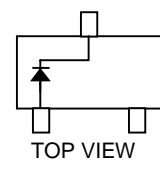
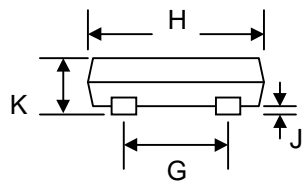
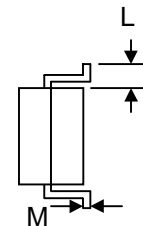
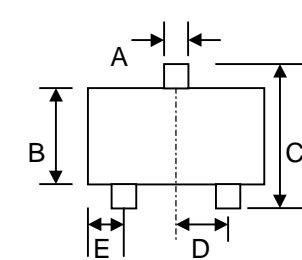


350mW SURFACE MOUNT ZENER DIODE

Features

- Planar Die Construction
- 350mW Power Dissipation
- 2.4 – 51V Nominal Zener Voltage
- 5% Standard Vz Tolerance
- Designed for Surface Mount Application
- Plastic Material – UL Recognition Flammability Classification 94V-O



| SOT-23 | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 0.37 | 0.51 |
| B | 1.19 | 1.40 |
| C | 2.10 | 2.50 |
| D | 0.89 | 1.05 |
| E | 0.45 | 0.61 |
| G | 1.78 | 2.05 |
| H | 2.65 | 3.05 |
| J | 0.013 | 0.15 |
| K | 0.89 | 1.10 |
| L | 0.45 | 0.61 |
| M | 0.076 | 0.178 |
| All Dimensions in mm | | |

Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams (approx.)
- Mounting Position: Any
- Marking: Device Code, See Page 2
- **Lead Free: For RoHS / Lead Free Version, Add "-LF" Suffix to Part Number, See Page 5**

Maximum Ratings @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|-----------------|-------------|----------------------|
| Peak Pulse Power Dissipation at $T_A = 25^{\circ}\text{C}$ (Note 1) | P_d | 350 | mW |
| Forward Voltage @ $I_F = 10\text{mA}$ | V_F | 0.9 | V |
| Thermal Resistance Junction to Ambient (Note 1) | $R_{\theta JA}$ | 357 | $^{\circ}\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | $^{\circ}\text{C}$ |

Note: 1. Valid provided that device terminals are kept at ambient temperature.

