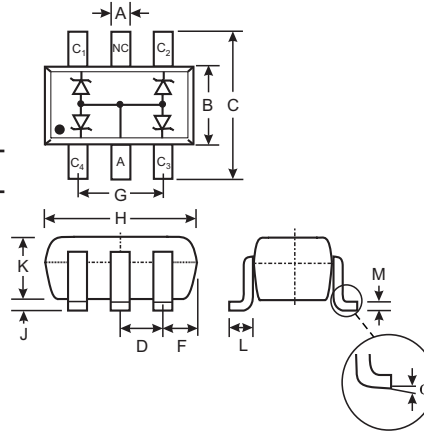


Features

- Nominal Zener Voltages: 5.6V, 6.8V, 12V, 15V, 20V
- Ultra-Small Surface Mount Package
- Ideal For Transient Suppression
- Lead Free/RoHS Compliant (Note 4)

Mechanical Data

- Case: SOT-363
- 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
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagram
- Marking: See Table Below
- Weight: 0.006 grams (approx.)
- Ordering Information: See Page 3



NC = Not Connected

| SOT-363 | | |
|----------------------|--------------|------|
| Dim | Min | Max |
| A | 0.10 | 0.30 |
| B | 1.15 | 1.35 |
| C | 2.00 | 2.20 |
| D | 0.65 Nominal | |
| F | 0.30 | 0.40 |
| H | 1.80 | 2.20 |
| J | — | 0.10 |
| K | 0.90 | 1.00 |
| L | 0.25 | 0.40 |
| M | 0.10 | 0.25 |
| α | 0° | 8° |
| All Dimensions in mm | | |

Maximum Ratings @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|--|-----------------------------------|-------------|------|
| Forward Voltage (Note 1) @ I _F = 10mA | V _F | 0.9 | V |
| Power Dissipation | P _d | 200 | mW |
| Thermal Resistance, Junction to Ambient Air (Note 3) | R _{θJA} | 625 | °C/W |
| Operating and Storage Temperature Range (Note 3) | T _J , T _{STG} | -65 to +150 | °C |

| Type Number | Marking Code | Zener Voltage Range (Note 1) | | | Maximum Zener Impedance (Note 2) | | | | Maximum Reverse Current (Note 1) | | Temperature Coefficient of Zener Voltage @ I _{ZT} = 5mA | |
|-------------|--------------|--|---------|---------|-----------------------------------|-----|-----------------------------------|-----|----------------------------------|------|--|------|
| | | V _Z @ I _{ZT} = 5.0mA | | | Z _{ZT} @ I _{ZT} | | Z _{ZK} @ I _{ZK} | | I _R @ V _R | | T _C (mV/°C) | |
| | | Nom (V) | Min (V) | Max (V) | Ω | mA | Ω | mA | μA | V | Min | Max |
| QZX363C5V6 | K5F | 5.6 | 5.32 | 5.88 | 40 | 5.0 | 400 | 1.0 | 1.0 | 2.0 | -2.0 | 2.5 |
| QZX363C6V8 | K6F | 6.8 | 6.47 | 7.14 | 15 | 5.0 | 80 | 1.0 | 2.0 | 4.0 | 1.2 | 4.5 |
| QZX363C12 | KFF | 12 | 11.4 | 12.7 | 25 | 5.0 | 150 | 1.0 | 0.1 | 8.0 | 6.0 | 10.0 |
| QZX363C15 | KJF | 15 | 13.8 | 15.6 | 30 | 5.0 | 200 | 1.0 | 0.1 | 10.5 | 9.2 | 13.0 |
| QZX363C20 | KMF | 20 | 19.0 | 21.0 | 55 | 5.0 | 225 | 1.0 | 0.1 | 14 | 14.4 | 18.0 |

- Notes:
- Short duration test pulse used to minimize self-heating effect.
 - f = 1KHz.
 - 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>.
 - No purposefully added lead.

