

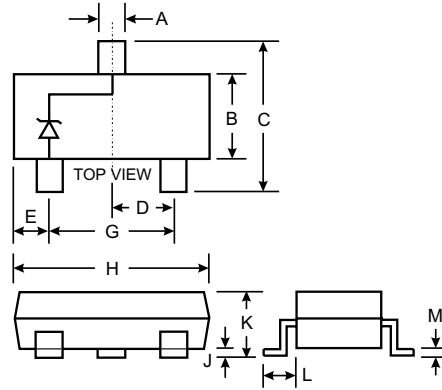


SOT-23 Plastic-Encapsulate Diode

BZX84C2V4 - BZX84C51

Features

- Planar Die Construction
- 350mW Power Dissipation
- Zener Voltages from 2.4V - 51V
- Ideally Suited for Automated Assembly Processes



| 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 | | |

MAKING see table on page 2 the first code

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

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

- Notes:
1. Valid provided that device terminals are kept at ambient temperature.
 2. Tested with pulses, 300 μs pulse width, period = 5ms.
 3. $f = 1\text{KHz}$.

Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Type Number | Marking Code | Zener Voltage Range (Note 2) | | | | Maximum Zener Impedance (Note 3) | | | Maximum Reverse Current | | Typical Temperature Coefficient @ I _{ZT} mV/°C | |
|-------------|--------------|----------------------------------|---------|---------|-----------------|-----------------------------------|-----------------------------------|------|-------------------------|----------------|---|------|
| | | V _Z @ I _{ZT} | | | I _{ZT} | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | | I _R | V _R | Min | Max |
| | | Nom (V) | Min (V) | Max (V) | (mA) | (Ω) | (Ω) | (mA) | (μA) | (V) | | |
| BZX84C2V4 | Z11/KZB | 2.4 | 2.2 | 2.6 | 5.0 | 100 | 600 | 1.0 | 50 | 1.0 | -3.5 | 0 |
| BZX84C2V7 | Z12/KZC | 2.7 | 2.5 | 2.9 | 5.0 | 100 | 600 | 1.0 | 20 | 1.0 | -3.5 | 0 |
| BZX84C3V0 | Z13/KZD | 3.0 | 2.8 | 3.2 | 5.0 | 95 | 600 | 1.0 | 10 | 1.0 | -3.5 | 0 |
| BZX84C3V3 | Z14/KZE | 3.3 | 3.1 | 3.5 | 5.0 | 95 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 |
| BZX84C3V6 | Z15/KZF | 3.6 | 3.4 | 3.8 | 5.0 | 90 | 600 | 1.0 | 5.0 | 1.0 | -3.5 | 0 |
| BZX84C3V9 | Z16/KZG | 3.9 | 3.7 | 4.1 | 5.0 | 90 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 |
| BZX84C4V3 | Z17/KZH | 4.3 | 4.0 | 4.6 | 5.0 | 90 | 600 | 1.0 | 3.0 | 1.0 | -3.5 | 0 |
| BZX84C4V7 | Z1/KZ1 | 4.7 | 4.4 | 5.0 | 5.0 | 80 | 500 | 1.0 | 3.0 | 2.0 | -3.5 | 0.2 |
| BZX84C5V1 | Z2/KZ2 | 5.1 | 4.8 | 5.4 | 5.0 | 60 | 480 | 1.0 | 2.0 | 2.0 | -2.7 | 1.2 |