Electrical Characteristics @ $T_A=25^{\circ}\text{C}$ unless otherwise specified

| Type Number (Note 1) | Device Marking Code | Zener Voltage Range (Note 2) | | | Maximum Zener Impedance (Note 3) | | | | Max Reverse Leakage Current | | Temp. Coefficient of Zener Voltage @ I_{zT} mV / $^{\circ}\text{C}$ | |
|-------------------------|---------------------|---------------------------------|---------|---------|-------------------------------------|------|---------------------|------|-----------------------------|---------|---|------|
| | | V_z @ I_{zT} | | | Z_{zT} @ I_{zT} | | Z_{zK} @ I_{zK} | | I_R | @ V_R | Min | Max |
| | | Nom (V) | Min (V) | Max (V) | (Ω) | (mA) | (Ω) | (mA) | (μA) | (V) | | |
| BZX84C2V4 | W1 | 2.4 | 2.28 | 2.52 | 100 | 5.0 | 600 | 1.0 | 50 | 1.0 | -3.5 | 0 |
| BZX84C2V7 | W2 | 2.7 | 2.57 | 2.84 | 100 | 5.0 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 |
| BZX84C3 | W3 | 3.0 | 2.85 | 3.15 | 95 | 5.0 | 600 | 1.0 | 10 | 1.0 | -3.5 | 0 |
| BZX84C3V3 | W4 | 3.3 | 3.14 | 3.47 | 95 | 5.0 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 |
| BZX84C3V6 | W5 | 3.6 | 3.42 | 3.78 | 90 | 5.0 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 |
| BZX84C3V9 | W6 | 3.9 | 3.71 | 4.10 | 90 | 5.0 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 |
| BZX84C4V3 | W7 | 4.3 | 4.09 | 4.52 | 90 | 5.0 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 |
| BZX84C4V7 | W8 | 4.7 | 4.47 | 4.94 | 80 | 5.0 | 500 | 1.0 | 3.0 | 2.0 | -3.5 | 0.2 |
| BZX84C5V1 | W9 | 5.1 | 4.85 | 5.36 | 60 | 5.0 | 480 | 1.0 | 2.0 | 2.0 | -2.7 | 1.2 |
| BZX84C5V6 | WA | 5.6 | 5.32 | 5.88 | 40 | 5.0 | 400 | 1.0 | 1.0 | 2.0 | -2.0 | 2.5 |
| BZX84C6V2 | WB | 6.2 | 5.89 | 6.51 | 10 | 5.0 | 150 | 1.0 | 3.0 | 4.0 | 0.4 | 3.7 |
| BZX84C6V8 | WC | 6.8 | 6.46 | 7.14 | 15 | 5.0 | 80 | 1.0 | 2.0 | 4.0 | 1.2 | 4.5 |
| BZX84C7V5 | WD | 7.5 | 7.13 | 7.88 | 15 | 5.0 | 80 | 1.0 | 1.0 | 5.0 | 2.5 | 5.3 |
| BZX84C8V2 | WE | 8.2 | 7.79 | 8.61 | 15 | 5.0 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 |
| BZX84C9V1 | WF | 9.1 | 8.65 | 9.56 | 15 | 5.0 | 100 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 |
| BZX84C10 | WG | 10 | 9.50 | 10.50 | 20 | 5.0 | 150 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 |
| BZX84C11 | WH | 11 | 10.45 | 11.55 | 20 | 5.0 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 |
| BZX84C12 | WI | 12 | 11.40 | 12.60 | 25 | 5.0 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10 |
| BZX84C13 | WK | 13 | 12.35 | 13.65 | 30 | 5.0 | 170 | 1.0 | 0.1 | 8.0 | 7.0 | 11 |
| BZX84C15 | WL | 15 | 14.25 | 15.75 | 30 | 5.0 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13 |
| BZX84C16 | WM | 16 | 15.20 | 16.80 | 40 | 5.0 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14 |
| BZX84C18 | WN | 18 | 17.10 | 18.90 | 45 | 5.0 | 225 | 1.0 | 0.1 | 12.6 | 12.4 | 16 |
| BZX84C20 | WO | 20 | 19.00 | 21.00 | 55 | 5.0 | 225 | 1.0 | 0.1 | 14 | 14.4 | 18 |
| BZX84C22 | WP | 22 | 20.90 | 23.10 | 55 | 5.0 | 250 | 1.0 | 0.1 | 15.4 | 16.4 | 20 |
| BZX84C24 | WR | 24 | 22.80 | 25.20 | 70 | 5.0 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22 |
| BZX84C27 | WS | 27 | 25.65 | 28.35 | 80 | 5.0 | 300 | 1.0 | 0.1 | 18.9 | 21.4 | 25.3 |
| BZX84C30 | WT | 30 | 28.50 | 31.50 | 80 | 5.0 | 300 | 1.0 | 0.1 | 21 | 24.4 | 29.4 |
| BZX84C33 | WU | 33 | 31.35 | 34.65 | 80 | 5.0 | 325 | 1.0 | 0.1 | 23.1 | 27.4 | 33.4 |
| BZX84C36 | WW | 36 | 34.20 | 37.80 | 90 | 5.0 | 350 | 1.0 | 0.1 | 25.2 | 30.4 | 37.4 |
| BZX84C39 | WX | 39 | 37.05 | 40.95 | 130 | 5.0 | 350 | 1.0 | 0.1 | 27.3 | 33.4 | 41.2 |
| BZX84C43 | WY | 43 | 40.85 | 45.15 | 150 | 5.0 | 375 | 1.0 | 0.1 | 30.1 | 10.0 | 12 |
| BZX84C47 | WZ | 47 | 44.65 | 49.35 | 170 | 5.0 | 375 | 1.0 | 0.1 | 32.9 | 10.0 | 12 |
| BZX84C51 | XA | 51 | 48.45 | 53.55 | 100 | 5.0 | 400 | 1.0 | 0.1 | 38 | 10.0 | 12 |

Note: 1. Type numbers listed have standard tolerance on the nominal zener voltage of $\pm 5\%$.

