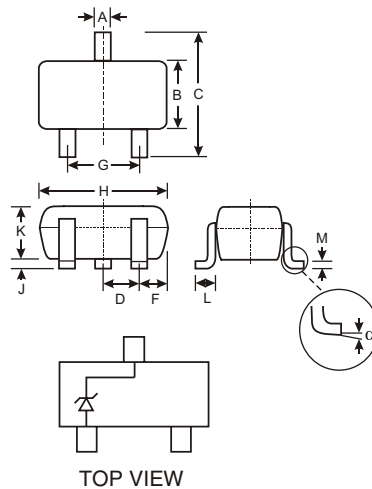


Features

- Very Sharp Breakdown Characteristics
- Very Tight Tolerance on V_Z
- Ideally Suited for Automated Assembly Processes
- Very Low Leakage Current
- Lead Free Device

Mechanical Data

- Case: SOT-323, Plastic
- Plastic Material: UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Finish - Matte Tin Solderable per MIL-STD-202, Method 208 (Note 1)
- Polarity: See Diagram
- Marking: See Below
- Weight: 0.006 grams (approx.)



| SOT-323 | | |
|----------------------|--------------|------|
| Dim | Min | Max |
| A | 0.25 | 0.40 |
| B | 1.15 | 1.35 |
| C | 2.00 | 2.20 |
| D | 0.65 Nominal | |
| E | 0.30 | 0.40 |
| G | 1.20 | 1.40 |
| H | 1.80 | 2.20 |
| J | 0.0 | 0.10 |
| K | 0.90 | 1.00 |
| L | 0.25 | 0.40 |
| M | 0.10 | 0.18 |
| 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 2) | P_d | 200 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 2) | $R_{\theta JA}$ | 625 | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range | T_j, T_{STG} | -65 to +150 | $^\circ\text{C}$ |

- Notes:
1. If lead-bearing terminal plating is required, please contact your Diodes Inc. sales representative for availability and minimum order details.
 2. 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>.

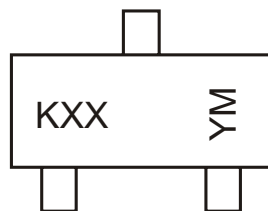
Ordering Information (Note 3)

| Device | Packaging | Shipping |
|------------------|-----------|------------------|
| (Type Number)-7* | SOT-323 | 3000/Tape & Reel |

* Example: The part number for the 6.2 Volt device would be DDZX6V2BW-7.

Note : 3. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



KXX = Product Type Marking Code (See Table 1)
 YM = Date Code Marking
 Y = Year ex: P = 2003
 M = Month ex: 9 = September

Date Code Key

| Year | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|------|------|------|------|
| Code | P | R | S | T | U | V | W |

