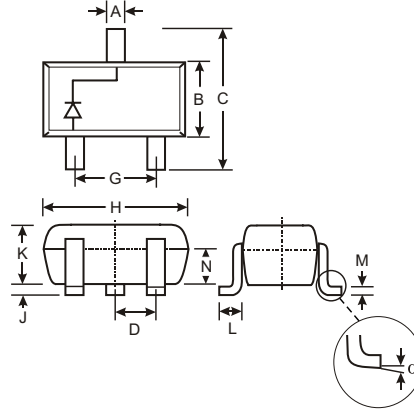


Features

- Ultra-Small Surface Mount Package
- Fast Switching Speed
- For General Purpose Switching Applications
- High Conductance

Mechanical Data

- Case: SOT-523, Molded Plastic
- Case Material UL Flammability Rating: 94V-0
- Moisture sensitivity: Level 1 per J-STD-020A
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Marking: T3 (See Page 2)
- Weight: 0.002 grams (approx.)



| SOT-523 | | | |
|----------------------|------|------|------|
| Dim | Min | Max | Typ |
| A | 0.15 | 0.30 | 0.22 |
| B | 0.75 | 0.85 | 0.80 |
| C | 1.45 | 1.75 | 1.60 |
| D | — | — | 0.50 |
| G | 0.90 | 1.10 | 1.00 |
| H | 1.50 | 1.70 | 1.60 |
| J | 0.00 | 0.10 | 0.05 |
| K | 0.60 | 0.80 | 0.75 |
| L | 0.10 | 0.30 | 0.22 |
| M | 0.10 | 0.20 | 0.12 |
| N | 0.45 | 0.65 | 0.50 |
| α | 0° | 8° | — |
| All Dimensions in mm | | | |

Maximum Ratings @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Repetitive Peak Reverse Voltage | V _{RRM} | 250 | V |
| Working Peak Reverse Voltage | V _{RWM} | 200 | V |
| DC Blocking Voltage | V _R | 200 | V |
| RMS Reverse Voltage | V _{R(RMS)} | 141 | V |
| Forward Continuous Current (Note 1) | I _{FM} | 400 | mA |
| Average Rectified Output Current (Note 1) | I _O | 200 | mA |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0μs @ t = 1.0s | I _{FSM} | 2.5 0.5 | A |
| Repetitive Peak Forward Surge Current | I _{FRM} | 625 | mA |
| Power Dissipation (Note 1) | P _d | 150 | mW |
| Thermal Resistance Junction to Ambient (Note 1) | R _{θJA} | 833 | °C/W |
| Operating and Storage Temperature Range | T _J , T _{STG} | -65 to +150 | °C |

Electrical Characteristics @ T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Min | Max | Unit | Test Condition |
|--|--------------------|-----|-------------|----------|---|
| Reverse Breakdown Voltage (Note 2) | V _{(BR)R} | 250 | — | V | I _R = 100μA |
| Forward Voltage (Note 2) | V _F | — | 1.0 1.25 | V | I _F = 100mA I _F = 200mA |
| Reverse Current @ Rated DC Blocking Voltage (Note 2) | I _R | — | 100 15 | nA μA | T _J = 25°C T _J = 100°C |
| Total Capacitance | C _T | — | 5.0 | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 50 | ns | I _F = I _R = 30mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

- 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. Short duration test pulse used to minimize self-heating effect.

