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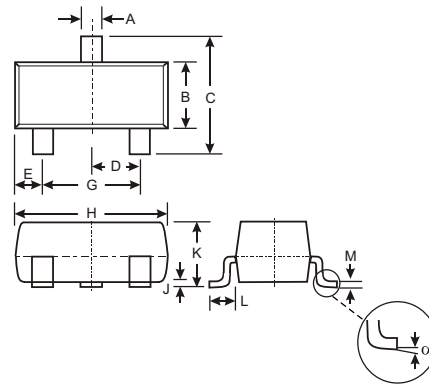
Jameco Part Number 1539139

### Features

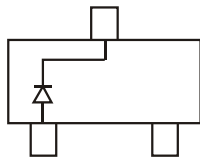
- Low Turn-on Voltage
- Fast Switching
- PN Junction Guard Ring for Transient and ESD Protection
- Lead Free/RoHS Compliant (Note 3)**
- Qualified to AEC-Q101 Standards for High Reliability**

### Mechanical Data

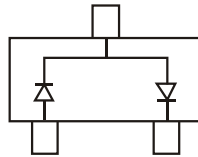
- Case: SOT-23
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe)
- Polarity: See Diagrams Below
- Marking: See Diagrams Below & Page 3
- Ordering Information: See Page 3
- Weight: 0.008 grams (approximate)



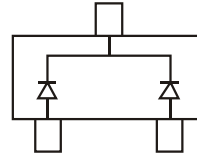
| SOT-23                      |       |       |
|-----------------------------|-------|-------|
| Dim                         | Min   | Max   |
| A                           | 0.37  | 0.51  |
| B                           | 1.20  | 1.40  |
| C                           | 2.30  | 2.50  |
| D                           | 0.89  | 1.03  |
| E                           | 0.45  | 0.60  |
| G                           | 1.78  | 2.05  |
| H                           | 2.80  | 3.00  |
| J                           | 0.013 | 0.10  |
| K                           | 0.903 | 1.10  |
| L                           | 0.45  | 0.61  |
| M                           | 0.085 | 0.180 |
|                             | 0     | 8     |
| <b>All Dimensions in mm</b> |       |       |



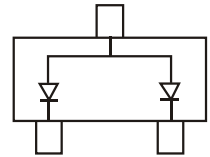
BAS70 Marking: K73, K7C



BAS70-04 Marking: K74, K7D



BAS70-05 Marking: K75, K7E



BAS70-06 Marking: K76, K7F

### Maximum Ratings and Electrical Characteristics, Single Diode @ T<sub>A</sub> = 25 °C unless otherwise specified

| Characteristic                                       | Symbol              | Value       | Unit |
|--|---------------------|-------------|------|
| Peak Repetitive Reverse Voltage                      | V <sub>RRM</sub>    | 70          | V    |
| Working Peak Reverse Voltage                         | V <sub>RWM</sub>    |             |      |
| DC Blocking Voltage                                  | V <sub>R</sub>      |             |      |
| RMS Reverse Voltage                                  | V <sub>R(RMS)</sub> | 49          | V    |
| Maximum Forward Continuous Current (Note 1)          | I <sub>FM</sub>     | 70          | mA   |
| Non-Repetitive Peak Forward Surge Current @ t = 1.0s | I <sub>FSM</sub>    | 100         | mA   |
| Power Dissipation (Note 1)                           | P <sub>d</sub>      | 200         | mW   |
| Thermal Resistance Junction to Ambient Air (Note 1)  | R <sub>JA</sub>     | 625         | °C/W |
| Operating Junction Temperature Range                 | T <sub>j</sub>      | -55 to +125 | °C   |
| Storage Temperature Range                            | T <sub>STG</sub>    | -65 to +150 | °C   |

