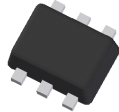


Features

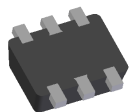
- Fast Switching Speed
- Surface Mount Package Ideally Suited for Automatic Insertion
- For General Purpose Switching Applications
- High Conductance
- **Lead Free By Design/RoHS Compliant (Note 2)**
- **"Green" Device (Note 3 and 4)**

Mechanical Data

- Case: SOT-563
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Finish - Matte Tin annealed over Alloy 42 leadframe. Solderable per MIL-STD-202, Method 208
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.003 grams (approximate)

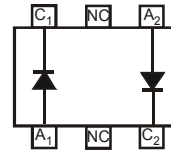


TOP VIEW



BOTTOM VIEW

SOT-563



TOP VIEW
Internal Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---------------------|-------|------|
| Non-Repetitive Peak Reverse Voltage | V _{RM} | 100 | V |
| Peak Repetitive Reverse Voltage | V _{RRM} | 75 | V |
| Working Peak Reverse Voltage | V _{RWM} | | |
| DC Blocking Voltage | V _R | | |
| RMS Reverse Voltage | V _{R(RMS)} | 53 | V |
| Forward Continuous Current (Note 1) | I _{FM} | 300 | mA |
| Average Rectified Output Current (Note 1) | I _O | 200 | mA |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0µs | I _{FSM} | 2.0 | A |
| @ t = 1.0s | | 1.0 | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 1) | P _d | 150 | mW |
| Thermal Resistance Junction to Ambient Air (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 5) | V _{(BR)R} | 75 | — | V | I _R = 100µA |
| Forward Voltage | V _F | — | 0.715 | V | I _F = 1.0mA |
| | | | 0.855 | | I _F = 10mA |
| | | | 1.0 | | I _F = 50mA |
| | | | 1.25 | | I _F = 150mA |
| Leakage Current (Note 5) | I _R | — | 1.0 | µA | V _R = 75V |
| | | | 50 | | V _R = 75V, T _j = 150°C |
| | | | 30 | | V _R = 25V, T _j = 150°C |
| | | | 25 | | V _R = 20V |
| Total Capacitance | C _T | — | 2.0 | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | 4.0 | ns | I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

- Notes:
1. Device mounted on FR-4 PCB, 1 inch x 0.85 inch x 0.062 inch; pad layout as shown on Diodes Inc. suggested pad layout document AP02001, which can be found on our website at <http://www.diodes.com/datasheets/ap02001.pdf>.
 2. No purposefully added lead.
 3. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 4. Product manufactured with Date Code UO (week 40, 2007) and newer are built with Green Molding Compound. Product manufactured prior to Date Code UO are built with Non-Green Molding Compound and may contain Halogens or Sb2O3 Fire Retardants.
 5. Short duration pulse test used to minimize self-heating effect.

