

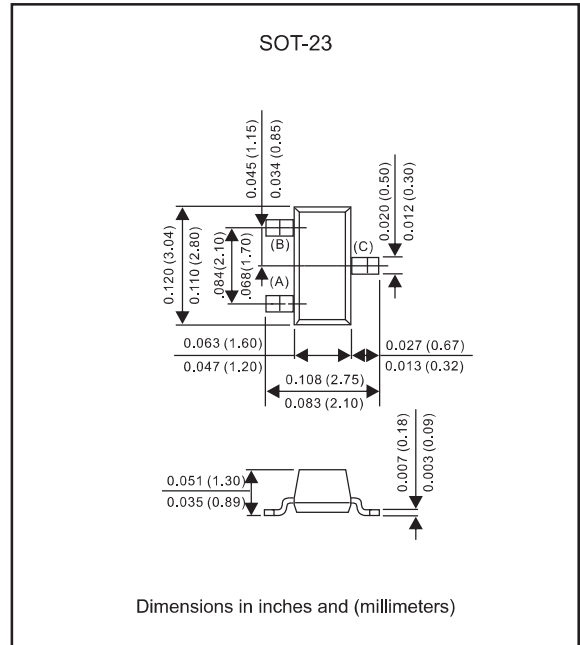
Features

- Silicon epitaxial planar chip structure.
- Wide zener reverse voltage range 2.4V to 75V.
- Small package size for high density applications.
- Ideally suited for automated assembly processes.
- Lead-free parts meet environmental standards of MIL-STD-19500 /228
- Compliant to Halogen-free.

Mechanical data

- Epoxy : UL94-V0 rated flame retardant
- Case : Molded plastic, SOT-23
- Terminals :Plated terminals, solderable per MIL-STD-750, Method 2026
- Mounting Position : Any

Package outline



Maximum ratings (at $T_A=25^\circ\text{C}$ unless otherwise noted)

| PARAMETER | CONDITIONS | Symbol | MIN. | TYP. | MAX. | UNIT |
|---|---|-----------------|------|------|------|---------------------------|
| Power Dissipation at $T_A=25^\circ\text{C}$ | Mounted on Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina. | P_D | | | 300 | mW |
| Thermal Resistance | Junction to Ambient | $R_{\theta JA}$ | | 417 | | $^\circ\text{C}/\text{W}$ |
| Operating junction temperature range | | T_J | -55 | | +150 | $^\circ\text{C}$ |
| Storage temperature range | | T_{STG} | -55 | | +150 | $^\circ\text{C}$ |

Electrical characteristics (at T_A=25°C unless otherwise noted)

