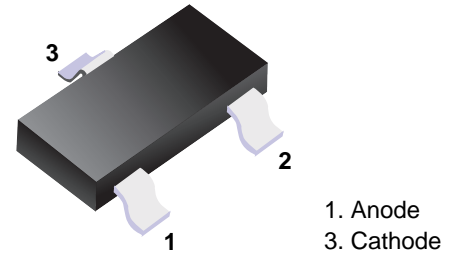
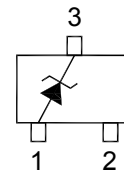


■ Silicon Planar Zener Diodes

This series of Zener diodes is offered in the convenient, surface mount plastic SOT-23 package. These devices are designed to provide voltage regulation with minimum space requirement. They are well suited for applications such as cellular phones, hand held portables, and high density PC boards.



■ Simplified outline(SOT-23)



Features

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

Absolute Maximum Ratings (T_a = 25°C)

| Parameter | Symbol | Value | Unit |
|---|-----------------------------------|---------------|------|
| Power Dissipation | P _D | 350 | mW |
| Thermal Resistance, Junction to Ambient ¹⁾ | R _{θJA} | 357 | °C/W |
| Junction and Storage Temperature Range | T _J , T _{stg} | - 65 to + 150 | °C |

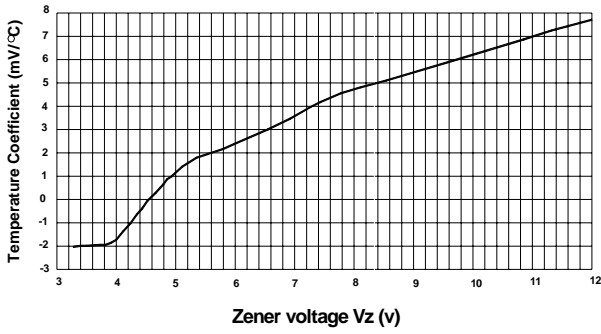
¹⁾ Alumina = 0.4 X 0.3 X 0.024 in, 99.5% alumina

Electrical Characteristics ($T_a = 25^\circ\text{C}$ unless otherwise noted, $V_F < 0.9\text{ V}$ at $I_F = 10\text{ mA}$)

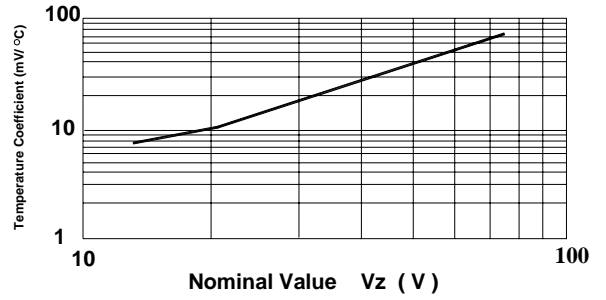
| Type | Marking Code | Zener Voltage Range ¹⁾ | | | | Dynamic Impedance | | Reverse Current | |
|-----------|--------------|-----------------------------------|----------|----------|-------------|-------------------|-------------|------------------------|----------|
| | | V_{ZT} | | | at I_{ZT} | Z_{ZT}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

