

## Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- High Conductance
- Two "BAV70" Circuits In One Package
- **Lead Free/RoHS Compliant (Note 3)**
- **"Green" Device (Note 4 and 5)**

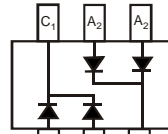
## Mechanical Data

- Case: SOT-363
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020D
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagram
- Marking Information: See Page 2
- Ordering Information: See Page 2
- Weight: 0.006 grams (approximate)



TOP VIEW

SOT-363


 TOP VIEW  
Internal Schematic

## Maximum Ratings @ $T_A = 25^\circ\text{C}$ 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) | $I_O$        | 150   | mA   |
| Non-Repetitive Peak Forward Surge Current | $I_{FSM}$    | 2.0   | A    |
|   |              | 1.0   |      |

## Thermal Characteristics

| Characteristic                                      | Symbol          | Value       | Unit               |
|---|-----------------|-------------|--------------------|
| Power Dissipation (Note 1)                          | $P_D$           | 200         | mW                 |
| Thermal Resistance Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 625         | $^\circ\text{C/W}$ |
| Operating and Storage Temperature Range             | $T_J, T_{STG}$  | -65 to +150 | $^\circ\text{C}$   |

## Electrical Characteristics @ $T_A = 25^\circ\text{C}$ unless otherwise specified

| Characteristic                     | Symbol      | Min | Max                           | Unit  | Test Condition   |
|------------------------------------|-------------|-----|-------------------------------|---|--|
| Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | 75  | —                             | V   | $I_F = 2.5\mu\text{A}$   |
| Forward Voltage                    | $V_F$       | —   | 0.715<br>0.855<br>1.0<br>1.25 | V   | $I_F = 1.0\text{mA}$<br>$I_F = 10\text{mA}$<br>$I_F = 50\text{mA}$<br>$I_F = 150\text{mA}$   |
| Reverse Current (Note 2)           | $I_R$       | —   | 2.5<br>50<br>30<br>25         | $\mu\text{A}$<br>$\mu\text{A}$<br>$\mu\text{A}$<br>nA | $V_R = 75\text{V}$<br>$V_R = 75\text{V}, T_J = 150^\circ\text{C}$<br>$V_R = 25\text{V}, T_J = 150^\circ\text{C}$<br>$V_R = 20\text{V}$ |
| Total Capacitance                  | $C_T$       | —   | 2.0                           | pF  | $V_R = 0, f = 1.0\text{MHz}$   |
| Reverse Recovery Time              | $t_{rr}$    | —   | 4.0                           | ns  | $I_F = I_R = 10\text{mA}$ ,<br>$I_{rr} = 0.1 \times I_R, R_L = 100\Omega$  |

- 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. Short duration pulse test used to minimize self-heating effect.
  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](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  $\text{Sb}_2\text{O}_3$  Fire Retardants.

