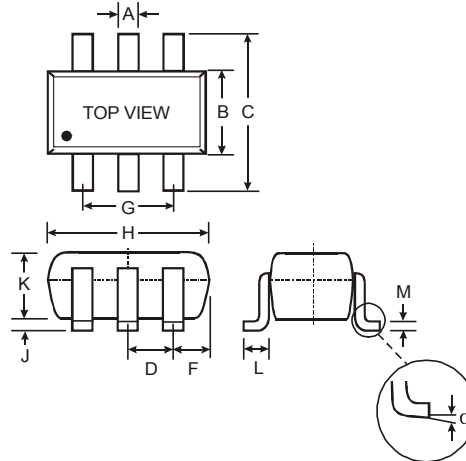


### Features

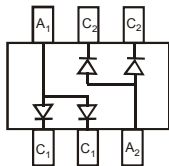
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)
- "Green" Device (Note 4 and 5)

### Mechanical Data

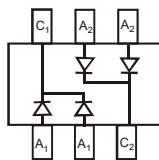
- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagrams Below
- Marking: See Diagrams Below & Page 3
- Weight: 0.006 grams (approximate)



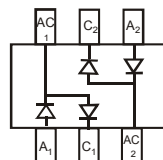
| SOT-363              |              |      |
|----------------------|--------------|------|
| Dim                  | Min          | Max  |
| A                    | 0.10         | 0.30 |
| B                    | 1.15         | 1.35 |
| C                    | 2.00         | 2.20 |
| D                    | 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 |              |      |



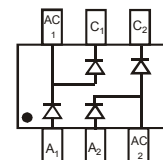
BAS70DW-06\*  
Marking: K76



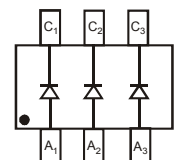
BAS70DW-05\*  
Marking: K71



BAS70DW-04\*  
Marking: K74



BAS70BRW  
Marking: K75



BAS70TW  
Marking: K73

\*Symmetrical configuration, no orientation indicator.

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

| Characteristic  | Symbol          | Value       | Unit               |
|---|-----------------|-------------|--------------------|
| Peak Repetitive Reverse Voltage                               | $V_{RRM}$       | 70          | V                  |
| Working Peak Reverse Voltage                                  | $V_{RWM}$       |             |                    |
| DC Blocking Voltage   | $V_R$           |             |                    |
| RMS Reverse Voltage   | $V_{R(RMS)}$    | 49          | V                  |
| Forward Continuous Current (Note 1)                           | $I_{FM}$        | 70          | mA                 |
| Non-Repetitive Peak Forward Surge Current @ $t < 1.0\text{s}$ | $I_{FSM}$       | 100         | mA                 |
| 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                       | $T_j$           | -55 to +125 | $^\circ\text{C}$   |
|   | $T_{STG}$       | -65 to +125 |                    |

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

| Characteristic                     | Symbol      | Min | Max  | Unit | Test Condition  |
|------------------------------------|-------------|-----|------|------|---|
| Reverse Breakdown Voltage (Note 2) | $V_{(BR)R}$ | 70  | —    | V    | $I_R = 10\mu\text{A}$   |
| Forward Voltage                    | $V_F$       | —   | 410  | mV   | $t_p < 300\mu\text{s}, I_F = 1.0\text{mA}$  |
|                                    |             |     | 1000 | mV   | $t_p < 300\mu\text{s}, I_F = 15\text{mA}$   |
| Reverse Current (Note 2)           | $I_R$       | —   | 100  | nA   | $t_p < 300\mu\text{s}, V_R = 50\text{V}$  |
| Total Capacitance                  | $C_T$       | —   | 2.0  | pF   | $V_R = 0\text{V}, f = 1.0\text{MHz}$  |
| Reverse Recovery Time              | $t_{rr}$    | —   | 5.0  | ns   | $I_F = I_R = 10\text{mA}$ to $I_R = 1.0\text{mA}$ ,<br>$I_{TR} = 0.1 \times I_R, R_L = 100\Omega$ |

- Notes:
1. Part mounted on FR-4 board with recommended pad layout, 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 Sb2O3 Fire Retardants.