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

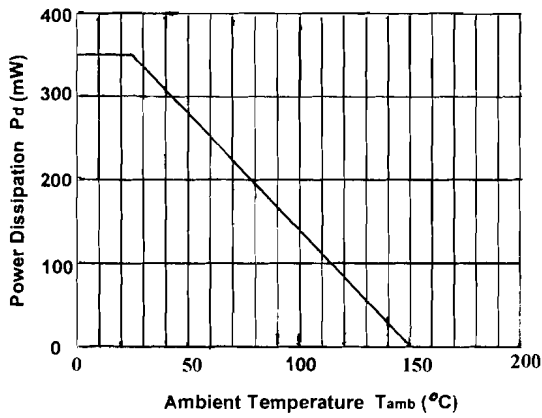
Temperature Coefficient



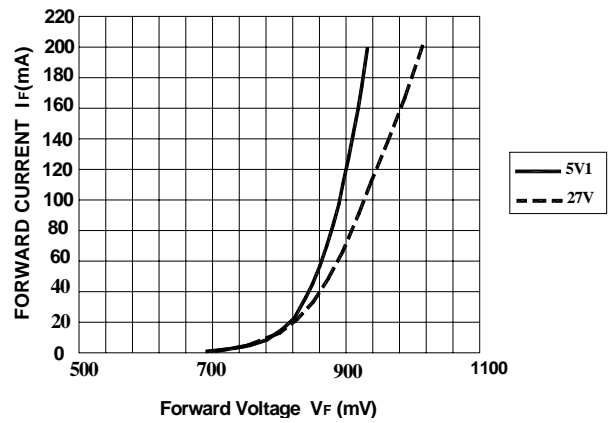
Temperature Coefficient



Power Derating Curve

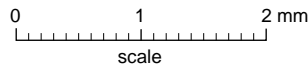
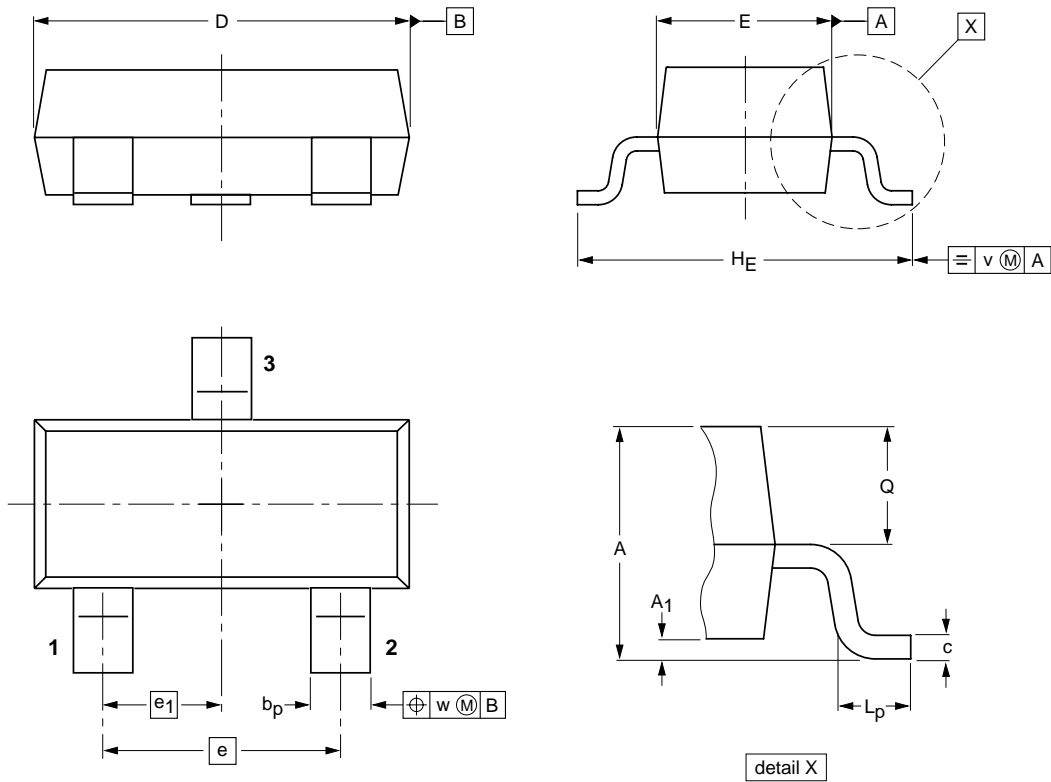


Typical Forward Voltage



Package Outline

SOT-23



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ max. | b _p | c | D | E | e | e ₁ | H _E | L _p | Q | v | w |
|------|------------|---------------------|----------------|--------------|------------|------------|-----|----------------|----------------|----------------|--------------|-----|-----|
| mm | 1.1 0.9 | 0.1 | 0.48 0.38 | 0.15 0.09 | 3.0 2.8 | 1.4 1.2 | 1.9 | 0.95 | 2.5 2.1 | 0.45 0.15 | 0.55 0.45 | 0.2 | 0.1 |

Summary of Packing Options

| Package | Packing Description | Packing Quantity | Industry Standard |
|---------|---------------------|------------------|-------------------|
| SOT-23 | Tape/Reel, 7" reel | 3000 | EIA-481-1 |

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