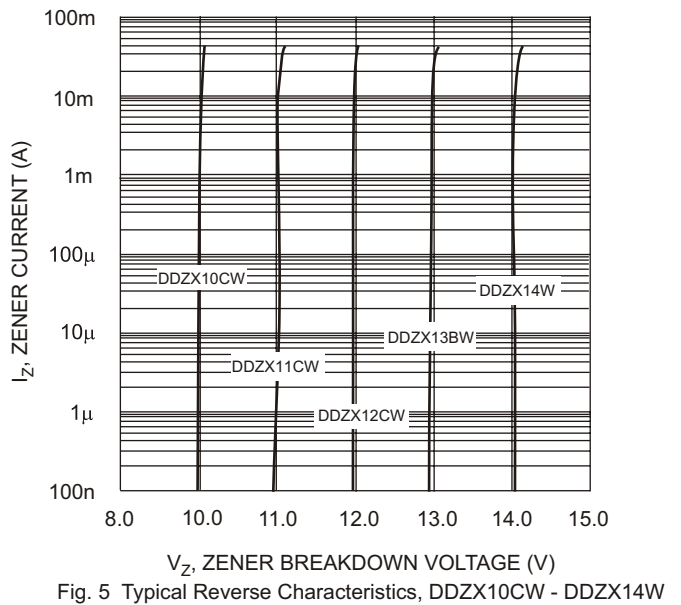
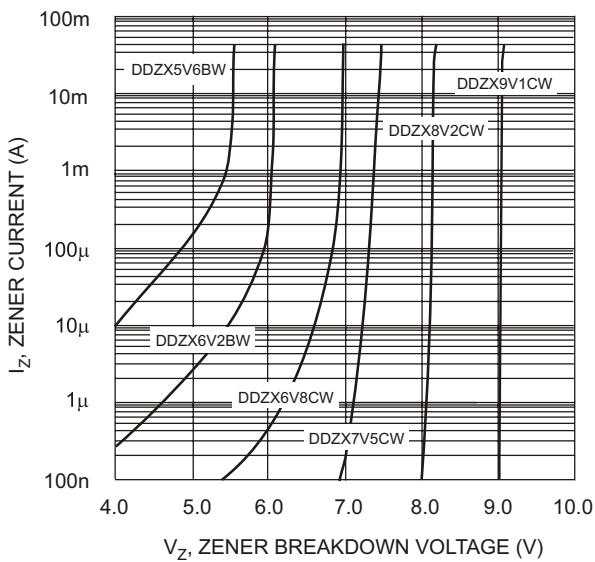
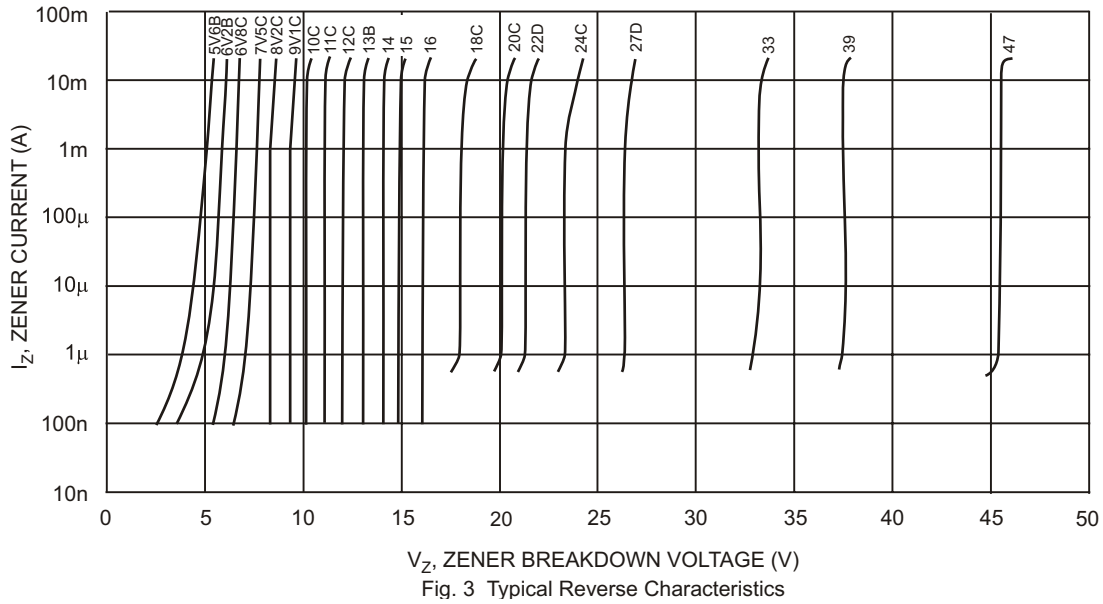
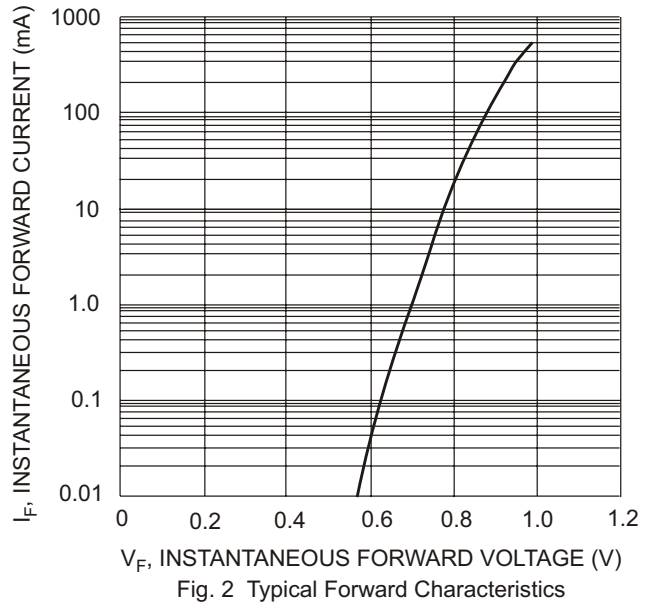
