

BZX84C Series

SILICON PLANAR ZENER DIODES

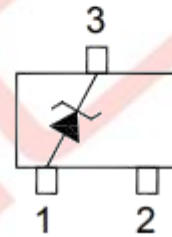
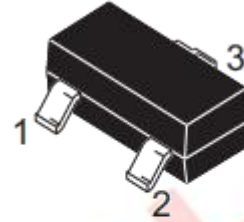
Power Dissipation: 350mW

Zener Voltage: 2.0V to 75V

Features

- ◆ Zener breakdown voltage range:2.0V to 75V
- ◆ Package designed for optimal automated board assembly
- ◆ Small package size for high density applications

SOT-23



Absolute Maximum Ratings And Characteristics (Ta = 25 °C)

| Parameter | Symbol | Max | Unit |
|------------------------------------------------------|-----------------|-------------|------|
| Power Dissipation | P_D | 350 | mW |
| Thermal Resistance, Junction to Ambient ¹ | $R_{\theta JA}$ | 357 | °C/W |
| Junction Temperature | T_J | 150 | mW |
| Storage Temperature Range | T_{stg} | -65 to +150 | °C |

1. Alumina=0.4*0.3*0.024 in, 99.5% alumina

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ELECTRICAL CHARACTERISTICS ($T_A = 25^\circ\text{C}$ unless otherwise noted, $V_F = 0.9\text{ V Max.}$ @ $I_F = 10\text{ mA}$ for all types)

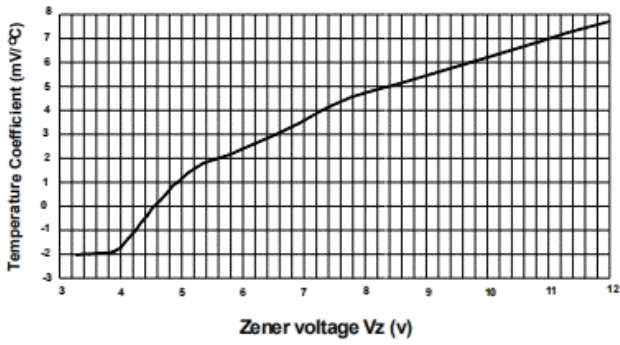
| Type | Marking | Zener Voltage Range ¹ | | | | Dynamic Impedance | | Reverse Current | |
|-----------|---------|----------------------------------|-----|------|------------------|------------------------------|---------------------|--------------------------------|-----------------|
| | | V_{ZT} (Volts) | | | I_{ZT} (mA) | Z_{ZT} Max.(Ω) | at I_{ZT} (mA) | I_R Max.(μA) | at V_R (V) |
| | | Min | Nom | Max | | | | | |
| BZX84C2V0 | A8 | 1.8 | 2 | 2.15 | 5 | 100 | 5 | 120 | 0.5 |
| BZX84C2V2 | B8 | 2.08 | 2.2 | 2.33 | 5 | 100 | 5 | 120 | 0.7 |
| BZX84C2V4 | C8 | 2.2 | 2.4 | 2.6 | 5 | 100 | 5 | 5 | 1 |
| BZX84C2V7 | D8 | 2.5 | 2.7 | 2.9 | 5 | 100 | 5 | 20 | 1 |
| BZX84C3V0 | E8 | 2.8 | 3 | 3.2 | 5 | 95 | 5 | 10 | 1 |
| BZX84C3V3 | F8 | 3.1 | 3.3 | 3.5 | 5 | 95 | 5 | 5 | 1 |
| BZX84C3V6 | H8 | 3.4 | 3.6 | 3.8 | 5 | 90 | 5 | 5 | 1 |
