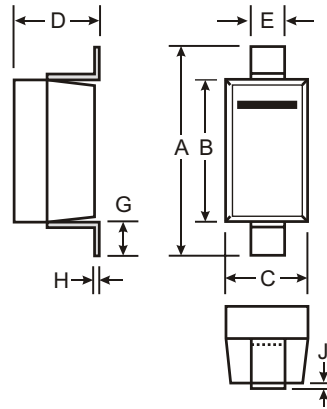


### Features

- Planar Die Construction
- General Purpose, Medium Current
- Ideally Suited for Automated Assembly Processes

### Mechanical Data

- Case: SOD-123, Plastic
- UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: Cathode Band
- Marking: Date Code and Marking Code or Date Code only, See Page 3
- Weight: 0.01 grams (approx.)
- Ordering Information: See Page 3



| SOD-123              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 3.55         | 3.85 |
| B                    | 2.55         | 2.85 |
| C                    | 1.40         | 1.70 |
| D                    | —            | 1.35 |
| E                    | 0.55 Typical |      |
| G                    | 0.25         | —    |
| H                    | 0.15 Typical |      |
| J                    | —            | 0.10 |
| All Dimensions in mm |              |      |

### Maximum Ratings @ T<sub>A</sub> = 25°C unless otherwise specified

| Characteristic                                       | Symbol                            | Value       | Unit |
|--|-----------------------------------|-------------|------|
| Power Dissipation (Note 1)                           | P <sub>d</sub>                    | 410         | mW   |
| Thermal Resistance, Junction to Ambient Air (Note 1) | R <sub>θJA</sub>                  | 305         | °C/W |
| Operating and Storage Temperature Range              | T <sub>j</sub> , T <sub>STG</sub> | -65 to +150 | °C   |

### Electrical Characteristics @ T<sub>A</sub> = 25°C unless otherwise specified

| Type Number | Marking Code (Note 3) | Zener Voltage Range (Note 2)     |         |         |                 | Maximum Zener Impedance (Note 4)  |                                   |                 | Maximum Reverse Current (Note 2) |                  |
|-------------|-----------------------|----------------------------------|---------|---------|-----------------|-----------------------------------|-----------------------------------|-----------------|----------------------------------|------------------|
|             |                       | V <sub>Z</sub> @ I <sub>ZT</sub> |         |         | I <sub>ZT</sub> | Z <sub>ZT</sub> @ I <sub>ZT</sub> | Z <sub>ZK</sub> @ I <sub>ZK</sub> | I <sub>ZK</sub> | I <sub>R</sub>                   | @ V <sub>R</sub> |
|             |                       | Nom (V)                          | Min (V) | Max (V) | mA              | Ω                                 |                                   | mA              | uA                               | V                |
| BZT52C43    | WU/WU/WY              | 43                               | 40.0    | 46.0    | 5               | 100                               | 700                               | 1.0             | 0.1                              | 32               |
| BZT52C47    | WV/WZ                 | 47                               | 44.0    | 50.0    | 5               | 100                               | 750                               | 1.0             | 0.1                              | 35               |
| BZT52C51    | WW/X1                 | 51                               | 48.0    | 54.0    | 5               | 100                               | 750                               | 1.0             | 0.1                              | 38               |

- Notes:
1. Device mounted on ceramic PCB; 7.6mm x 9.4mm x 0.87mm with pad areas 25mm<sup>2</sup>.
  2. Short duration test pulse used to minimize self-heating effect.
  3. When provided, otherwise, parts are provided with date code only, and type number identifications appears on reel only.
  4. f = 1kHz.