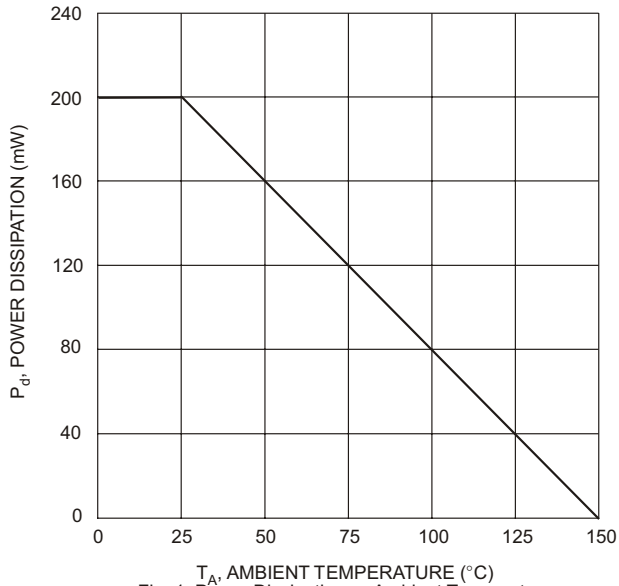
| Month | Jan | Feb | March | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Electrical Characteristics @ T_A = 25°C unless otherwise specified

