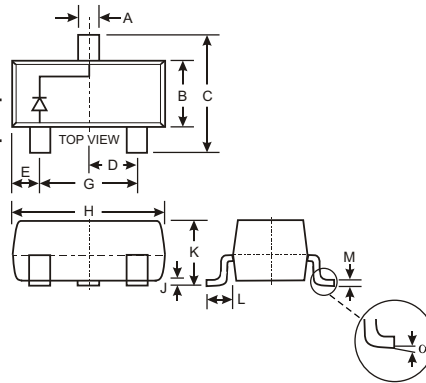


Features

- Very Low Forward Voltage Drop
- High Conductance
- For Use in DC-DC Converter, PCMCIA, and Mobile Telecommunications Applications
- Lead Free/RoHS Compliant (Note 3)**
- Qualified to AEC-Q101 Standards for High Reliability**

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
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking: K77 or K79 and Date Code, See Page 3
- 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 |
| | 0 | 8 |
| All Dimensions in mm | | |

Maximum Ratings @ T_A = 25 C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|--|-------------|------|
| Peak Repetitive Reverse Voltage Working Peak Reverse Voltage DC Blocking Voltage | V _{RRM} V _{RWM} V _R | 40 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 28 | V |
| Average Rectified Current | I _O | 0.75 | A |
| Non-Repetitive Peak Forward Surge Current 8.3ms Single half sine-wave superimposed on rated load | I _{FSM} | 5.5 | A |
| Power Dissipation (Note 1) | P _d | 350 | mW |
| Typical Thermal Resistance, Junction to Ambient Air (Note 1) | R _{JA} | 286 | C/W |
| Operating and Storage Temperature Range | T _j , T _{STG} | -55 to +125 | C |

Electrical Characteristics @ T_A = 25 C unless otherwise specified

| Characteristic | Symbol | Min | Typ | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|---|---|----------|---|
| Reverse Breakdown Voltage (Note 2) | V _{(BR)R} | 40 | 45 | | V | I _R = 300uA |
| Forward Voltage | V _F | | 225 235 290 340 390 420 475 | 280 310 350 420 490 540 650 | mV | I _F = 50mA I _F = 100mA I _F = 250mA I _F = 500mA I _F = 750mA I _F = 1000mA I _F = 1500mA |
| Reverse Current (Note 2) | I _R | | 50 | 100 | A | V _R = 30V |
| Total Capacitance | C _T | | 175 25 | | pF pF | V _R = 0V, f = 1.0MHz V _R = 25V, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | | | 10 | ns | I _F = I _R = 100mA, I _{rr} = 10mA. See figure 6. |

Notes: 1. Part 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. Short duration test pulse used to minimize self-heating effect.
3. No purposefully added lead.