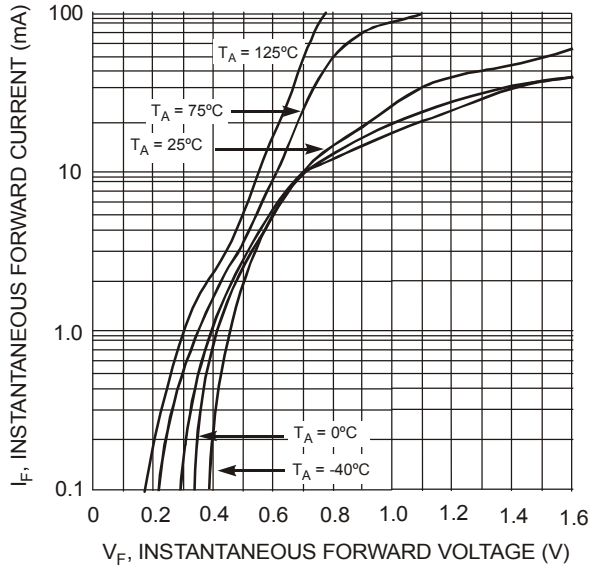


Fig. 1 Typical Forward Characteristics

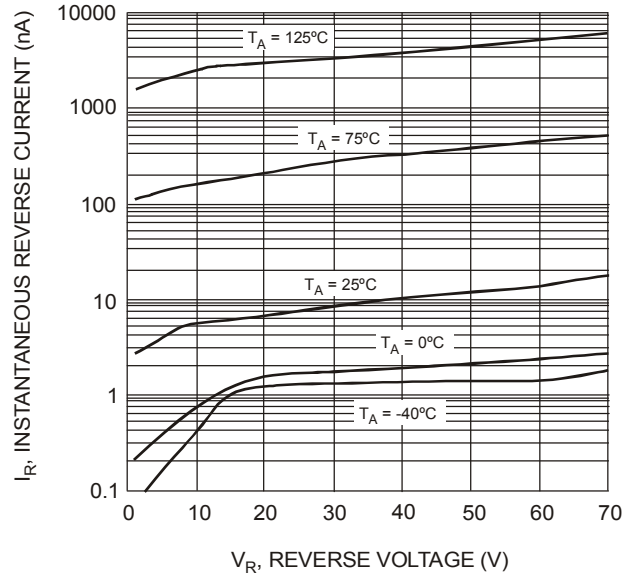


Fig. 2 Typical Reverse Characteristics

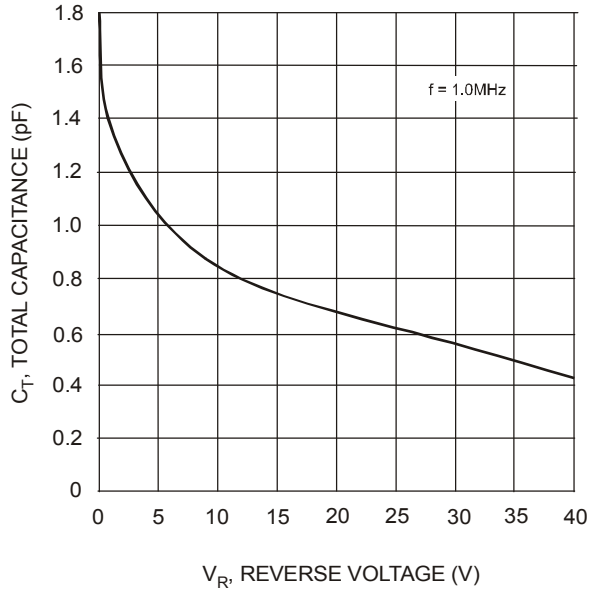


Fig. 3 Typical Capacitance

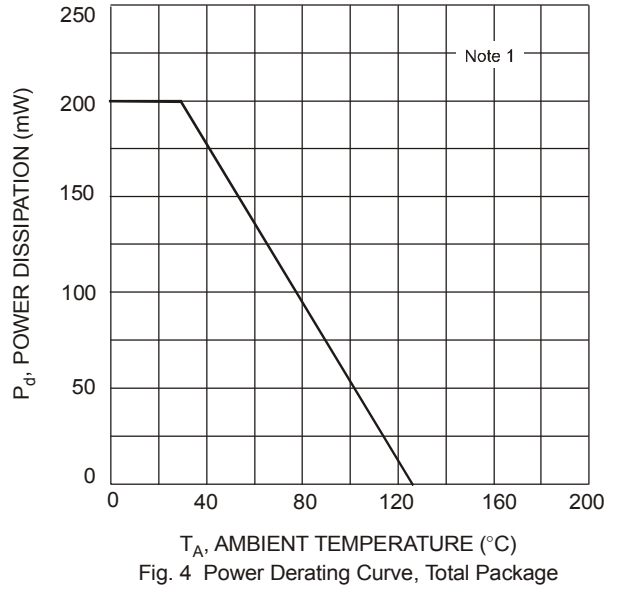


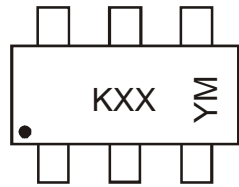
Fig. 4 Power Derating Curve, Total Package

## Ordering Information (Note 6)

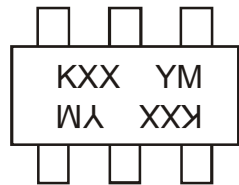
| Device         | Packaging | Shipping         |
|----------------|-----------|------------------|
| BAS70DW-04-7-F | SOT-363   | 3000/Tape & Reel |
| BAS70DW-05-7-F | SOT-363   | 3000/Tape & Reel |
| BAS70DW-06-7-F | SOT-363   | 3000/Tape & Reel |
| BAS70BRW-7-F   | SOT-363   | 3000/Tape & Reel |
| BAS70TW-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



KXX = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year ex: N = 2002  
 M = Month ex: 9 = September



KXX = Product Type Marking Code (See Page 1)  
 For Symmetrical Configuration, No Orientation Indicator  
 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 | 2011 | 2012 |
|------|------|------|------|------|------|------|------|------|------|------|------|------|
| Code | M    | N    | P    | R    | S    | T    | U    | V    | W    | X    | Y    | Z    |

| 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   |

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