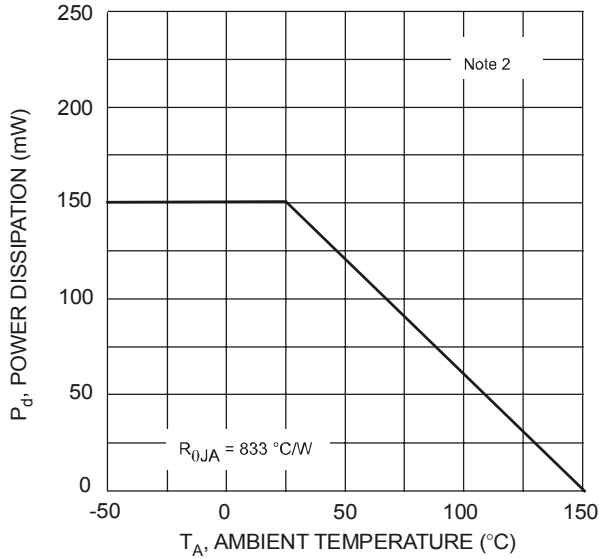


Fig. 1 Derating Curve - Total

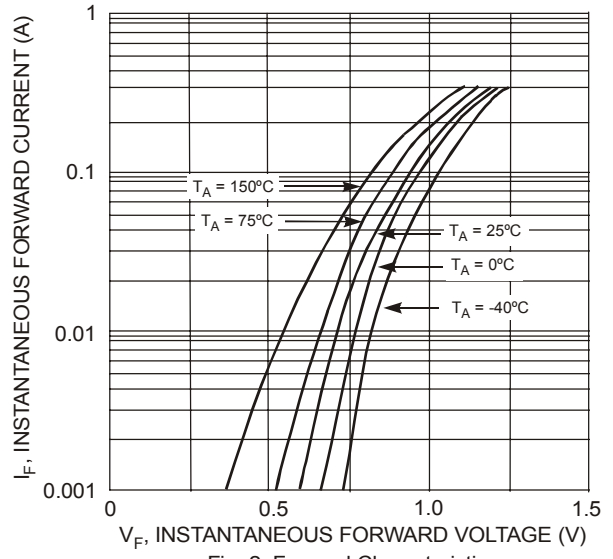


Fig. 2 Forward Characteristics

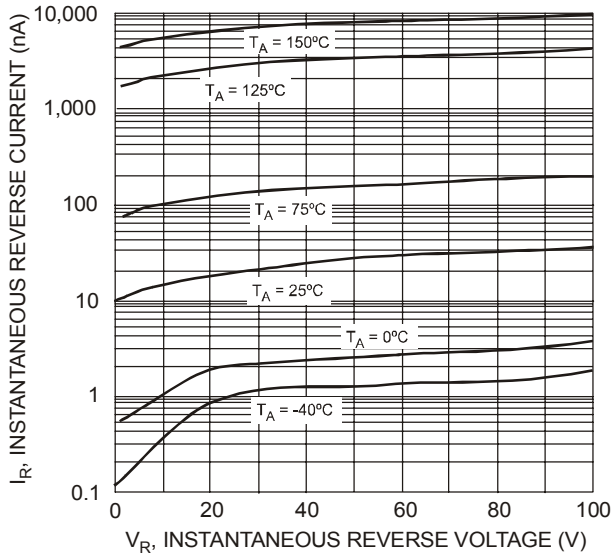


Fig. 3 Typical Reverse Characteristics

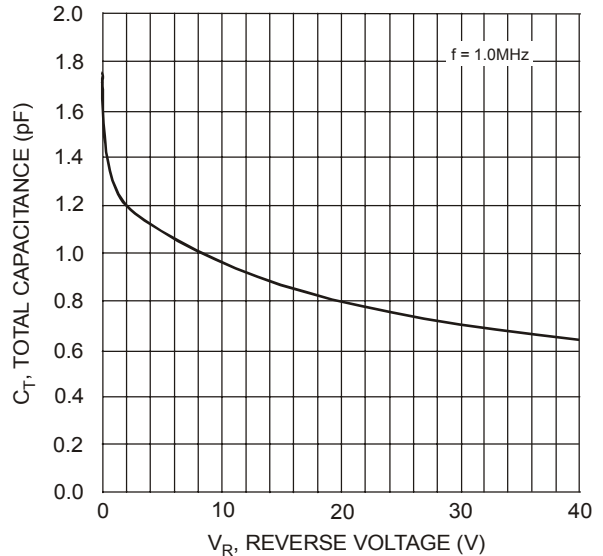


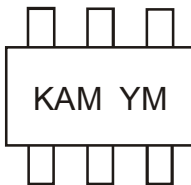
Fig. 4 Typical Capacitance vs. Reverse Voltage

Ordering Information (Note 6 & 7)

| Part Number | Case | Packaging |
|-------------|---------|------------------|
| BAS16V-7 | SOT-563 | 3000/Tape & Reel |

- Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.
7. Package is non-polarized. Parts may be on reel in orientation illustrated, 180° rotated, or mixed (both ways).

Marking Information



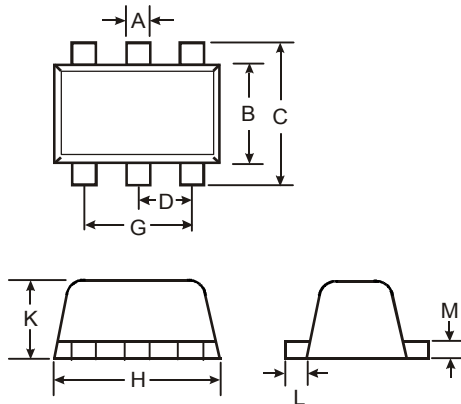
KAM = Product Type Marking Code
YM = Date Code Marking
Y = Year (ex: T = 2006)
M = Month (ex: 9 = September)

Date Code Key

| Year | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|
| Code | R | S | T | U | V | W | X | Y | Z |

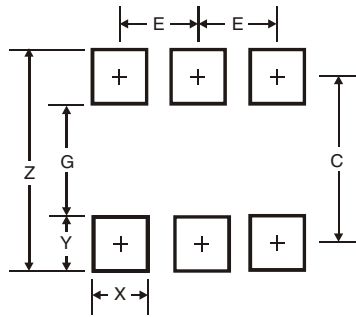
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Package Outline Dimensions



| SOT-563 | | | |
|-----------------------------|------|------|------|
| Dim | Min | Max | Typ |
| A | 0.15 | 0.30 | 0.20 |
| B | 1.10 | 1.25 | 1.20 |
| C | 1.55 | 1.70 | 1.60 |
| D | 0.50 | | |
| G | 0.90 | 1.10 | 1.00 |
| H | 1.50 | 1.70 | 1.60 |
| K | 0.55 | 0.60 | 0.60 |
| L | 0.10 | 0.30 | 0.20 |
| M | 0.10 | 0.18 | 0.11 |
| All Dimensions in mm | | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 2.2 |
| G | 1.2 |
| X | 0.375 |
| Y | 0.5 |
| C | 1.7 |
| E | 0.5 |

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