| BZX84C5V6 | Z3/KZ3 | 5.6 | 5.2 | 6.0 | 5.0 | 40 | 400 | 1.0 | 1.0 | 2.0 | -2.0 | 2.5 |
| BZX84C6V2 | Z4/KZ4 | 6.2 | 5.8 | 6.6 | 5.0 | 10 | 150 | 1.0 | 3.0 | 4.0 | 0.4 | 3.7 |
| BZX84C6V8 | Z5/KZ5 | 6.8 | 6.4 | 7.2 | 5.0 | 15 | 80 | 1.0 | 2.0 | 4.0 | 1.2 | 4.5 |
| BZX84C7V5 | Z6/KZ6 | 7.5 | 7.0 | 7.9 | 5.0 | 15 | 80 | 1.0 | 1.0 | 5.0 | 2.5 | 5.3 |
| BZX84C8V2 | Z7/KZ7 | 8.2 | 7.7 | 8.7 | 5.0 | 15 | 80 | 1.0 | 0.7 | 5.0 | 3.2 | 6.2 |
| BZX84C9V1 | Z8/KZ8 | 9.1 | 8.5 | 9.6 | 5.0 | 15 | 100 | 1.0 | 0.5 | 6.0 | 3.8 | 7.0 |
| BZX84C10 | Z9/KZ9/8Q | 10 | 9.4 | 10.6 | 5.0 | 20 | 150 | 1.0 | 0.2 | 7.0 | 4.5 | 8.0 |
| BZX84C11 | Y1/KY1 | 11 | 10.4 | 11.6 | 5.0 | 20 | 150 | 1.0 | 0.1 | 8.0 | 5.4 | 9.0 |
| BZX84C12 | Y2/KY2 | 12 | 11.4 | 12.7 | 5.0 | 25 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 |
| BZX84C13 | Y3/KY3 | 13 | 12.4 | 14.1 | 5.0 | 30 | 170 | 1.0 | 0.1 | 8.0 | 7.0 | 11.0 |
| BZX84C15 | Y4/KY4 | 15 | 13.8 | 15.6 | 5.0 | 30 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13.0 |
| BZX84C16 | Y5/KY5 | 16 | 15.3 | 17.1 | 5.0 | 40 | 200 | 1.0 | 0.1 | 11.2 | 10.4 | 14.0 |
| BZX84C18 | Y6/KY6 | 18 | 16.8 | 19.1 | 5.0 | 45 | 225 | 1.0 | 0.1 | 12.6 | 12.4 | 16.0 |
| BZX84C20 | Y7/KY7 | 20 | 18.8 | 21.2 | 5.0 | 55 | 225 | 1.0 | 0.1 | 14.0 | 14.4 | 18.0 |
| BZX84C22 | Y8/KY8 | 22 | 20.8 | 23.3 | 5.0 | 55 | 250 | 1.0 | 0.1 | 15.4 | 16.4 | 20.0 |
| BZX84C24 | Y9/KY9 | 24 | 22.8 | 25.6 | 5.0 | 70 | 250 | 1.0 | 0.1 | 16.8 | 18.4 | 22.0 |
| BZX84C27 | Y10/KYA | 27 | 25.1 | 28.9 | 2.0 | 80 | 300 | 0.5 | 0.1 | 18.9 | 21.4 | 25.3 |
| BZX84C30 | Y11/KYB | 30 | 28.0 | 32.0 | 2.0 | 80 | 300 | 0.5 | 0.1 | 21.0 | 24.4 | 29.4 |
| BZX84C33 | Y12/KYC | 33 | 31.0 | 35.0 | 2.0 | 80 | 325 | 0.5 | 0.1 | 23.1 | 27.4 | 33.4 |
| BZX84C36 | Y13/KYD | 36 | 34.0 | 38.0 | 2.0 | 90 | 350 | 0.5 | 0.1 | 25.2 | 30.4 | 37.4 |
| BZX84C39 | Y14/KYE | 39 | 37.0 | 41.0 | 2.0 | 130 | 350 | 0.5 | 0.1 | 27.3 | 33.4 | 41.2 |
| BZX84C43 | Y15/KYF | 43 | 40.0 | 46.0 | 2.0 | 150 | 375 | 0.5 | 0.1 | 30.1 | 10.0 | 12.0 |
| BZX84C47 | Y16/KYG | 47 | 44.0 | 50.0 | 2.0 | 170 | 375 | 0.5 | 0.1 | 32.9 | 10.0 | 12.0 |
| BZX84C51 | Y17/KYH | 51 | 48.0 | 54.0 | 2.0 | 180 | 400 | 0.5 | 0.1 | 35.7 | 10.0 | 12.0 |