| Part No. | Marking code | Zener voltage | | | Zener impedance | | | | Leakage current | |
|-----------|--------------|---|------|-------|-----------------|-----------------------------------|-----------------------------------|-----------------|-----------------|----------------|
| | | V _Z @ I _{ZT} ¹ (Volts) | | | I _{ZT} | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _{ZK} | I _R | V _R |
| | | Min. | Nom. | Max. | mA | (Ω)Max | (Ω)Max | mA | (uA)Max | Volts |
| BZX84C2V4 | Z11 | 2.2 | 2.4 | 2.6 | 5.0 | 100 | 600 | 1 | 50 | 1.0 |
| BZX84C2V7 | Z12 | 2.5 | 2.7 | 2.9 | 5.0 | 100 | 600 | 1 | 20 | 1.0 |
| BZX84C3V0 | Z13 | 2.8 | 3.0 | 3.2 | 5.0 | 95 | 600 | 1 | 10 | 1.0 |
| BZX84C3V3 | Z14 | 3.1 | 3.3 | 3.5 | 5.0 | 95 | 600 | 1 | 5 | 1.0 |
| BZX84C3V6 | Z15 | 3.4 | 3.6 | 3.8 | 5.0 | 90 | 600 | 1 | 5 | 1.0 |
| BZX84C3V9 | Z16 | 3.7 | 3.9 | 4.1 | 5.0 | 90 | 600 | 1 | 3 | 1.0 |
| BZX84C4V3 | Z17 | 4.0 | 4.3 | 4.6 | 5.0 | 90 | 600 | 1 | 3 | 1.0 |
| BZX84C4V7 | Z1 | 4.4 | 4.7 | 5.0 | 5.0 | 80 | 500 | 1 | 3 | 2.0 |
| BZX84C5V1 | Z2 | 4.8 | 5.1 | 5.4 | 5.0 | 60 | 480 | 1 | 2 | 2.0 |
| BZX84C5V6 | Z3 | 5.2 | 5.6 | 6.0 | 5.0 | 40 | 400 | 1 | 1 | 2.0 |
| BZX84C6V2 | Z4 | 5.8 | 6.2 | 6.6 | 5.0 | 10 | 150 | 1 | 3 | 4.0 |
| BZX84C6V8 | Z5 | 6.4 | 6.8 | 7.2 | 5.0 | 15 | 80 | 1 | 2 | 4.0 |
| BZX84C7V5 | Z6 | 7.0 | 7.5 | 7.9 | 5.0 | 15 | 80 | 1 | 1 | 5.0 |
| BZX84C8V2 | Z7 | 7.7 | 8.2 | 8.7 | 5.0 | 15 | 80 | 1 | 0.7 | 5.0 |
| BZX84C9V1 | Z8 | 8.5 | 9.1 | 9.6 | 5.0 | 15 | 100 | 1 | 0.5 | 6.0 |
| BZX84C10 | Z9 | 9.4 | 10 | 10.6 | 5.0 | 20 | 150 | 1 | 0.2 | 7.0 |
| BZX84C11 | Y1 | 10.40 | 11 | 11.60 | 5.0 | 20 | 150 | 1 | 0.1 | 8.0 |
| BZX84C12 | Y2 | 11.40 | 12 | 12.70 | 5.0 | 25 | 150 | 1 | 0.1 | 8.0 |
| BZX84C13 | Y3 | 12.35 | 13 | 14.10 | 5.0 | 30 | 170 | 1 | 0.1 | 8.0 |
| BZX84C15 | Y4 | 13.80 | 15 | 15.75 | 5.0 | 30 | 200 | 1 | 0.1 | 10.5 |
| BZX84C16 | Y5 | 15.20 | 16 | 17.10 | 5.0 | 40 | 200 | 1 | 0.1 | 11.2 |
| BZX84C18 | Y6 | 16.80 | 18 | 19.10 | 5.0 | 45 | 225 | 1 | 0.1 | 12.6 |
| BZX84C20 | Y7 | 18.80 | 20 | 21.20 | 5.0 | 55 | 225 | 1 | 0.1 | 14.0 |
| BZX84C22 | Y8 | 20.80 | 22 | 23.30 | 5.0 | 55 | 250 | 1 | 0.1 | 15.4 |
| BZX84C24 | Y9 | 22.80 | 24 | 25.60 | 5.0 | 70 | 250 | 1 | 0.1 | 16.8 |
| BZX84C27 | Y10 | 25.10 | 27 | 28.9 | 2.0 | 80 | 300 | 0.5 | 0.1 | 18.9 |
| BZX84C30 | Y11 | 28.00 | 30 | 32.0 | 2.0 | 80 | 300 | 0.5 | 0.1 | 21.0 |
| BZX84C33 | Y12 | 31.00 | 33 | 35.0 | 2.0 | 80 | 325 | 0.5 | 0.1 | 23.1 |
| BZX84C36 | Y13 | 34.00 | 36 | 38.0 | 2.0 | 90 | 350 | 0.5 | 0.1 | 25.2 |
| BZX84C39 | Y14 | 37.00 | 39 | 41.0 | 2.0 | 130 | 350 | 0.5 | 0.1 | 27.3 |
| BZX84C43 | Y15 | 40.00 | 43 | 46.00 | 5.0 | 150 | 700 | 1 | 0.1 | 30.1 |
| BZX84C47 | Y16 | 44.00 | 47 | 50.00 | 5.0 | 170 | 750 | 1 | 0.1 | 32.9 |
| BZX84C51 | Y17 | 48.00 | 51 | 54.00 | 5.0 | 180 | 750 | 1 | 0.1 | 35.7 |
| BZX84C56 | Y18 | 52.00 | 56 | 60.00 | 2.0 | 200 | 750 | 1 | 0.1 | 39.2 |
| BZX84C62 | Y19 | 58.00 | 62 | 66.00 | 2.0 | 215 | 1000 | 1 | 0.2 | 43.4 |
| BZX84C68 | Y20 | 64.00 | 68 | 72.00 | 2.0 | 250 | 1600 | 1 | 0.2 | 47.6 |
| BZX84C75 | Y21 | 70.00 | 75 | 79.00 | 2.0 | 300 | 1700 | 1 | 0.2 | 52.5 |