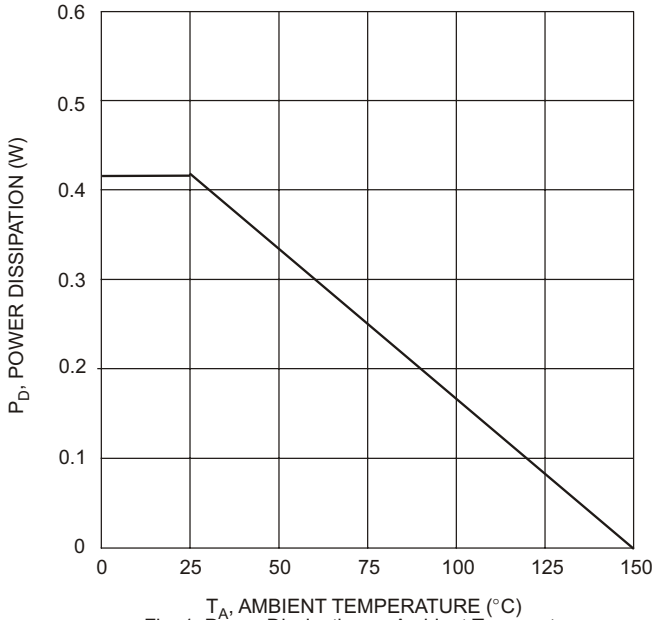


Fig. 1 Power Dissipation vs Ambient Temperature

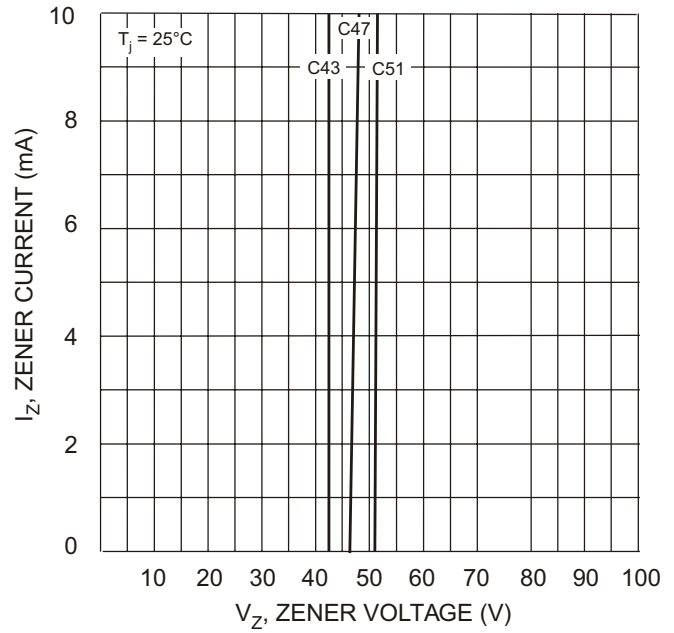


Fig. 2 Zener Breakdown Characteristics

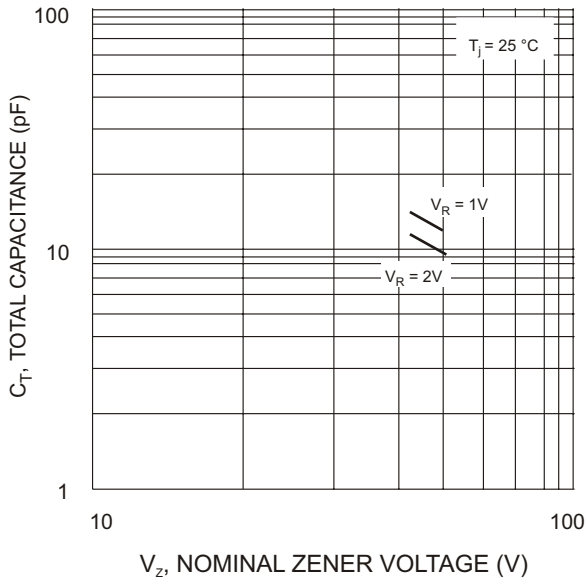


Fig. 3 Total Capacitance vs Nominal Zener Voltage

## Ordering Information (Note 5)

| Device              | Packaging | Shipping         |
|---------------------|-----------|------------------|
| BZT52CXX-7 (Note 6) | SOD-123   | 3000/Tape & Reel |

- Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.  
 6. Replace "XX" with the nominal Zener breakdown voltage; i.e. Part number for 43V device would be BZT52C43-7.

## Marking Information for Parts marked WY, WZ or X1



XX = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year (ex: P = 2002)  
 M = Month (ex: 9 = September)

### Date Code Key

| Year | 2000 | 2001 | 2002 | 2003 | 2004 |
|------|------|------|------|------|------|
| Code | M    | N    | P    | R    | S    |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code  | 1   | 2   | 3     | 4   | 5   | 6   | 7   | 8   | 9   | O   | N   | D   |

## Marking Information for Parts marked WU, WU, WV or WW



XX = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year (ex: N = 2002)  
 M = Month (ex: 9 = September)

### Date Code Key

| Year | 1998 | 1999 | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | J    | K    | L    | M    | N    | P    | R    | S    | T    | U    | V    | W    |

| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code  | 1   | 2   | 3     | 4   | 5   | 6   | 7   | 8   | 9   | O   | N   | D   |