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Jameco Part Number 1589849

Features

- Surface Mount Package Ideally Suited for Automated Insertion
- Very Low Leakage Current
- **Lead Free/RoHS Compliant (Note 3)**
- **"Green" Device (Notes 4 and 5)**

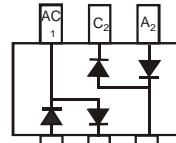
Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Finish - Matte Tin Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Polarity: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.008 grams (approximate)



TOP VIEW

SOT-363



TOP VIEW
Internal Schematic

Maximum Ratings @T_A = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit | |
|---|------------------------------|------------------|------------|----|
| Peak Repetitive Reverse Voltage | V _{RRM} | 85 | V | |
| Working Peak Reverse Voltage | V _{RWM} | | | |
| DC Blocking Voltage | V _R | | | |
| RMS Reverse Voltage | V _{R(RMS)} | 60 | V | |
| Forward Continuous Current (Note 2) | Single diode Double diode | I _{FM} | 160 140 | mA |
| | | I _{FRM} | 500 | mA |
| Repetitive Peak Forward Current (Note 2) | | | | |
| Non-Repetitive Peak Forward Surge Current | | @ t = 1.0µs | 4.0 | A |
| | | @ t = 1.0ms | 1.0 | |
| | | @ t = 1.0s | 0.5 | |

Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|-----------------------------------|-------------|------|
| Power Dissipation (Note 2) | P _D | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 2) | R _{θJA} | 625 | °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 | Typ | Max | Unit | Test Condition |
|------------------------------------|--------------------|-----|-----|-----------|----------|---|
| Reverse Breakdown Voltage (Note 1) | V _{(BR)R} | 85 | — | — | V | I _R = 100µA |
| Forward Voltage | V _F | — | — | 0.90 | V | I _F = 1.0mA |
| | | | | 1.0 | | I _F = 10mA |
| | | | | 1.1 | | I _F = 50mA |
| | | | | 1.25 | | I _F = 150mA |
| Leakage Current (Note 1) | I _R | — | — | 5.0 80 | nA nA | V _R = 75V V _R = 75V, T _J = 150°C |
| Total Capacitance | C _T | — | 2 | — | pF | V _R = 0, f = 1.0MHz |
| Reverse Recovery Time | t _{rr} | — | — | 3.0 | µs | I _F = I _R = 10mA, I _{rr} = 0.1 x I _R , R _L = 100Ω |

- Notes:
1. Short duration pulse test used to minimize self-heating effect.
 2. 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>.
 3. No purposefully added lead.
 4. Diodes Inc.'s "Green" policy can be found on our website at http://www.diodes.com/products/lead_free/index.php.
 5. 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.

