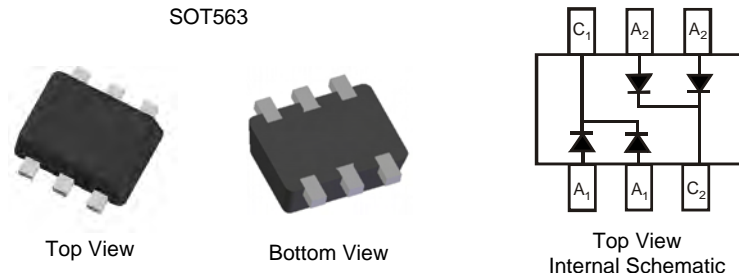


### Features

- Fast Switching Speed
- Ultra-Small Surface Mount Package
- For General Purpose Switching Applications
- Two "BAV70" Circuits In One Package
- **Lead Free/RoHS Compliant (Note 1)**
- **"Green" Device (Note 2)**

### Mechanical Data

- Case: SOT563
- Case Material: Molded Plastic, "Green" Molding Compound. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020
- Terminals: Matte Tin Finish annealed over Copper Alloy leadframe (Lead Free Plating). Solderable per MIL-STD-202, Method 208
- Orientation: See Diagram
- Weight: 0.003 grams (approximate)

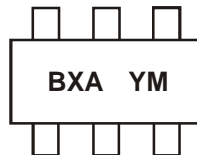


### Ordering Information (Note 3)

| Part Number | Case   | Packaging        |
|-------------|--------|------------------|
| BAV70DV-7   | SOT563 | 3000/Tape & Reel |

- Notes:
1. No purposefully added lead.
  2. Diodes Inc.'s "Green" policy can be found on our website at <http://www.diodes.com>.
  3. For packaging details, go to our website at <http://www.diodes.com>.

### Marking Information



BXA = Product Type Marking Code  
 YM = Date Code Marking  
 Y = Year (ex: Y = 2011)  
 M = Month (ex: 9 = September)

#### Date Code Key

| Year | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|------|------|------|------|------|------|------|------|
| Code | Y    | Z    | A    | B    | C    | D    | E    |

| 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   |

**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 4)       | $I_{FM}$     | 300                    | mA   |   |
| Average Rectified Output Current (Note 4) | $I_O$        | 150                    | mA   |   |
| Non-Repetitive Peak Forward Surge Current | $I_{FSM}$    | @ $t = 1.0\mu\text{s}$ | 2.0  | A |
|   |              | @ $t = 1.0\text{s}$    | 1.0  |   |

**Thermal Characteristics**

| Characteristic                                      | Symbol          | Value       | Unit                      |
|---|-----------------|-------------|---------------------------|
| Power Dissipation (Note 4)                          | $P_D$           | 200         | mW                        |
| Thermal Resistance Junction to Ambient Air (Note 4) | $R_{\theta JA}$ | 625         | $^\circ\text{C}/\text{W}$ |
| 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 5) | $V_{(BR)R}$ | 75  | —     | V             | $I_F = 2.5\mu\text{A}$  |
| Forward Voltage                    | $V_F$       | —   | 0.715 | V             | $I_F = 1.0\text{mA}$  |
|                                    |             |     | 0.855 |               | $I_F = 10\text{mA}$   |
|                                    |             |     | 1.0   |               | $I_F = 50\text{mA}$   |
|                                    |             |     | 1.25  |               | $I_F = 150\text{mA}$  |
| Reverse Current (Note 5)           | $I_R$       | —   | 2.5   | $\mu\text{A}$ | $V_R = 75\text{V}$  |
|                                    |             |     | 50    | $\mu\text{A}$ | $V_R = 75\text{V}, T_J = 150^\circ\text{C}$                         |
|                                    |             |     | 30    | $\mu\text{A}$ | $V_R = 25\text{V}, T_J = 150^\circ\text{C}$                         |
|                                    |             |     | 25    | nA            | $V_R = 20\text{V}$  |
| Total Capacitance                  | $C_T$       | —   | 2.0   | pF            | $V_R = 0, f = 1.0\text{MHz}$  |
| Reverse Recovery Time              | $t_{rr}$    | —   | 4.0   | ns            | $I_F = I_R = 10\text{mA}, I_{rr} = 0.1 \times I_R, R_L = 100\Omega$ |

Notes: 4. 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>.  
 5. Short duration pulse test used to minimize self-heating effect.