Table 1

| Type Number | Marking Code | Zener Voltage Range (Notes 4,5) | | | Maximum Zener Impedance (Note 6) | | | Maximum Reverse Current (Note 7) | |
|-------------|--------------|------------------------------------|---------|-----------------|-------------------------------------|-----------------------------------|-----------------|-------------------------------------|------------------|
| | | V _Z @ I _{ZT} | | I _{ZT} | Z _{ZT} @ I _{ZT} | Z _{ZK} @ I _{ZK} | I _{ZK} | I _R | @ V _R |
| | | Min (V) | Max (V) | mA | Ω | | mA | uA | V |
| DDZX5V1BW | KM | 4.94 | 5.20 | 20 | 17 | 480 | 1 | 5 | 1.5 |
| DDZX5V6BW | KN | 5.45 | 5.73 | 20 | 11 | 400 | 1 | 0.5 | 2.5 |
| DDZX6V2BW | KO | 5.96 | 6.27 | 20 | 7 | 150 | 1 | 0.5 | 4.0 |
| DDZX6V8CW | YP | 6.66 | 7.01 | 20 | 5 | 150 | 0.5 | 0.1 | 5.0 |
| DDZX7V5CW | YQ | 7.29 | 7.67 | 20 | 6 | 120 | 0.5 | 0.1 | 6.0 |
| DDZX8V2CW | YR | 8.03 | 8.45 | 20 | 8 | 120 | 0.5 | 0.1 | 6.5 |
| DDZX9V1CW | YS | 8.83 | 9.30 | 20 | 8 | 120 | 0.5 | 0.1 | 7.0 |
| DDZX10CW | YT | 9.70 | 10.20 | 20 | 8 | 120 | 0.5 | 0.1 | 8.0 |
| DDZX11CW | YU | 10.82 | 11.38 | 10 | 10 | 120 | 0.5 | 0.1 | 8.4 |
| DDZX12CW | YV | 11.74 | 12.35 | 10 | 12 | 110 | 0.5 | 0.1 | 9.1 |
| DDZX13BW | KW | 12.55 | 13.21 | 10 | 14 | 110 | 0.5 | 0.1 | 10.0 |
| DDZX14W | GX | 13.44 | 14.13 | 10 | 16 | 110 | 0.5 | 0.05 | 11.0 |
| DDZX15W | GY | 14.80 | 15.57 | 10 | 18 | 150 | 0.5 | 0.05 | 12.0 |
| DDZX16W | YY | 15.69 | 16.51 | 10 | 18 | 150 | 0.5 | 0.05 | 12.0 |
| DDZX18CW | YZ | 17.42 | 18.33 | 10 | 23 | 150 | 0.5 | 0.05 | 14.0 |
| DDZX20CW | PJ | 19.23 | 20.22 | 10 | 28 | 200 | 0.5 | 0.05 | 15.0 |
| DDZX22DW | 2K | 21.52 | 22.63 | 5 | 30 | 200 | 0.5 | 0.05 | 17.0 |
| DDZX24CW | PL | 23.12 | 24.31 | 5 | 35 | 200 | 0.5 | 0.05 | 19.0 |
| DDZX27DW | 2M | 26.29 | 27.64 | 5 | 45 | 250 | 0.5 | 0.05 | 21.0 |
| DDZX30DW | 2N | 29.02 | 30.51 | 5 | 55 | 250 | 0.5 | 0.05 | 23.0 |
| DDZX33W | RP | 32.14 | 33.79 | 5 | 75 | 250 | 0.5 | 0.05 | 27.0 |
| DDZX36W | ZQ | 35.36 | 37.19 | 5 | 85 | 250 | 0.5 | 0.05 | 30.0 |
| DDZX39FW | 5Q | 38.14 | 40.11 | 5 | 85 | 250 | 0.5 | 0.05 | 30.0 |
| DDZX43W | ZR | 42.14 | 43.86 | 5 | 90 | — | — | 0.05 | 33.0 |
| DDZX47W | ZS | 46.06 | 47.94 | 5 | 90 | — | — | 0.05 | 36.0 |

- Notes:
- The Zener voltage is measured 40ms after power is supplied.
 - For inquiries on tighter tolerances, or alternate nominal zener voltages, please contact your Diodes Inc. sales representative for availability and minimum order details.
 - f = 1kHz.
 - Short duration test pulse used to minimize self-heating effect.