2. Measured with pulses $t_p = 5\text{ms}$.

3. $f = 1\text{KHz}$

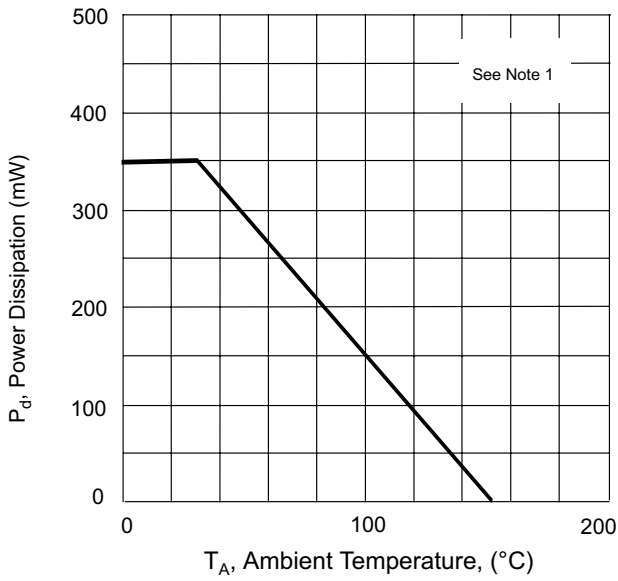


Fig. 1 Power Derating Curve

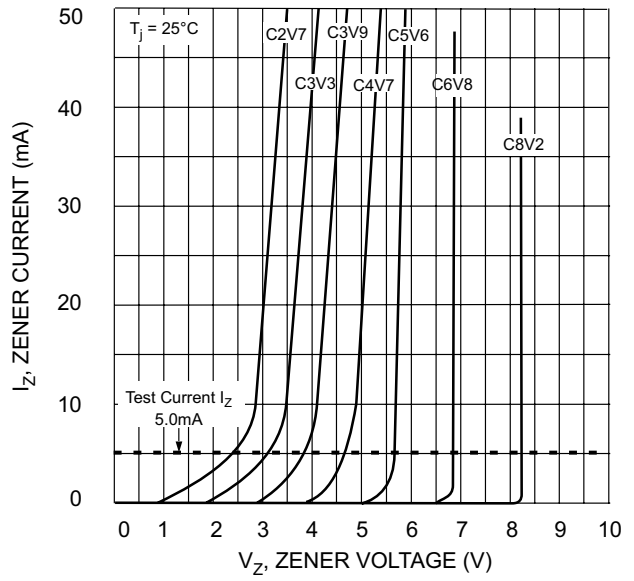


Fig. 2 Zener Breakdown Characteristics

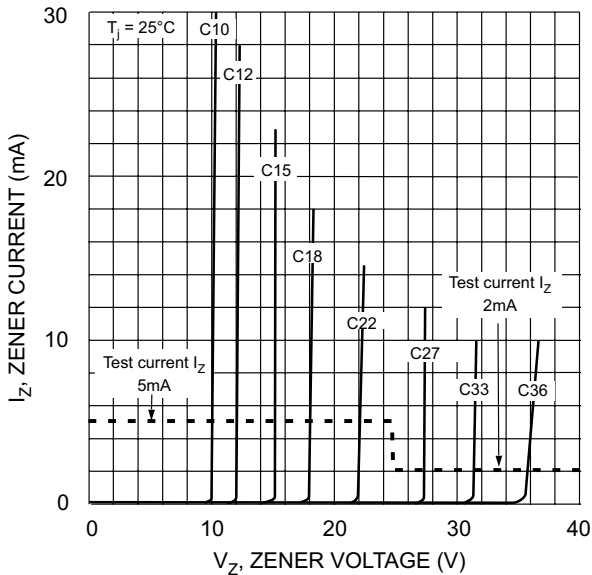


