# BAS70TW /DW-04 / DW-05 /DW-06 /BRW

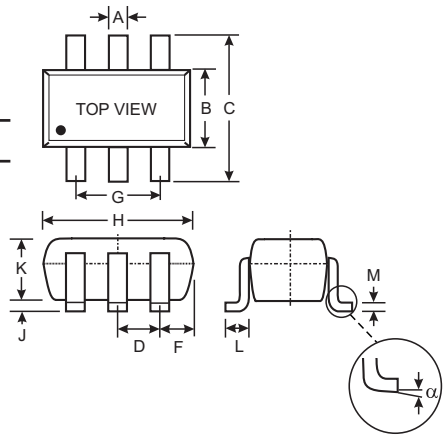
## SURFACE MOUNT SCHOTTKY BARRIER DIODE ARRAYS

## Features

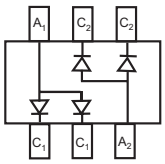
- Low Forward Voltage Drop
- Fast Switching
- Ultra-Small Surface Mount Package
- PN Junction Guard Ring for Transient and ESD Protection
- **Lead Free/RoHS Compliant (Note 3)**

## Mechanical Data

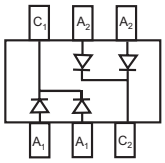
- Case: SOT-363
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0
- Moisture Sensitivity: Level 1 per J-STD-020C
- Terminals: Solderable per MIL-STD-202, Method 208
- Lead Free Plating (Matte Tin Finish annealed over Alloy 42 leadframe).
- Orientation: See Diagrams Below
-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



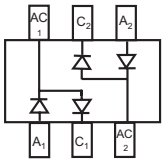

| SOT-363 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 0.10 | 0.30 |
| **B** | 1.15 | 1.35 |
| **C** | 2.00 | 2.20 |
| **D** | 0.65 Nominal | |
| **F** | 0.30 | 0.40 |
| **H** | 1.80 | 2.20 |
| **J** | — | 0.10 |
| **K** | 0.90 | 1.00 |
| **L** | 0.25 | 0.40 |
| **M** | 0.10 | 0.25 |
| α | 0° | 8° |
| **All Dimensions in mm** | | |



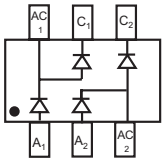

BAS70DW-06*
Marking: K76



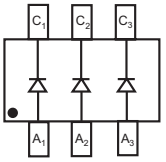

BAS70DW-05*
Marking: K71




BAS70DW-04*
Marking: K74




BAS70BRW
Marking: K75




BAS70TW
Marking: K73

*Symmetrical configuration, no orientation indicator.

## Maximum Ratings @ $T_A$ = 25°C unless otherwise specified

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Peak Repetitive Reverse Voltage<br>Working Peak Reverse Voltage<br>DC Blocking Voltage | $V_{RRM}$<br>$V_{RWM}$<br>$V_R$ | 70 | V |
| RMS Reverse Voltage | $V_{R(RMS)}$ | 49 | V |
| Forward Continuous Current (Note 1) | $I_{FM}$ | 70 | mA |
| Non-Repetitive Peak Forward Surge Current @ t < 1.0s | $I_{FSM}$ | 100 | mA |
| Power Dissipation (Note 1) | $P_d$ | 200 | mW |
| Thermal Resistance Junction to Ambient Air (Note 1) | $R_{\theta JA}$ | 625 | °C/W |
| Operating and Storage Temperature Range | $T_j$<br>$T_{STG}$ | -55 to +125<br>-65 to +125 | °C |

## Electrical Characteristics @ $T_A$ = 25°C unless otherwise specified

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

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 test pulse used to minimize self-heating effect.
3. No purposefully added lead.


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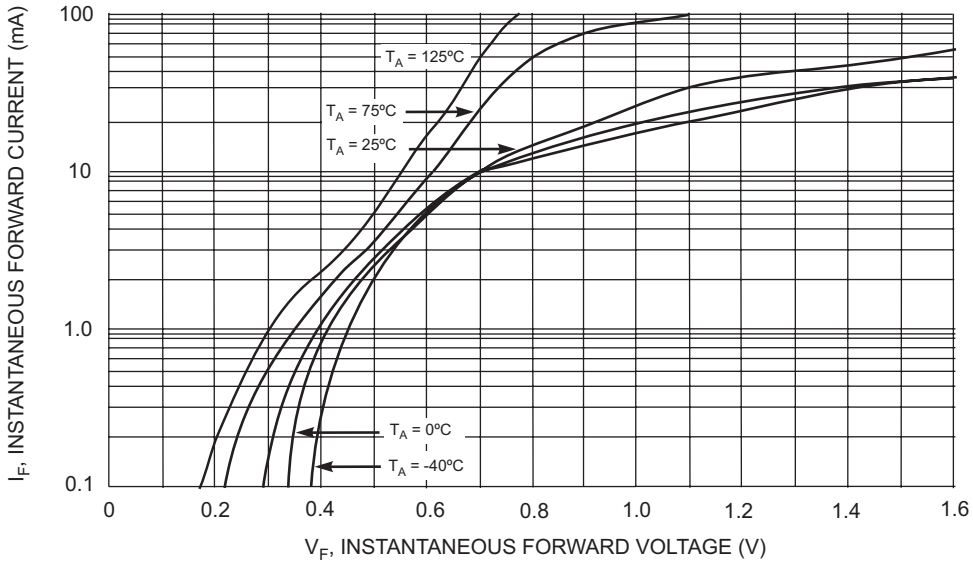