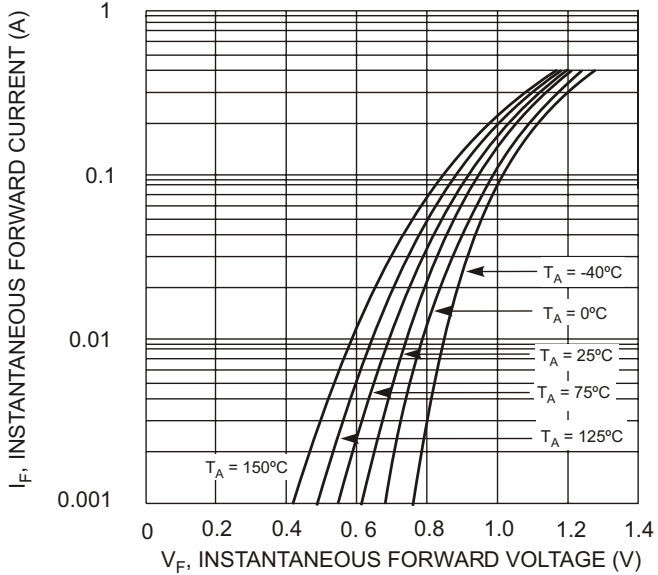


Fig. 1 Typical Forward Characteristics

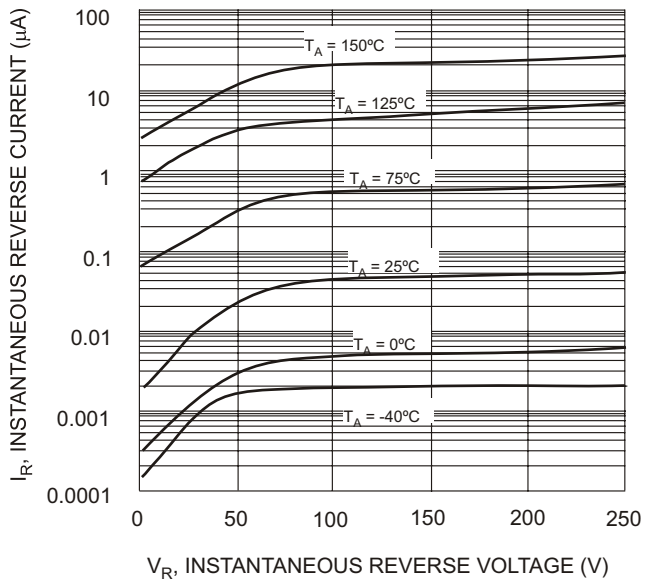


Fig. 2 Typical Reverse Characteristics

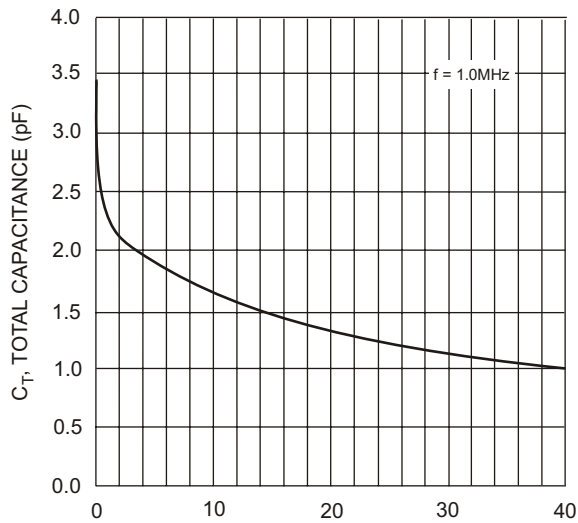


Fig. 3 Typical Capacitance vs. Reverse Voltage

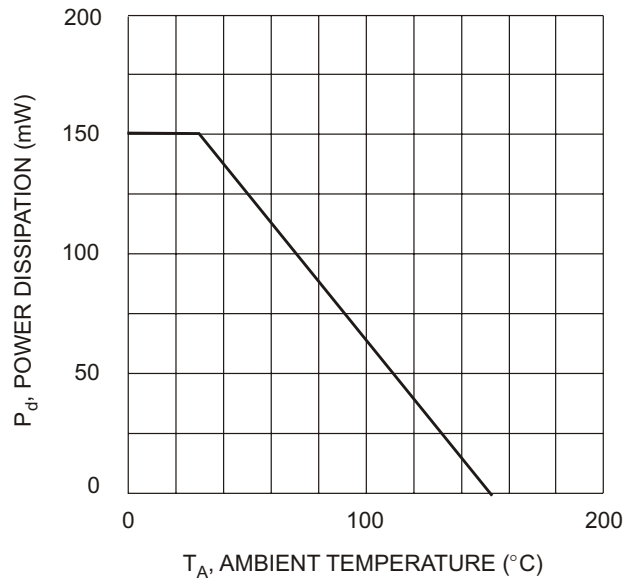


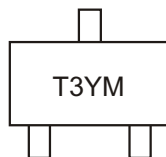
Fig. 4 Power Derating Curve, Total Package

Ordering Information (Note 3)

| Device | Packaging | Shipping |
|----------|-----------|------------------|
| BAS21T-7 | SOT-523 | 3000/Tape & Reel |

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

Marking Information



T3 = 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 |
|------|------|------|------|------|------|------|------|------|------|
| 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 |