Fig. 3 Zener Breakdown Characteristics

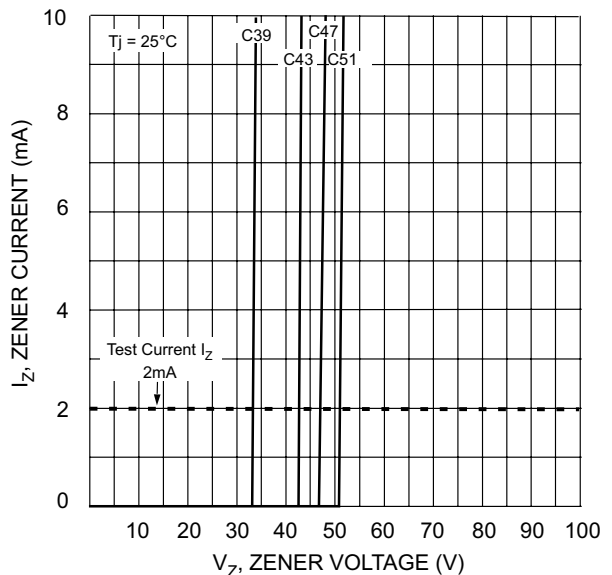


Fig. 4 Zener Breakdown Characteristics

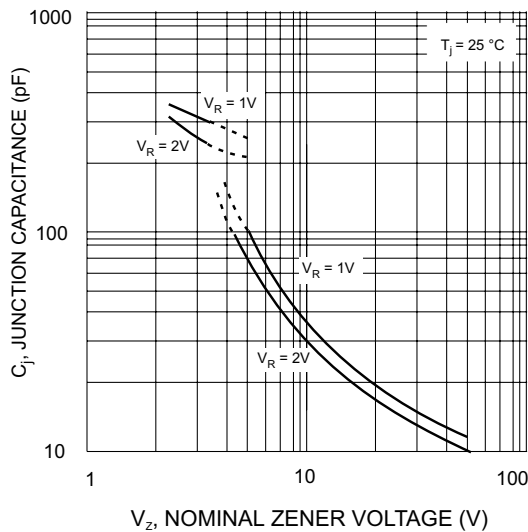
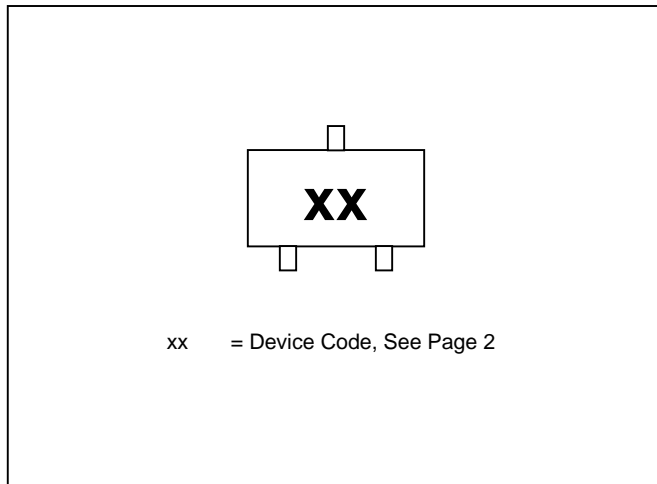
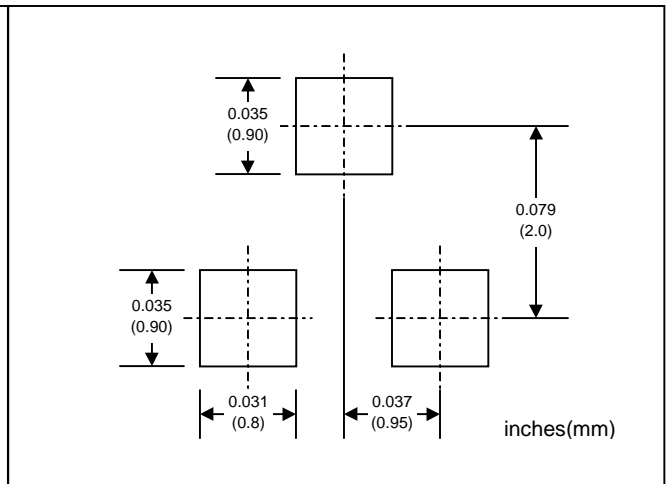