| BZX84C3V9 | J8 | 3.7 | 3.9 | 4.1 | 5 | 90 | 5 | 3 | 1 |
| BZX84C4V3 | K8 | 4 | 4.3 | 4.6 | 5 | 90 | 5 | 3 | 1 |
| BZX84C4V7 | M8 | 4.4 | 4.7 | 5 | 5 | 80 | 5 | 3 | 2 |
| BZX84C5V1 | N8 | 4.8 | 5.1 | 5.4 | 5 | 60 | 5 | 2 | 2 |
| BZX84C5V6 | P8 | 5.2 | 5.6 | 6 | 5 | 40 | 5 | 1 | 2 |
| BZX84C6V2 | R8 | 5.8 | 6.2 | 6.6 | 5 | 10 | 5 | 3 | 4 |
| BZX84C6V8 | X8 | 6.4 | 6.8 | 7.2 | 5 | 15 | 5 | 2 | 4 |
| BZX84C7V5 | Y8 | 7 | 7.5 | 7.9 | 5 | 15 | 5 | 1 | 5 |
| BZX84C8V2 | Z8 | 7.7 | 8.2 | 8.7 | 5 | 15 | 5 | 0.7 | 5 |
| BZX84C9V1 | A9 | 8.5 | 9.1 | 9.6 | 5 | 15 | 5 | 0.5 | 6 |
| BZX84C10 | B9 | 9.4 | 10 | 10.6 | 5 | 20 | 5 | 0.2 | 7 |
| BZX84C11 | C9 | 10.4 | 11 | 11.6 | 5 | 20 | 5 | 0.1 | 8 |
| BZX84C12 | D9 | 11.4 | 12 | 12.7 | 5 | 25 | 5 | 0.1 | 8 |
| BZX84C13 | E9 | 12.4 | 13 | 14.1 | 5 | 30 | 5 | 0.1 | 8 |
| BZX84C15 | F9 | 13.8 | 15 | 15.6 | 5 | 30 | 5 | 0.05 | 10.5 |
| BZX84C16 | H9 | 15.3 | 16 | 17.1 | 5 | 40 | 5 | 0.05 | 11.2 |
| BZX84C18 | J9 | 16.8 | 18 | 19.1 | 5 | 45 | 5 | 0.05 | 12.6 |
| BZX84C20 | K9 | 18.8 | 20 | 21.2 | 5 | 55 | 5 | 0.05 | 14 |
| BZX84C22 | M9 | 20.8 | 22 | 23.3 | 5 | 55 | 5 | 0.05 | 15.4 |
| BZX84C24 | N9 | 22.8 | 24 | 25.6 | 5 | 70 | 5 | 0.05 | 16.8 |
| BZX84C27 | P9 | 25.1 | 27 | 28.9 | 2 | 80 | 2 | 0.05 | 18.9 |
| BZX84C30 | R9 | 28 | 30 | 32 | 2 | 80 | 2 | 0.05 | 21 |
| BZX84C33 | X9 | 31 | 33 | 35 | 2 | 80 | 2 | 0.05 | 23.1 |
| BZX84C36 | Y9 | 34 | 36 | 38 | 2 | 90 | 2 | 0.05 | 25.2 |
| BZX84C39 | Z9 | 37 | 39 | 41 | 2 | 130 | 2 | 0.05 | 27.3 |
| BZX84C43 | A0 | 40 | 43 | 46 | 2 | 150 | 2 | 0.05 | 30.1 |
| BZX84C47 | B0 | 44 | 47 | 50 | 2 | 170 | 2 | 0.05 | 32.9 |
| BZX84C51 | C0 | 48 | 51 | 54 | 2 | 180 | 2 | 0.05 | 35.7 |
| BZX84C56 | D0 | 52 | 56 | 60 | 2 | 200 | 2 | 0.05 | 39.2 |
| BZX84C62 | E0 | 58 | 62 | 66 | 2 | 215 | 2 | 0.05 | 43.4 |
| BZX84C68 | F0 | 64 | 68 | 72 | 2 | 240 | 2 | 0.05 | 47.6 |
| BZX84C75 | H0 | 70 | 75 | 79 | 2 | 255 | 2 | 0.05 | 52.5 |