*1 Pulse width = 10 ms

Rating and characteristic curves (BZX84C2V4 THRU BZX84C75)

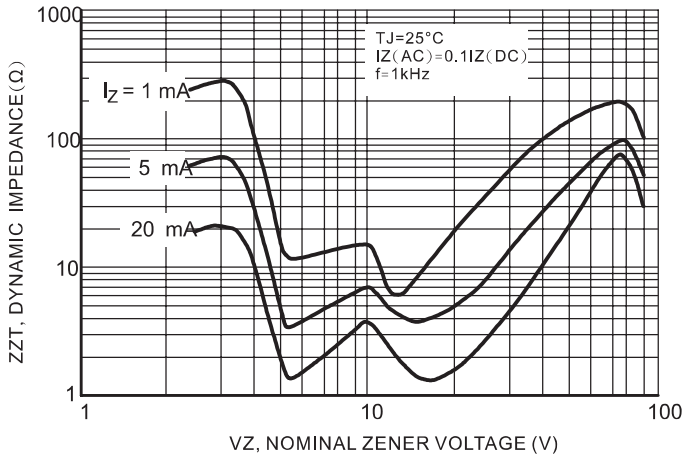


Figure 1. Effect of Zener Voltage on Zener Impedance

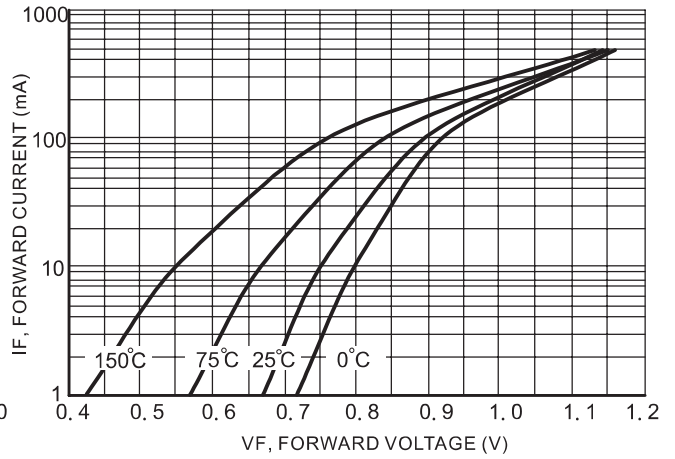


Figure 2. Typical Forward Voltage

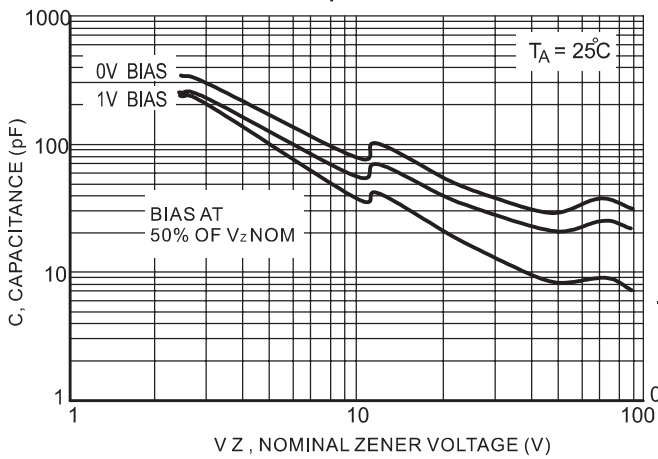


Figure 3. Typical Capacitance

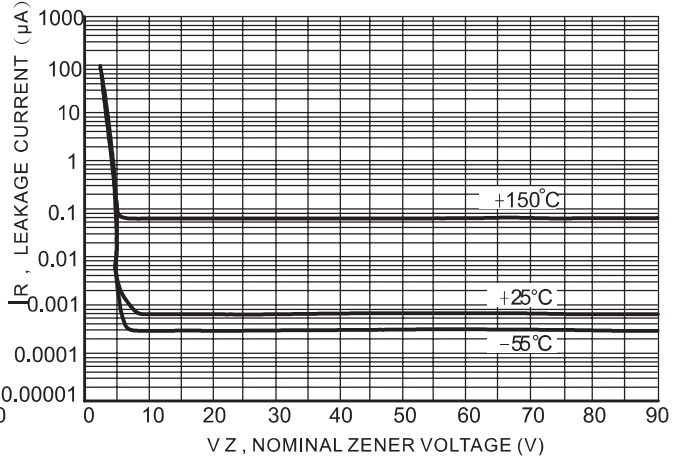


Figure 4. Typical Leakage Current

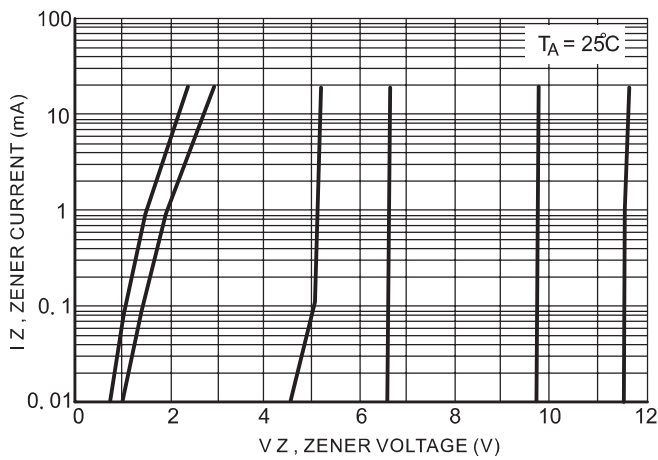


Figure 5. Zener Voltage versus Zener Current (Vz Up to 12 V)

