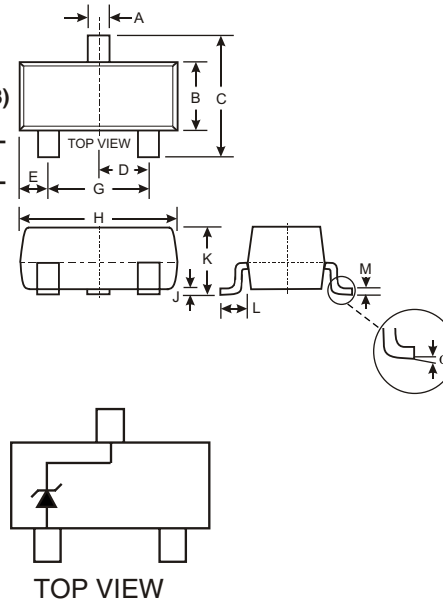


Features

- Planar Die Construction
- 350mW Power Dissipation
- Zener Voltages from 43V - 51V
- Ideally Suited for Automated Assembly Processes
- Available in Lead Free/RoHS Compliant Version (Note 3)

Mechanical Data

- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Also Available in Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe). Please see Ordering Information, Note 7, on Page 3
- Polarity: See Diagram
- Marking: Type Code and Date Code, See Page 3
- Type Code: See Table on Page 2
- Weight: 0.008 grams (approximate)



| SOT-23 | | |
|----------------------|-------|-------|
| Dim | Min | Max |
| A | 0.37 | 0.51 |
| B | 1.20 | 1.40 |
| C | 2.30 | 2.50 |
| D | 0.89 | 1.03 |
| E | 0.45 | 0.60 |
| G | 1.78 | 2.05 |
| H | 2.80 | 3.00 |
| J | 0.013 | 0.10 |
| K | 0.903 | 1.10 |
| L | 0.45 | 0.61 |
| M | 0.085 | 0.180 |
| α | 0° | 8° |
| All Dimensions in mm | | |

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

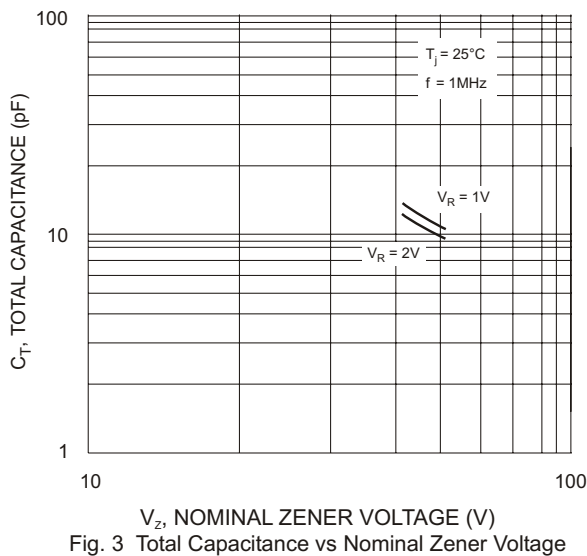
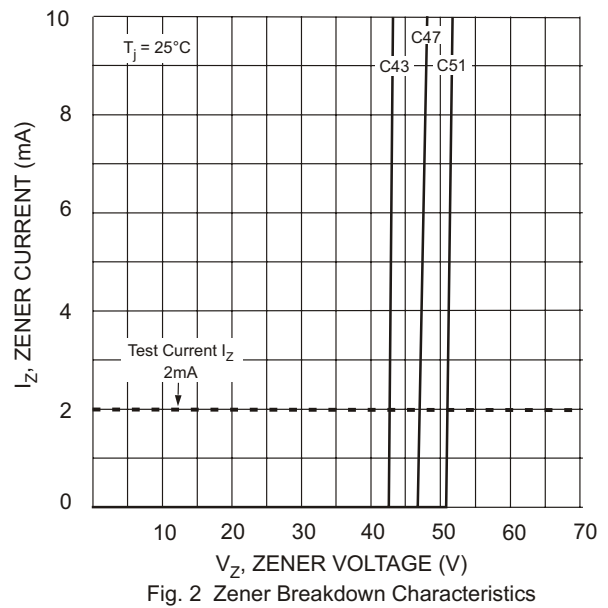
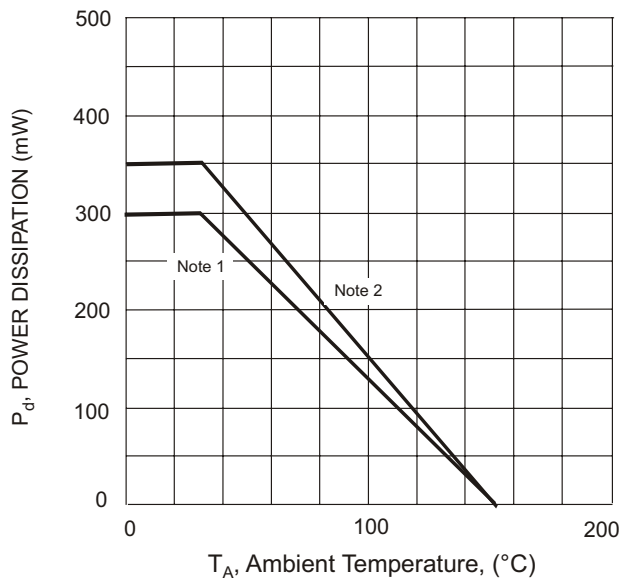
| Characteristic | Symbol | Value | Unit |
|--|-----------------|-------------|--------------------|
| Forward Voltage @ $I_F = 10\text{mA}$ | V_F | 0.9 | V |
| Power Dissipation (Note 1) | P_d | 300 | mW |
| Power Dissipation (Note 2) | P_d | 350 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 417 | $^\circ\text{C/W}$ |
| Thermal Resistance, Junction to Ambient Air (Note 2) | $R_{\theta JA}$ | 357 | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | $^\circ\text{C}$ |