### Electrical Ratings @ T<sub>A</sub> = 25 °C unless otherwise specified

| Characteristic                     | Symbol             | Min | Max         | Unit | Test Condition  |
|------------------------------------|--------------------|-----|-------------|------|---|
| Reverse Breakdown Voltage (Note 2) | V <sub>(BR)R</sub> | 70  | —           | V    | I <sub>R</sub> = 10   |
| Forward Voltage                    | V <sub>F</sub>     | —   | 410<br>1000 | mV   | t <sub>p</sub> < 300µs, I <sub>F</sub> = 1.0mA<br>t <sub>p</sub> < 300µs, I <sub>F</sub> = 15mA |
| Reverse Current (Note 2)           | I <sub>R</sub>     | —   | 100         | nA   | t <sub>p</sub> < 300µs, V <sub>R</sub> = 50V  |
| Total Capacitance                  | C <sub>T</sub>     | —   | 2.0         | pF   | V <sub>R</sub> = 0V, f = 1.0MHz   |
| Reverse Recovery Time              | t <sub>rr</sub>    | —   | 5.0         | ns   | I <sub>F</sub> = I <sub>R</sub> = 10mA to I <sub>R</sub> = 1.0mA, R <sub>L</sub> = 100          |

- Notes:
- 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>.
  - Short duration pulse test used to minimize self-heating effect.
  - No purposefully added lead.