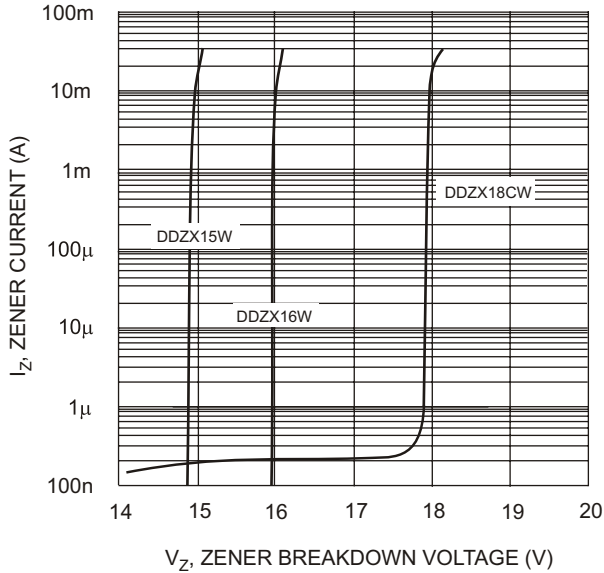


Fig. 6 Typical Reverse Characteristics, DDZX15W - DDZX18CW

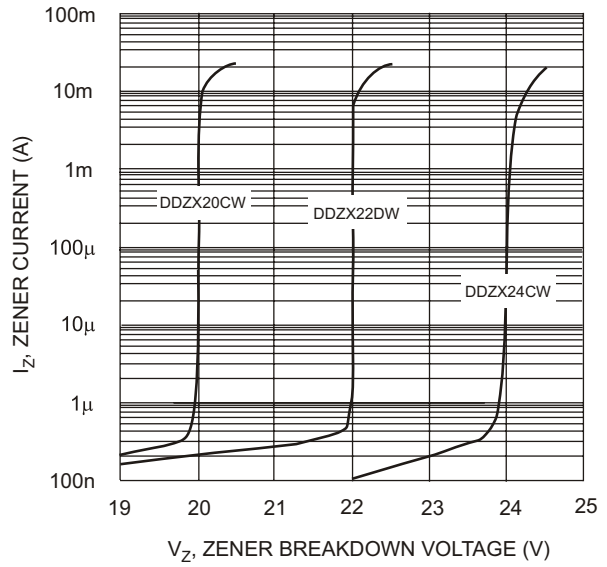


Fig. 7 Typical Reverse Characteristics, DDZX20CW - DDZX24CW

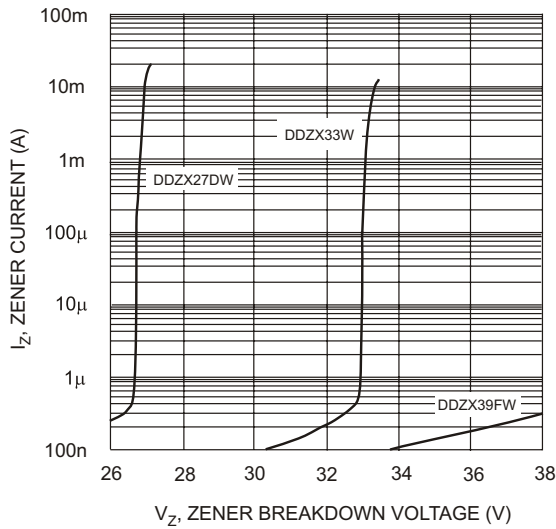


Fig. 8 Typical Reverse Characteristics, DDZX27DW - DDZX39FW

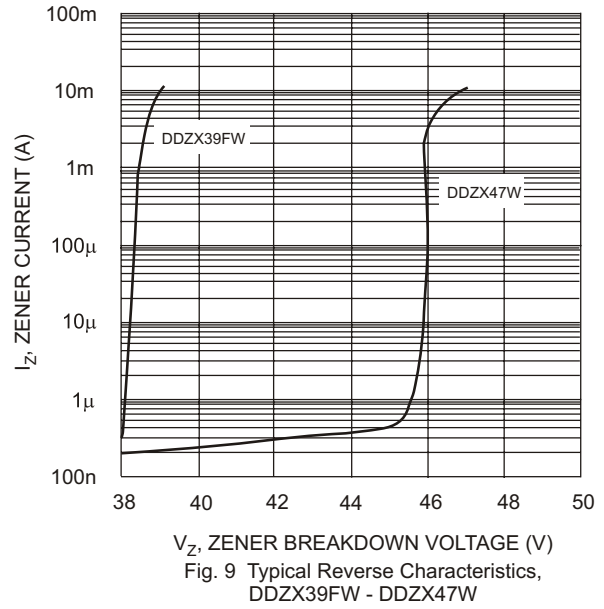


Fig. 9 Typical Reverse Characteristics, DDZX39FW - DDZX47W