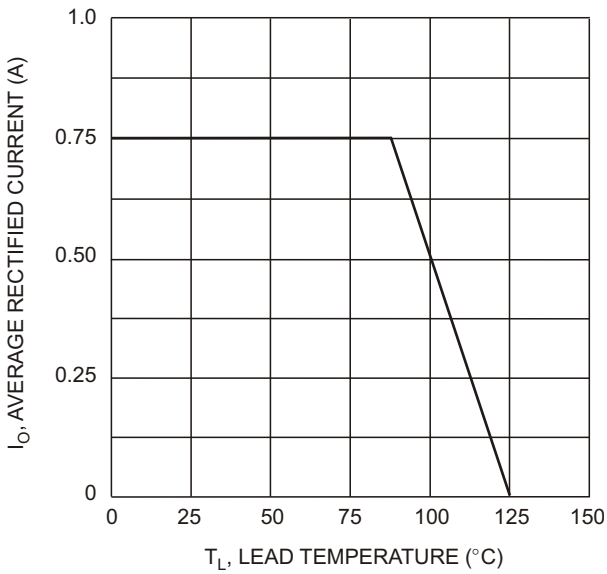


Fig. 1 Forward Current Derating Curve

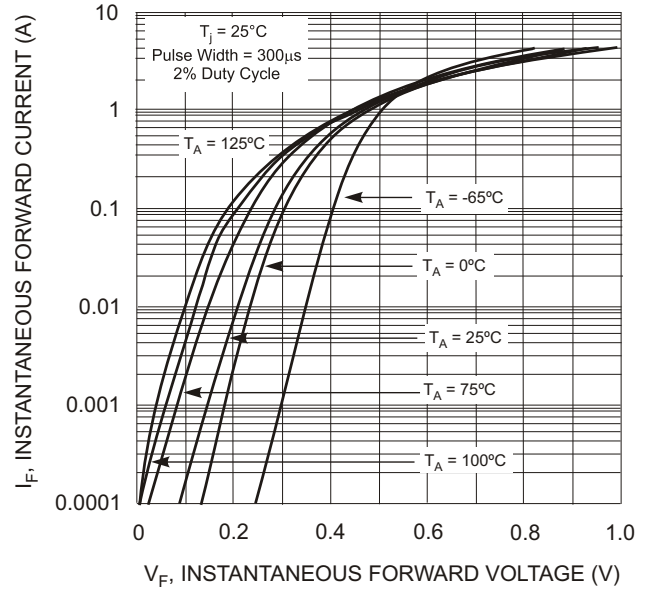


Fig. 2 Typical Forward Characteristics

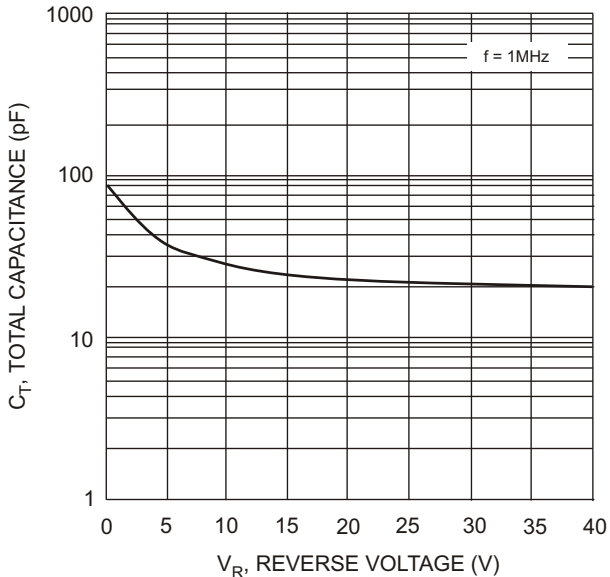


Fig. 3 Total Capacitance vs Reverse Voltage

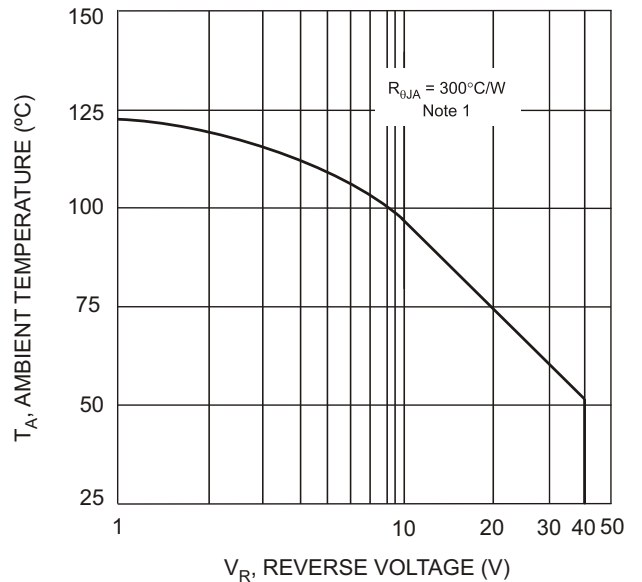


Fig. 4 Typical Safe Operating Area

Note: 1. Assumed application thermal conditions. R_{JA} varies depending on application.

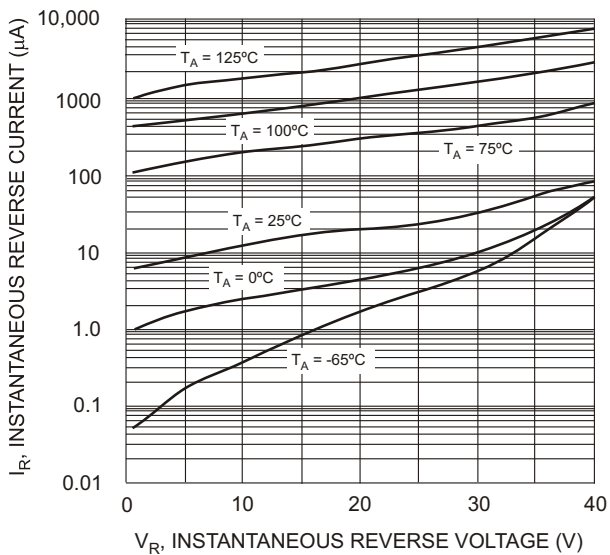


Fig. 5 Typical Reverse Characteristics

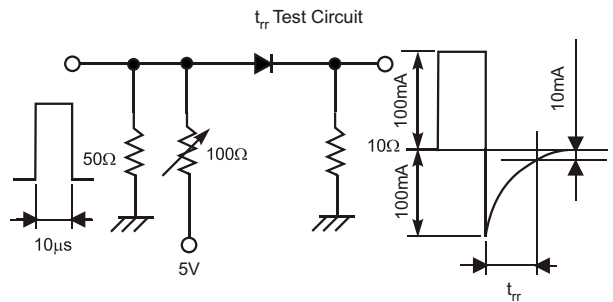


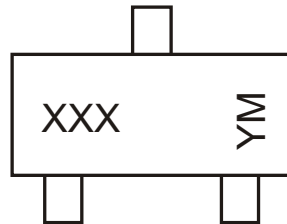
Fig. 6 Reverse Recovery Time Test Circuit and Waveform

Ordering Information (Note 4)

| Device | Packaging | Shipping |
|------------|-----------|------------------|
| BAT750-7-F | SOT-23 | 3000/Tape & Reel |

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



XXX = Product Type Marking Code
 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 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | M | N | P | R | S | T | U | V | W | X | Y | Z |

| 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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