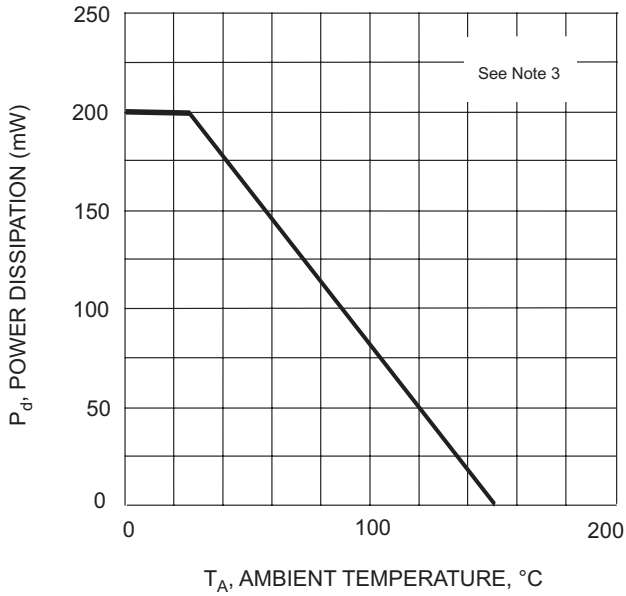


Fig. 1. Power Derating Curve

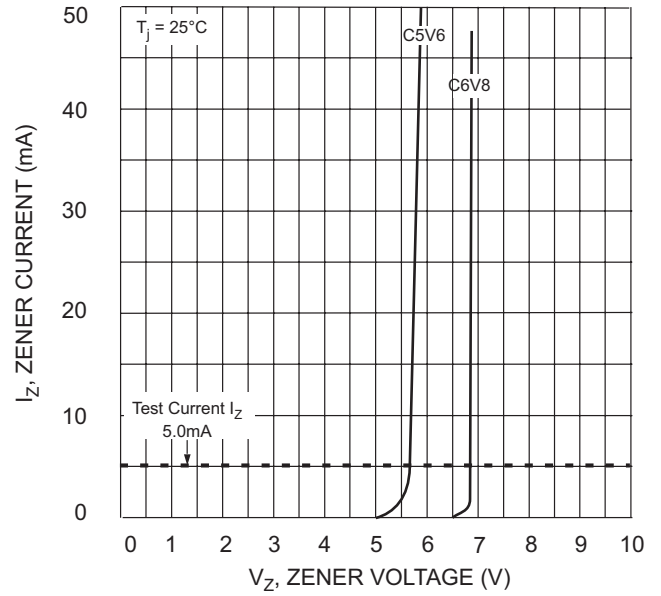


Fig. 2. Zener Breakdown Characteristics

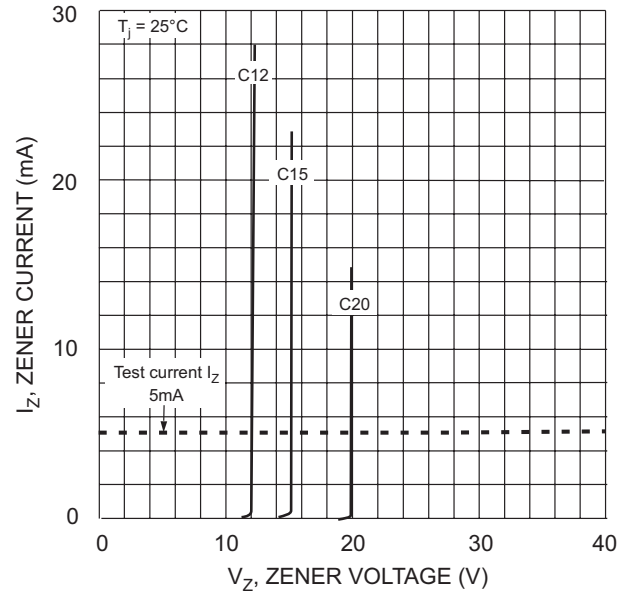


Fig. 3. Zener Breakdown Characteristics

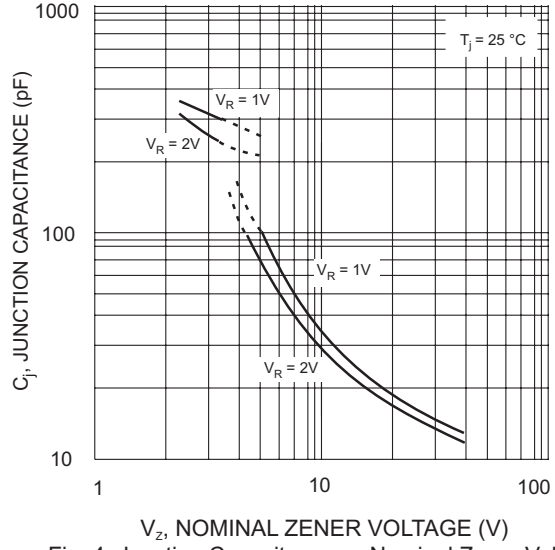


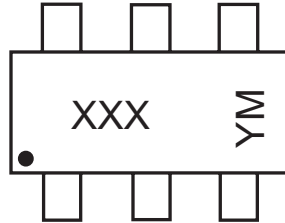
Fig. 4. Junction Capacitance vs Nominal Zener Voltage

Ordering Information (Note 5)

| Device | Packaging | Shipping |
|---|-----------|------------------|
| QZX363C5V6-7-F QZX363C6V8-7-F QZX363C12-7-F QZX363C15-7-F QZX363C20-7-F | SOT-363 | 3000/Tape & Reel |

Notes: 5. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



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

Date Code Key

| Year | 2000 | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 |
|------|------|------|------|------|------|------|------|------|------|------|
| Code | 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 |

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