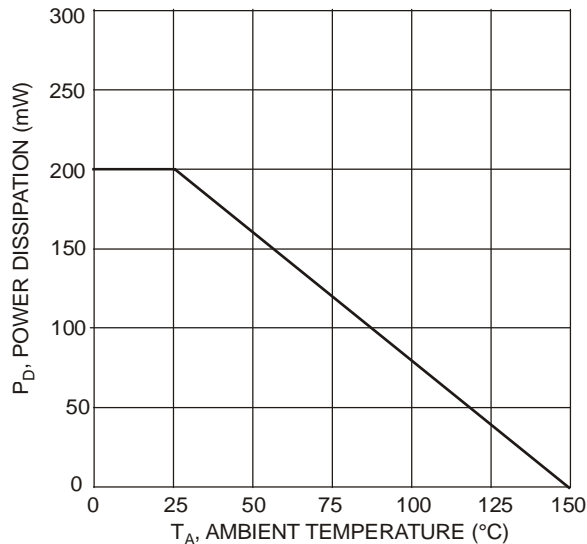


Fig. 1 Power Derating Curve, Total Package

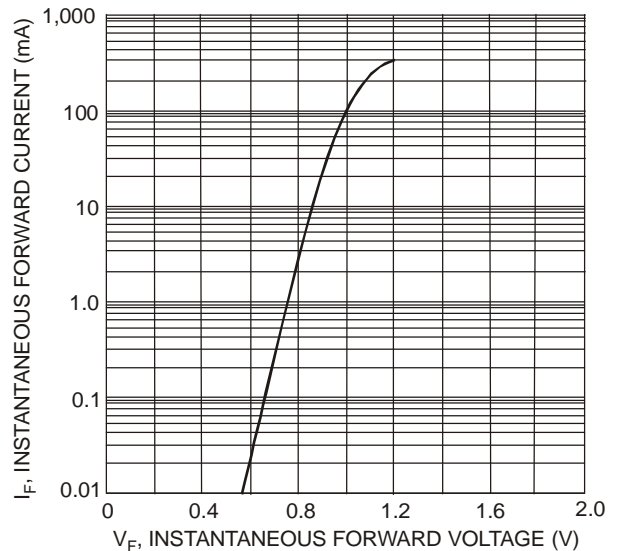


Fig. 2 Typical Forward Characteristics, Per Element

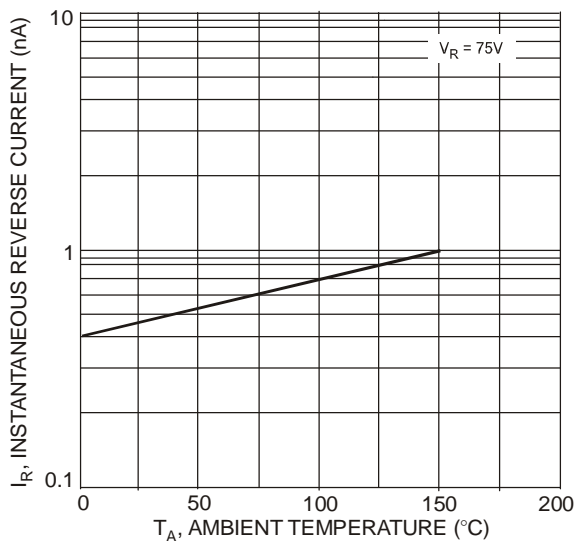


Fig. 3 Typical Reverse Characteristics, Per Element

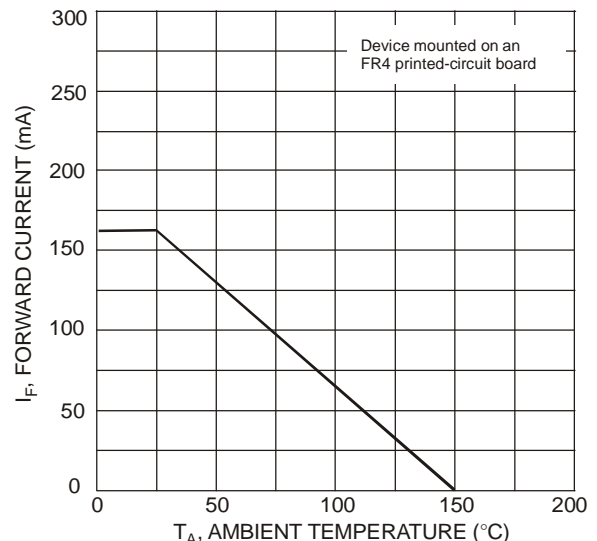


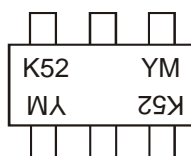
Fig. 4 Current Derating Curve, Per Element

Ordering Information (Notes 5 & 6)

| Part Number | Case | Packaging |
|--------------|---------|------------------|
| BAV199DW-7-F | SOT-363 | 3000/Tape & Reel |

Notes: 6. For packaging details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

Marking Information



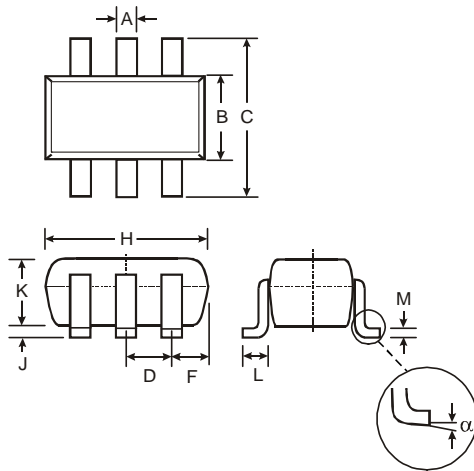
K52 = Product Type Marking Code
 YM = Date Code Marking
 Y = Year ex: T = 2006
 M = Month ex: 9 = September

Date Code Key

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

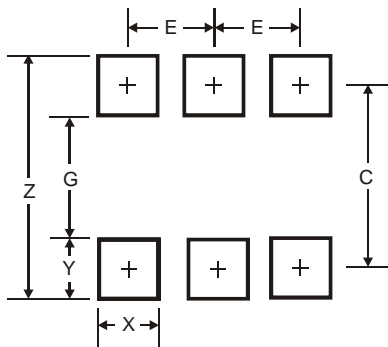
| Month | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-------|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| Code | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | O | N | D |

Package Outline Dimensions



| SOT-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 | | |

Suggested Pad Layout



| Dimensions | Value (in mm) |
|------------|---------------|
| Z | 2.5 |
| G | 1.3 |
| X | 0.42 |
| Y | 0.6 |
| C | 1.9 |
| E | 0.65 |

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