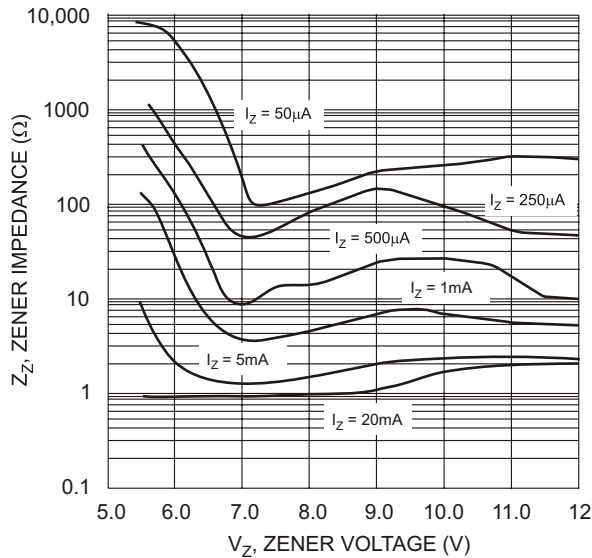


Fig. 10 Typical Zener Impedance Characteristics, DDZX5V6BW - DDZX12CW

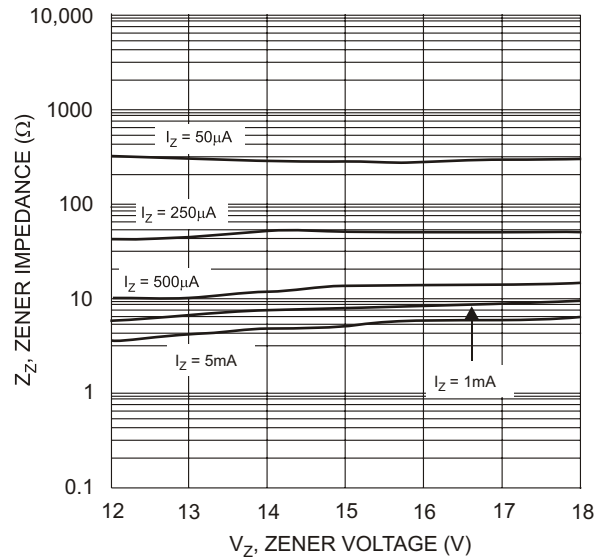


Fig. 11 Typical Zener Impedance Characteristics, DDZX12CW - DDZX18CW

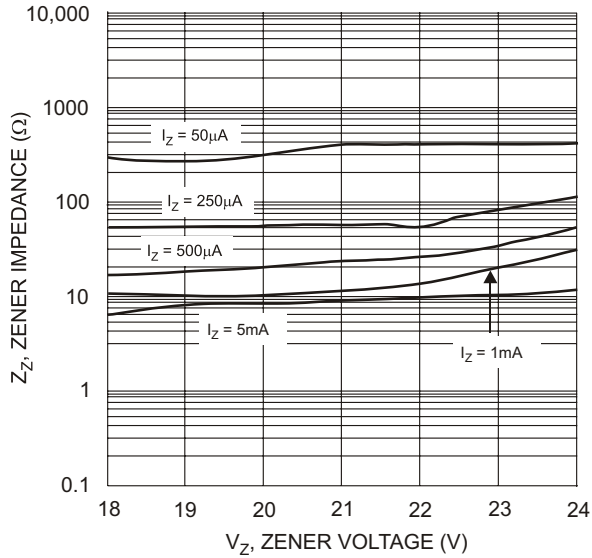


Fig. 12 Typical Zener Impedance Characteristics, DDZX18CW - DDZX24CW

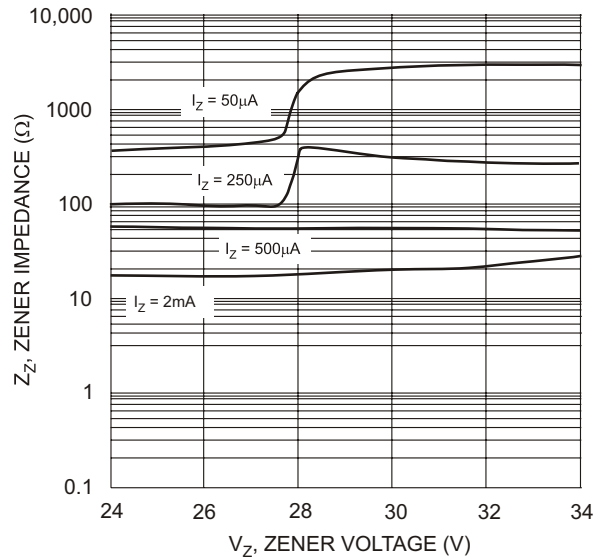


Fig. 13 Typical Zener Impedance Characteristics, DDZX24CW - DDZX33W