Fig. 1 Typical Forward Characteristics

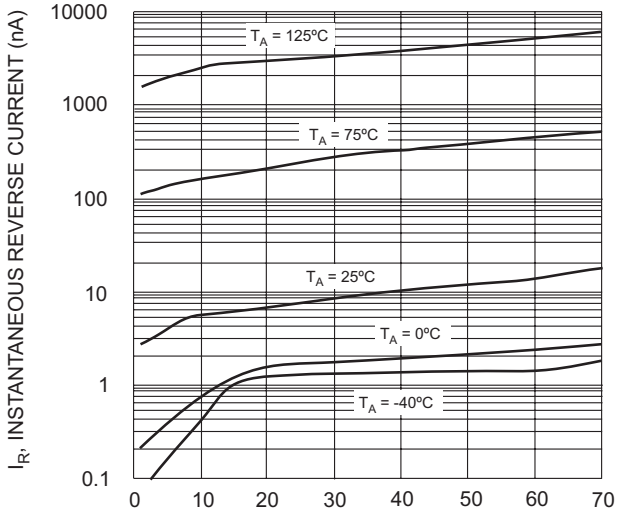



Fig. 2 Typical Reverse Characteristics

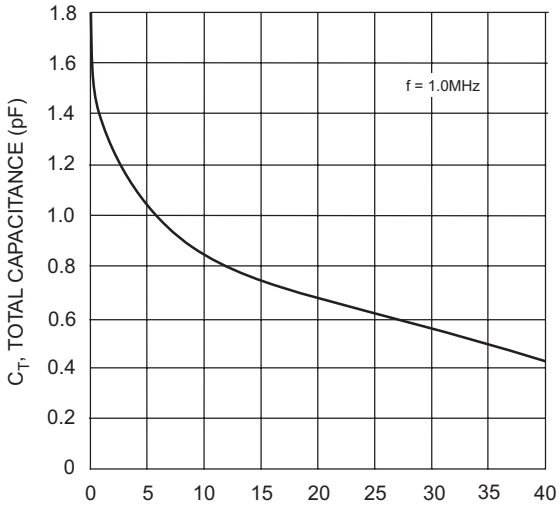



Fig. 3 Typical Capacitance

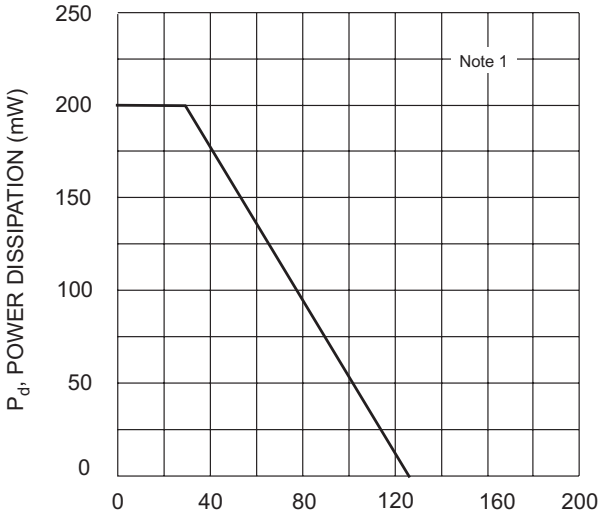


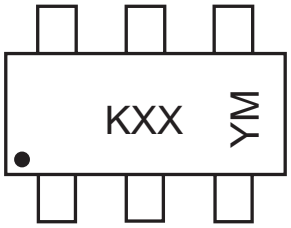

Fig. 4 Power Derating Curve, Total Package

## Ordering Information (Note 4)

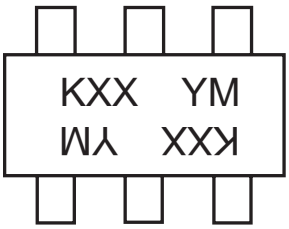
| Device | Packaging | Shipping |
|---|---|---|
| BAS70DW-04-7-F | SOT-363 | 3000/Tape & Reel |
| BAS70DW-05-7-F | SOT-363 | 3000/Tape & Reel |
| BAS70DW-06-7-F | SOT-363 | 3000/Tape & Reel |
| BAS70BRW-7-F | SOT-363 | 3000/Tape & Reel |
| BAS70TW-7-F | SOT-363 | 3000/Tape & Reel |

Notes: 4. 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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