Fig. 5 Junction Capacitance vs Nominal Zener Voltage

MARKING INFORMATION

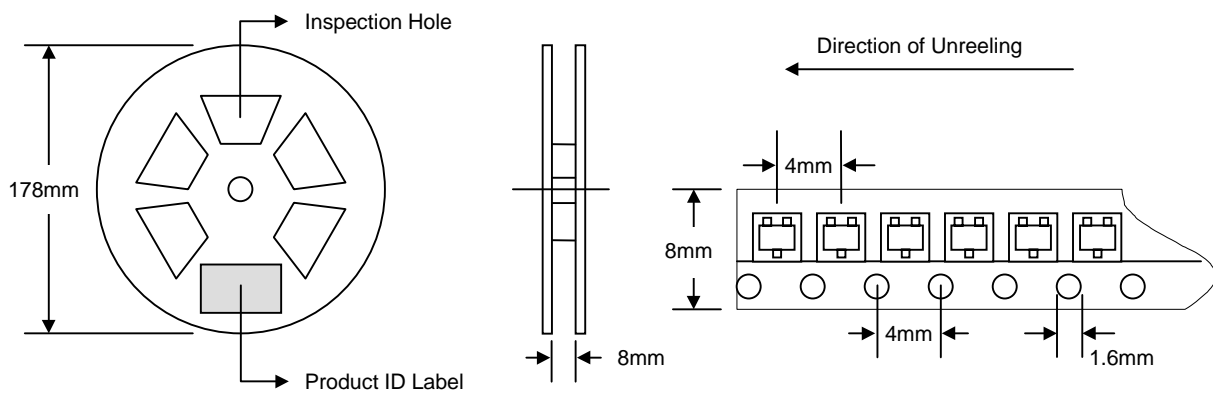


RECOMMENDED FOOTPRINT



PACKAGING INFORMATION

TAPE & REEL



| Reel Diameter (mm) | Quantity (PCS) | Inner Box Size L x W x H (mm) | Quantity (PCS) | Carton Size L x W x H (mm) | Quantity (PCS) | Approx. Gross Weight (KG) |
|--------------------|----------------|-------------------------------|----------------|----------------------------|----------------|---------------------------|
| 178 | 3,000 | 187 x 187 x 65 | 15,000 | 390 x 240 x 420 | 150,000 | 10.0 |

Note: 1. Anti-static plastic reel, white, water clear or blue color. Inspection hole might be varied in different alignment.
2. Components are packed in accordance with EIA standard 481-1 and 481-2.

ORDERING INFORMATION

| Product No. | Package Type | Shipping Quantity |
|-------------|--------------|-------------------|
| BZX84Cxx-T1 | SOT-23 | 3000/Tape & Reel |

1. Shipping quantity given is for minimum packing quantity only. For minimum order quantity, please consult the Sales Department.
2. **To order RoHS / Lead Free version (with Lead Free finish), add "-LF" suffix to part number above. For example, BZX84C2V4-T1-LF.**

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