- Notes:
1. Valid provided that device terminals are kept at ambient temperature.
 2. Tested with pulses, 300μs pulse width, period = 5ms.
 3. f = 1KHz.

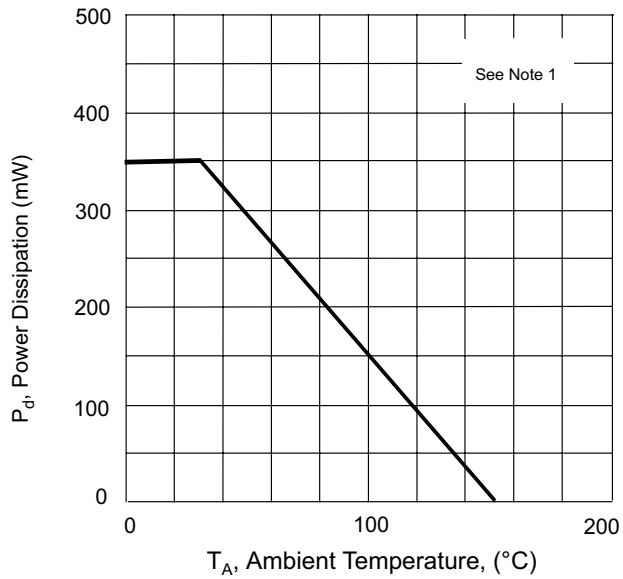


Fig. 1 Power Derating Curve

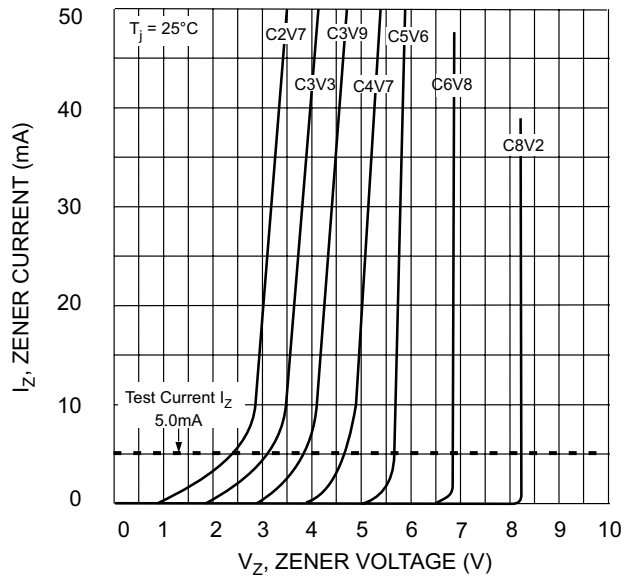


Fig. 2 Zener Breakdown Characteristics

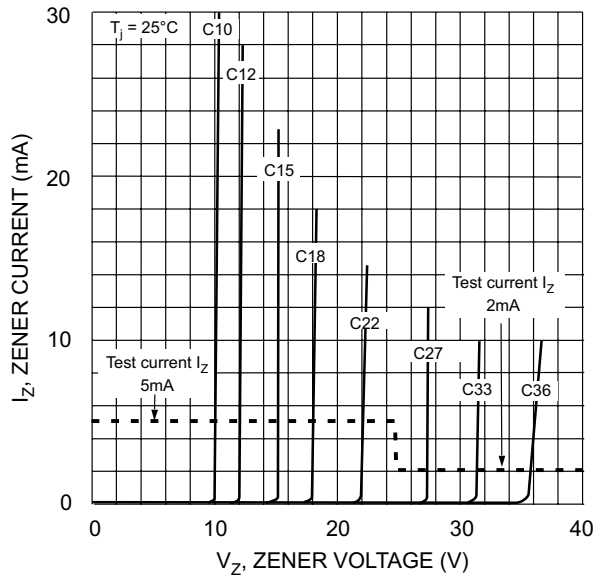


Fig. 3 Zener Breakdown Characteristics

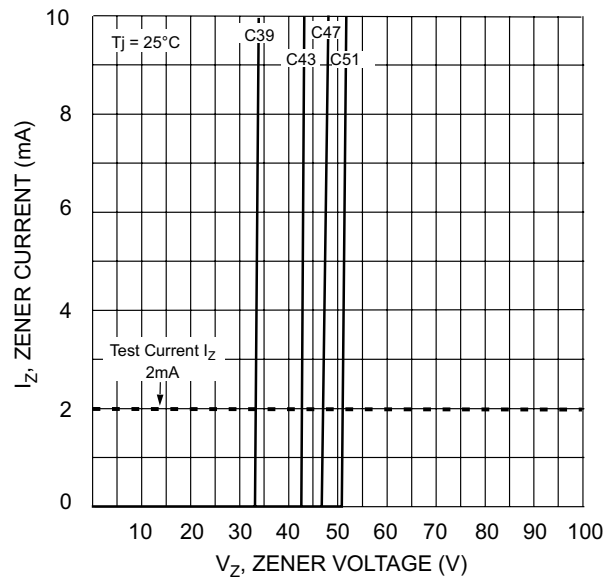


Fig. 4 Zener Breakdown Characteristics

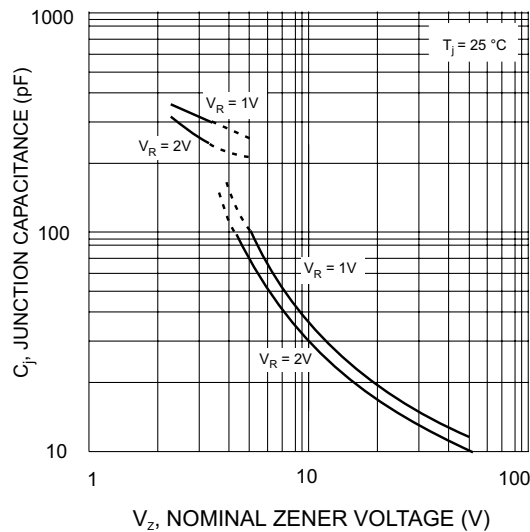


Fig. 5 Junction Capacitance vs Nominal Zener Voltage