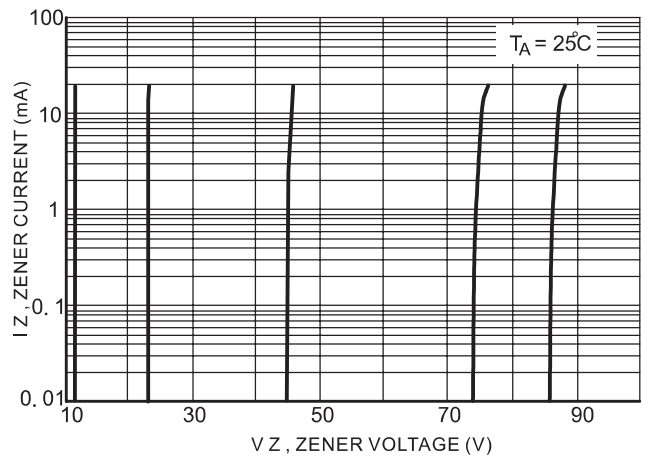
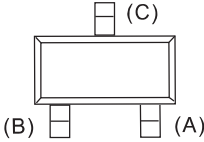
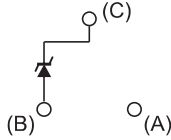


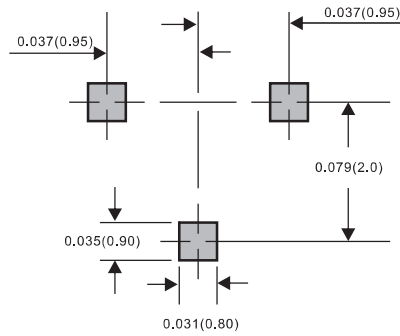
Figure 6. Zener Voltage versus Zener Current (12V to 91V)

Pinning information

| Pin | Simplified outline | Symbol |
|--|---|---|
| PinA no connection PinB anode PinC cathode |  |  |

Suggested solder pad layout

SOT-23



Dimensions in inches and (millimeters)

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