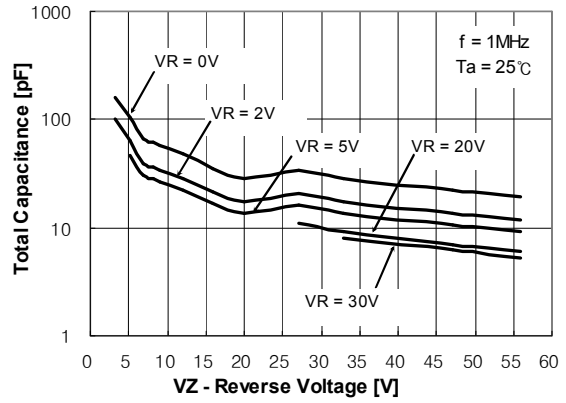


Figure 2. Total Capacitance

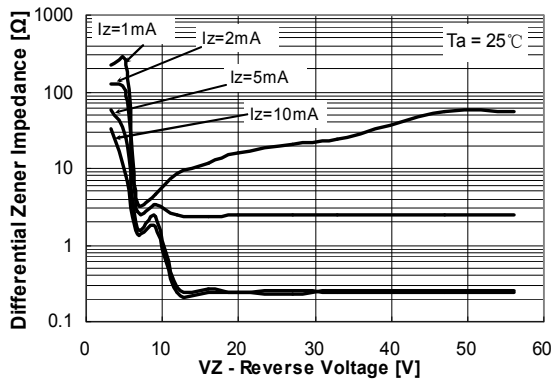


Figure 3. Differential Impedance vs. Zener Voltage

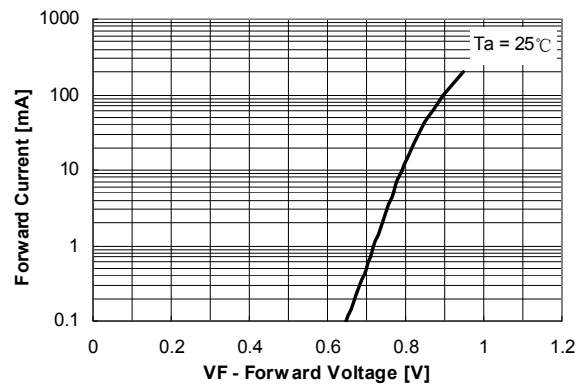


Figure 4. Forward Current vs. Forward Voltage

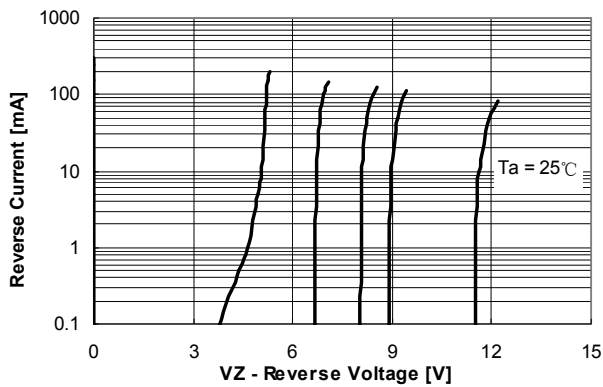


Figure 5. Reverse Current vs. Reverse Voltage

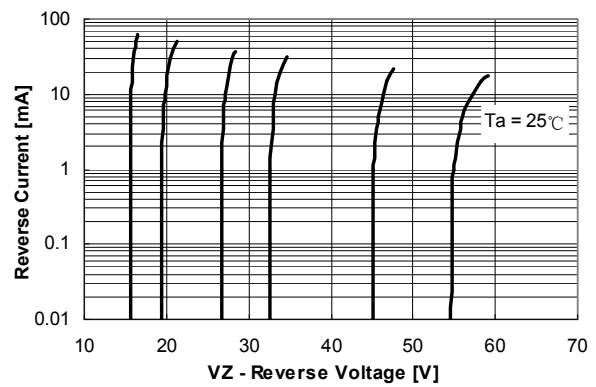


Figure 6. Reverse Current vs. Reverse Voltage