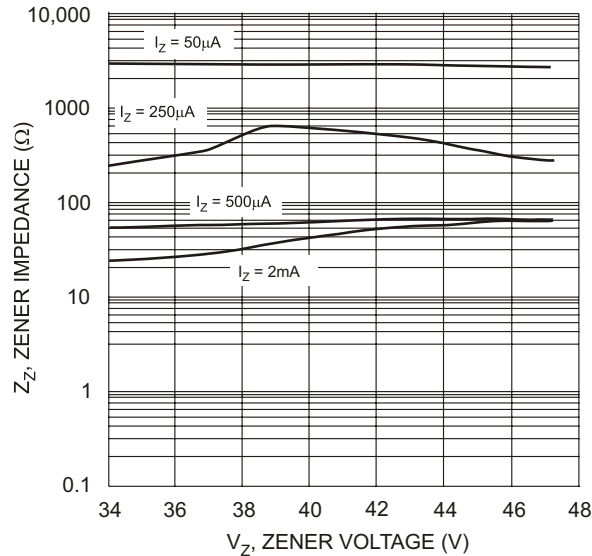


Fig. 14 Typical Zener Impedance Characteristics, DDZX36W - DDZX47W

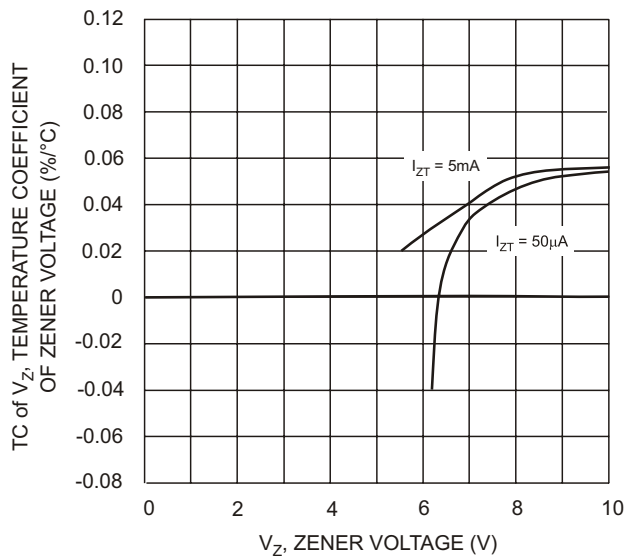


Fig. 15 Typical Temperature Coefficient of Zener Voltage vs. Zener Voltage, DDZX6V2BW - DDZX10CW

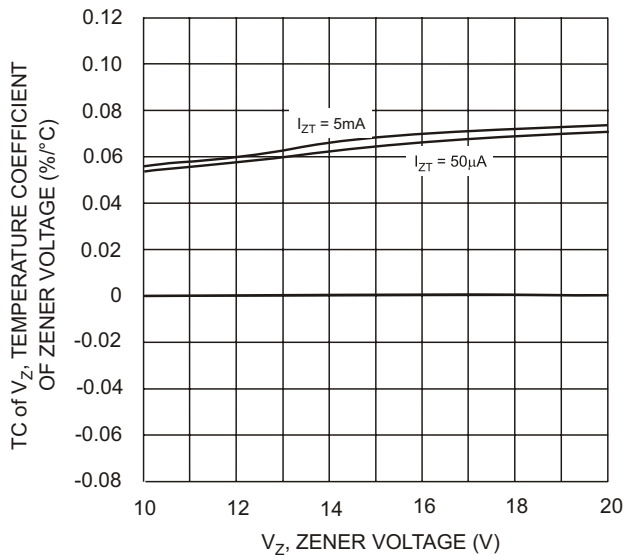


Fig. 16 Typical Temperature Coefficient of Zener Voltage vs. Zener Voltage, DDZX10CW - DDZX20CW