- Notes:
1. Device mounted on FR-4 PC board with recommended pad layout, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. Valid provided the terminals are kept at ambient temperature.
 3. No purposefully added lead.

Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Type Number | Type Code | Zener Voltage Range (Note 5) | | | | Maximum Zener Impedance (Note 4) | | | Maximum Reverse Current (Note 5) | | Typical Temperature Coefficient @ I_{ZT} mV/°C | |
|-------------|-----------|------------------------------|---------|---------|---------------|----------------------------------|-------------------|------|----------------------------------|-----------|--|------|
| | | $V_Z @ I_{ZT}$ | | | I_{ZT} (mA) | $Z_{ZT} @ I_{ZT}$ (Ω) | $Z_{ZK} @ I_{ZK}$ | | I_R (μA) | V_R (V) | Min | Max |
| | | Nom (V) | Min (V) | Max (V) | | | (Ω) | (mA) | | | | |
| 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: 4. $f = 1\text{KHz}$.
5. Short duration test pulse used to minimize self-heating effect.



Ordering Information (Note 6)

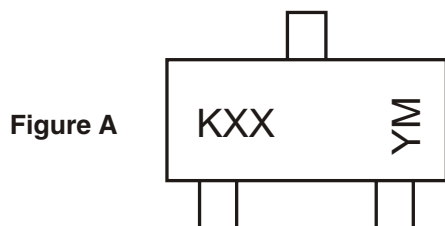
| Device | Packaging | Shipping |
|------------------|-----------|------------------|
| (Type Number)-7* | SOT-23 | 3000/Tape & Reel |

* Add "-7" to the appropriate type number in Table 1 (on Page 2). Example: 43V Zener = BZX84C43-7.

Notes: 6. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

7. For Lead Free/RoHS Compliant version part number, please add "-F" suffix to the part number above. Example: BZX84C43-7-F.

Marking Information (This part may be marked as Figure A or B Below)

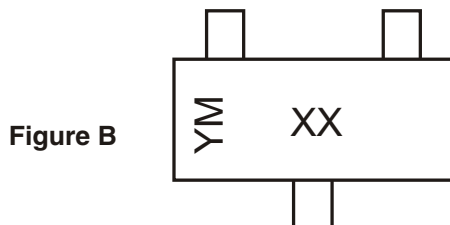


KXX = Product Type Marking Code (See Page 2)
 YM = Date Code Marking
 Y = Year ex: N = 2002
 M = Month ex: 9 = September

Date Code Key

| Year | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|------|------|------|------|------|------|
| Code | 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 |



XX = Product Type Marking Code (See Page 2)
 YM = Date Code Marking
 Y = Year ex: N = 2001
 M = Month ex: 9 = September

Date Code Key

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 |
|------|------|------|------|------|------|------|------|------|------|
| Code | 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 |