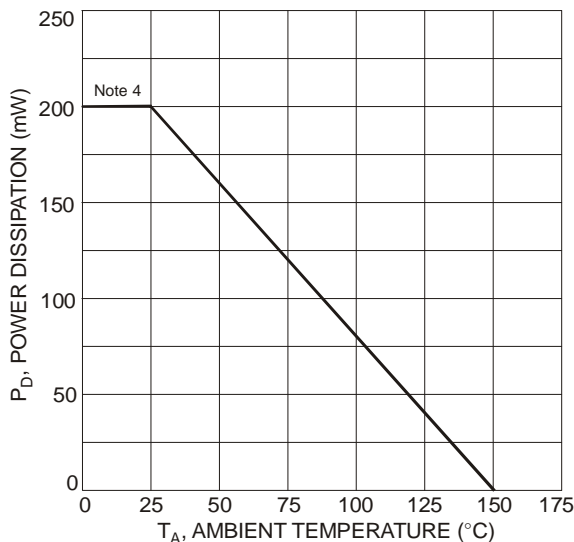


Fig. 1 Power Derating Curve, Total Package

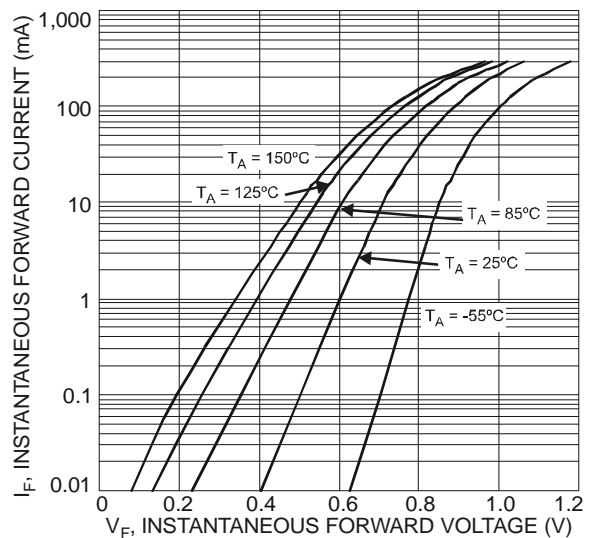


Fig. 2 Typical Forward Characteristics, Per Element

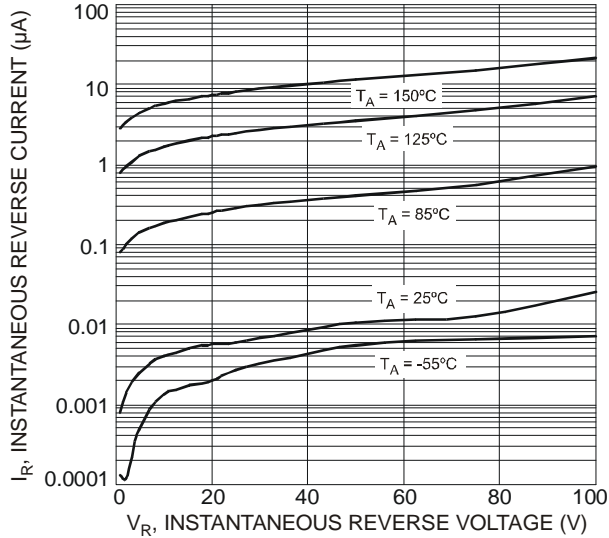


Fig. 3 Typical Reverse Characteristics, Per Element

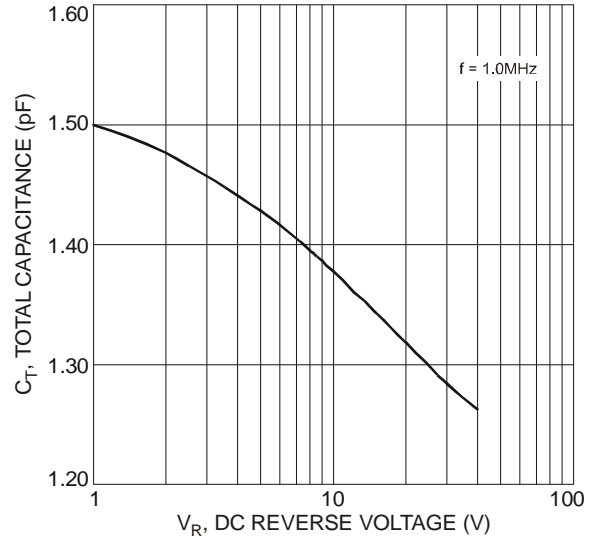
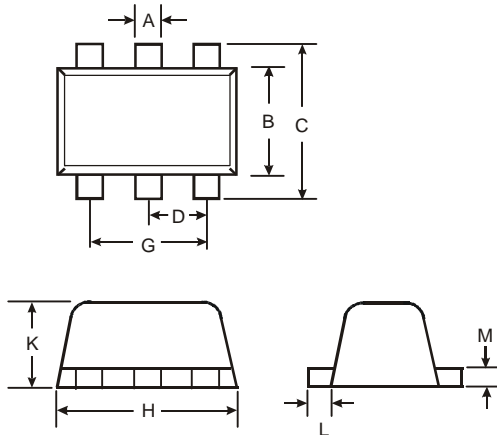


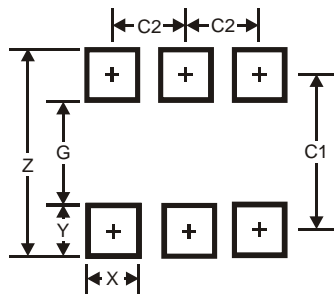
Fig. 4 Total Capacitance vs. Reverse Voltage, Per Element

**Package Outline Dimensions**



| SOT563               |      |      |      |
|----------------------|------|------|------|
| 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           |
| C1         | 1.7           |
| C2         | 0.5           |

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