1. Tested with pulses $t_p=20\text{ms}$.

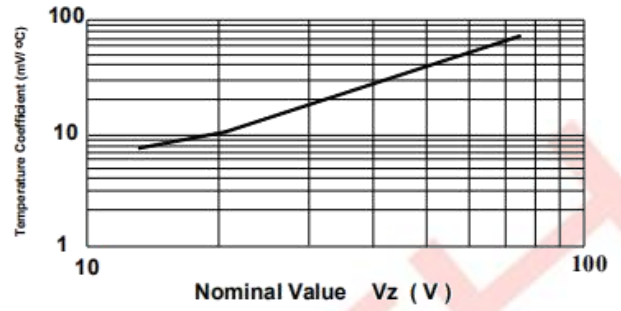
BZX84C Series

RATINGS AND CHARACTERISTIC CURVES

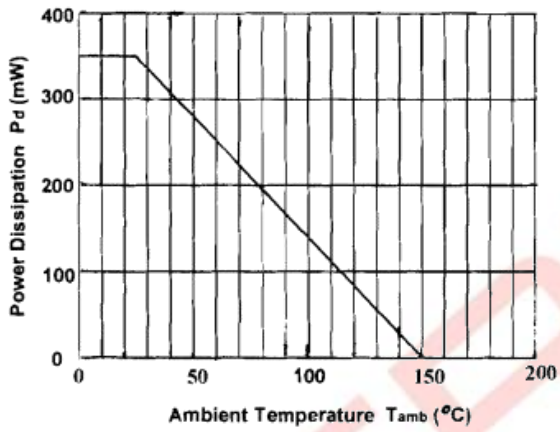
Temperature Coefficient



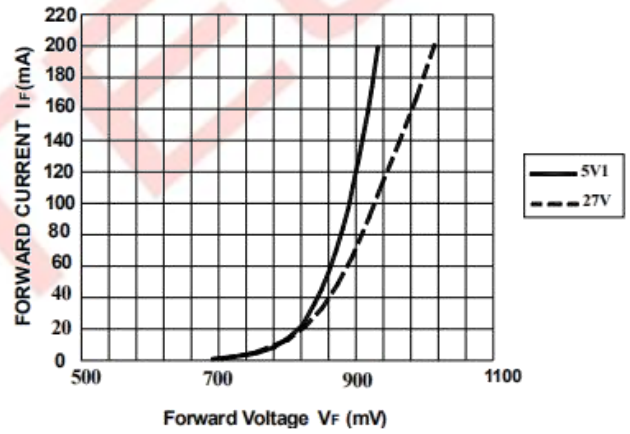
Temperature Coefficient



Power Derating Curve

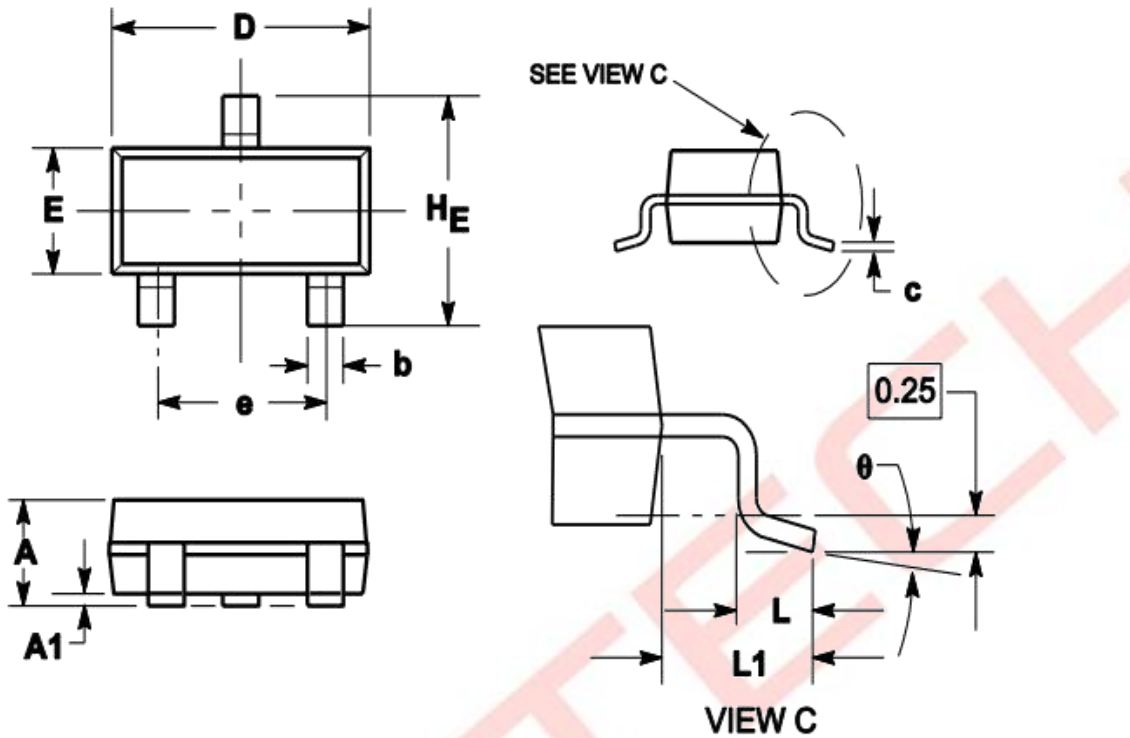


Typical Forward Voltage

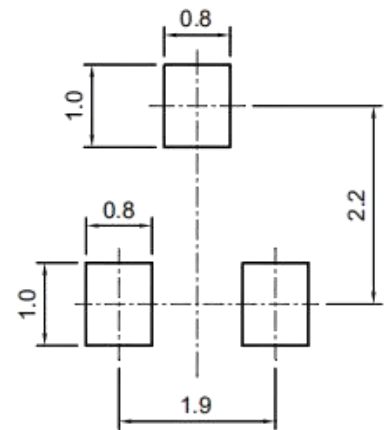


BZX84C Series

PACKAGE OUTLINE SOT-23



| Symbol | Dimensions in millimeter | | |
|----------|--------------------------|-------|-------|
| | Min. | Typ. | Max. |
| A | 0.900 | 1.025 | 1.150 |
| A1 | 0.000 | 0.050 | 0.100 |
| b | 0.300 | 0.400 | 0.500 |
| c | 0.080 | 0.115 | 0.150 |
| D | 2.800 | 2.900 | 3.000 |
| E | 1.200 | 1.300 | 1.400 |
| HE | 2.250 | 2.400 | 2.550 |
| e | 1.800 | 1.900 | 2.000 |
| L1 | 0.550REF | | |
| L | 0.300 | | 0.500 |
| θ | 0° | | 8° |



SOT-23

Recommended soldering pad

Ordering information

| Device | Package | Shipping |
|---------------|---------|--------------------------|
| BZX84C Series | SOT-23 | 3000/Tape&Reel(7 inches) |

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