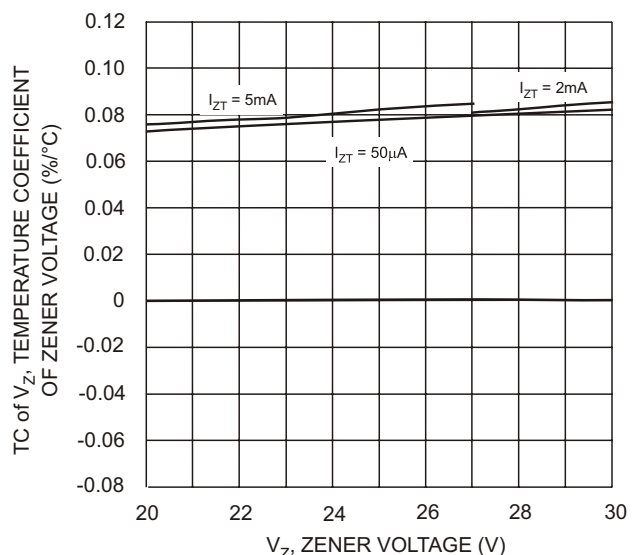


Fig. 17 Typical Temperature Coefficient of Zener Voltage, DDZX20CW - DDZX30DW

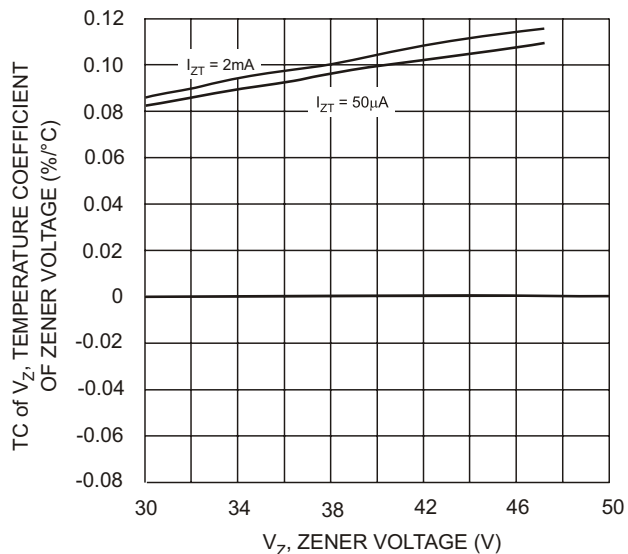


Fig. 18 Typical Temperature Coefficient of Zener Voltage, DDZX30DW - DDZX47W

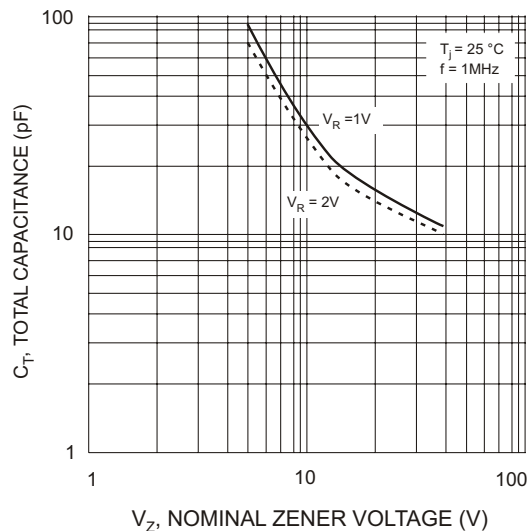


Fig. 19 Total Capacitance vs Nominal Zener Voltage