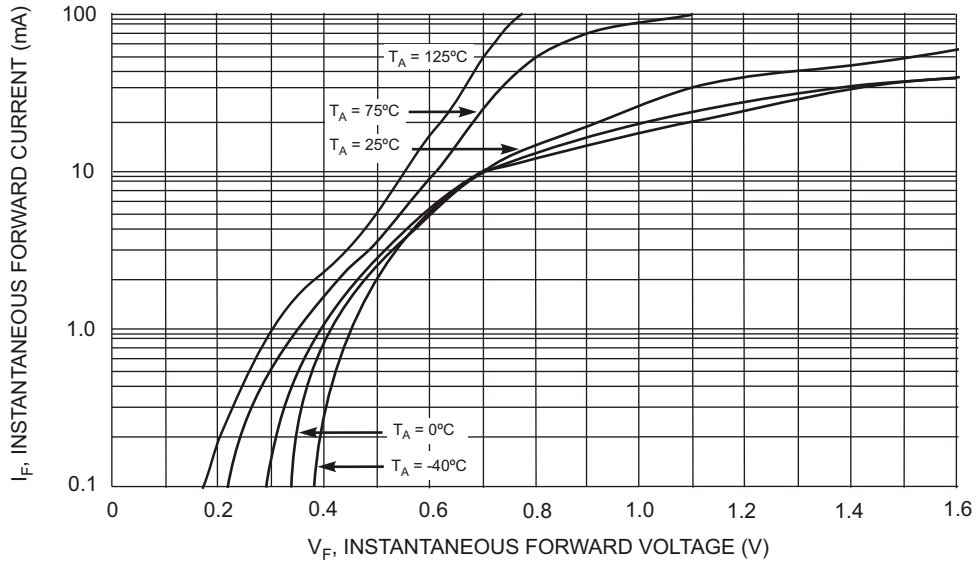


Fig. 1 Typical Forward Characteristics

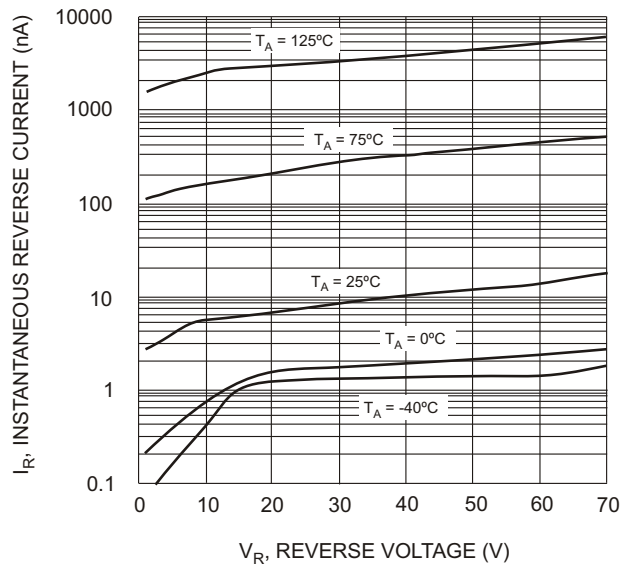


Fig. 2 Typical Reverse Characteristics

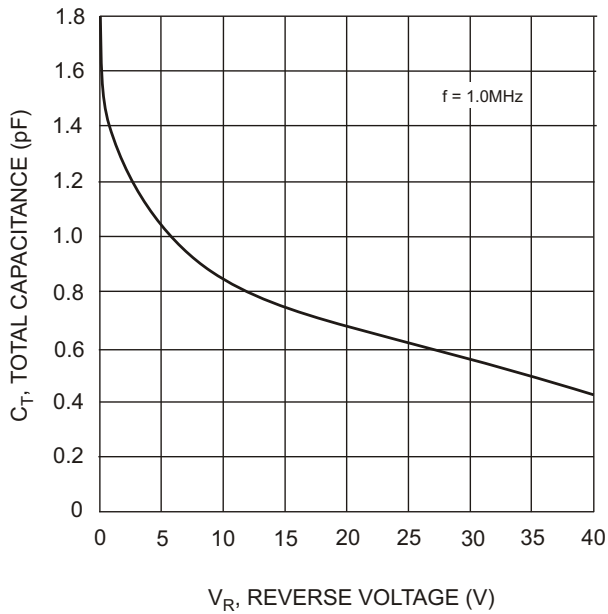


Fig. 3 Typical Total Capacitance vs. Reverse Voltage

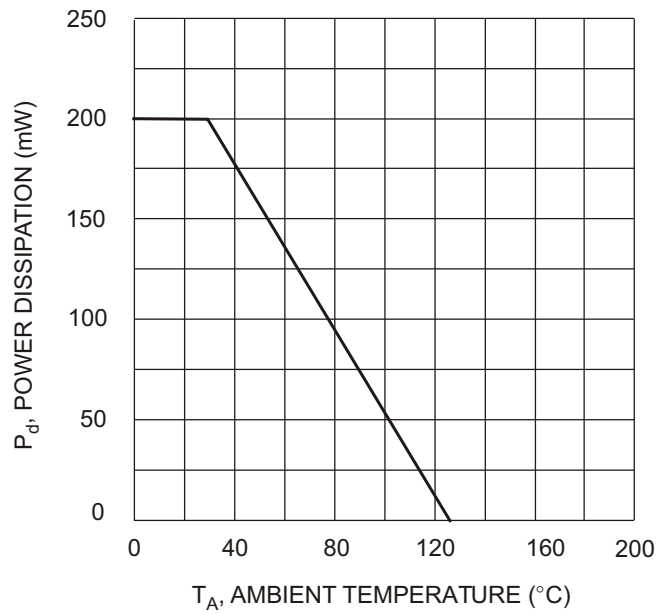


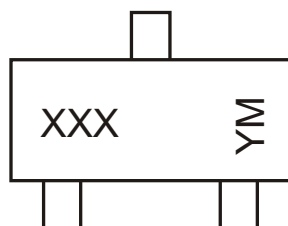
Fig. 4 Power Derating Curve, Total Package

**Ordering Information** (Note 4)

| Device        | Packaging | Shipping         |
|---------------|-----------|------------------|
| BAS70-7-F     | SOT-23    | 3000/Tape & Reel |
| BAS70-04-7-F  | SOT-23    | 3000/Tape & Reel |
| BAS70-05--7-F | SOT-23    | 3000/Tape & Reel |
| BAS70-06-7-F  | SOT-23    | 3000/Tape & Reel |

Notes: 4. For Packaging Details, go to our website at <http://www.diodes.com/datasheets/ap02007.pdf>.

**Marking Information**



XXX = Product Type Marking Code (See Page 1)  
 YM = Date Code Marking  
 Y = Year ex: T = 2006  
 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 | Mar | 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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