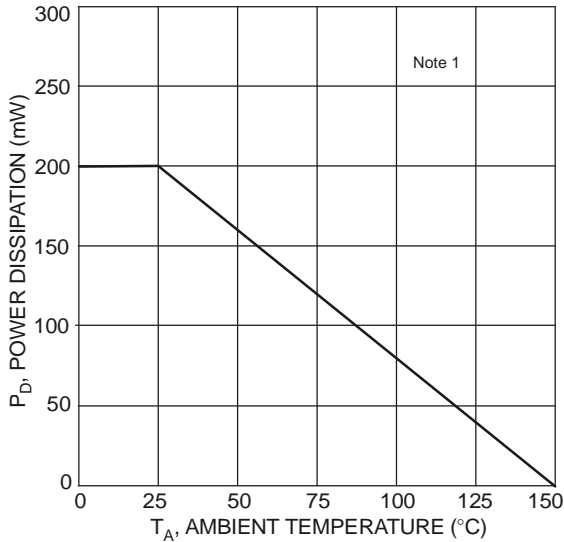


Fig. 1 Power Derating Curve, Total Package

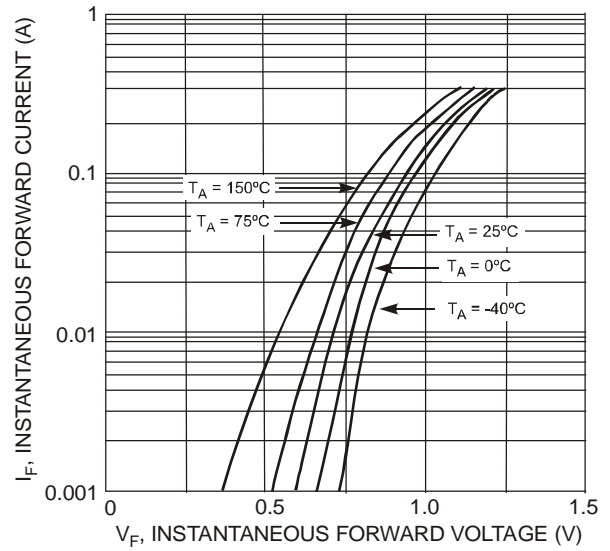


Fig. 2 Typical Forward Characteristics, Per Element

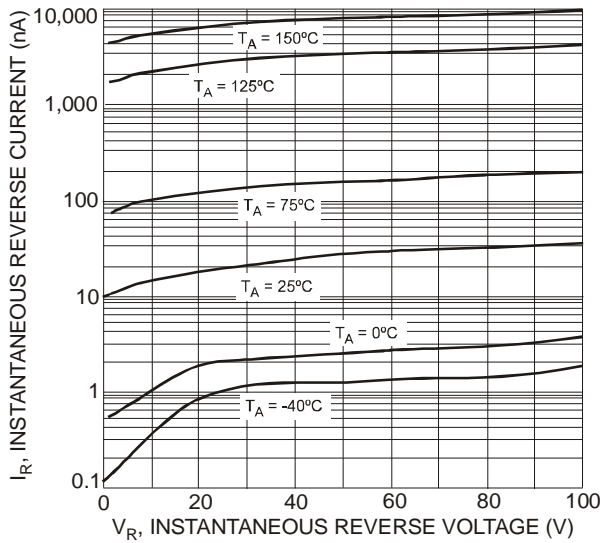


Fig. 3 Typical Reverse Characteristics, Per Element

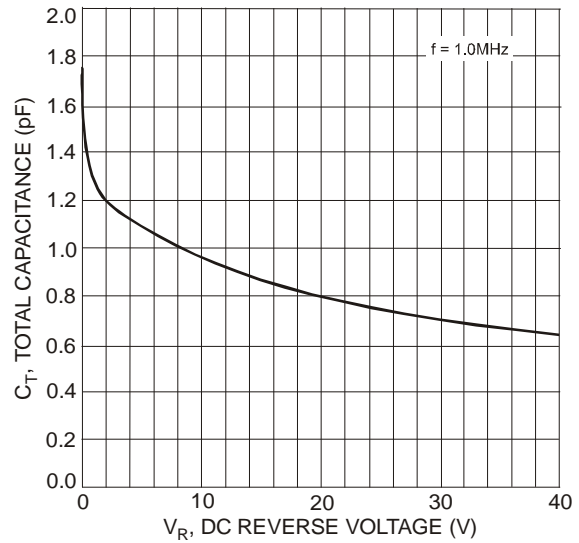


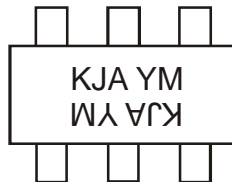
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

**Ordering Information** (Note 6)

| Part Number | Case    | Packaging        |
|-------------|---------|------------------|
| BAV70DW-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**

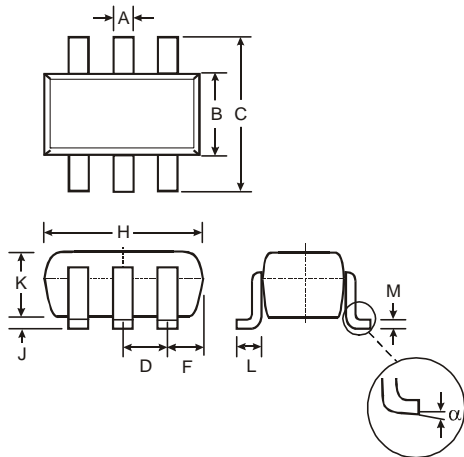


KJA = Product Type Marking Code  
YM = Date Code Marking  
Y = Year ex: N = 2002  
M = Month ex: 9 = September

Date Code Key

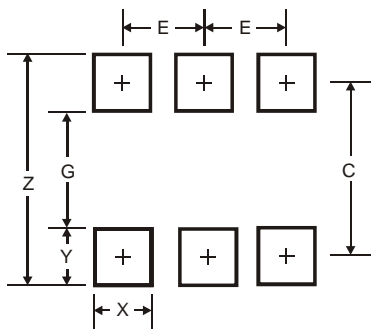
| Year  | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 | 2008 | 2009 | 2010 | 2111 | 2012 |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code  | M    | N    | P    | R    | S    | T    | U    | V    | W    | X    | Y    | Z    |
| Month | Jan  | Feb  | 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-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 |
| $\alpha$             | 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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Сотрудничество с глобальными дистрибьюторами электронных компонентов, предоставляет возможность заказывать и получать с международных складов практически любой перечень компонентов в оптимальные для Вас сроки.

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Система менеджмента качества компании отвечает требованиям в соответствии с ГОСТ Р ИСО 9001, ГОСТ РВ 0015-002 и ЭС РД 009

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