# BAS70/-04/-05/-06

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**Reverse Voltage - 70 Volts  Forward Current - 70 mAmpere**

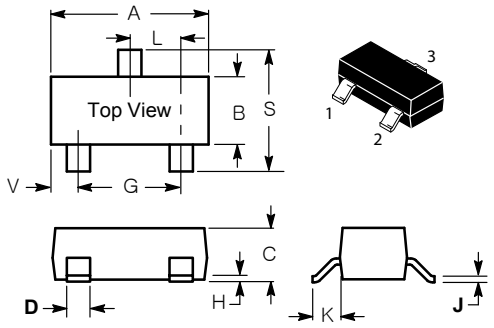
## FEATURES

- Low Turn-on Voltage
- Fast Switching
- Ultra-small surface mount package.
- PN Junction Guard Ring for Transient and ESD Protection

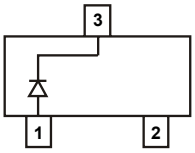
## MECHANICAL DATA

- Case: SOT-23, Molded Plastic
- Terminals: Plated Leads Solderable per MIL-STD-202, Method 208
- Polarity: See Diagrams Below
- Weight: 0.008 grams (approx.)

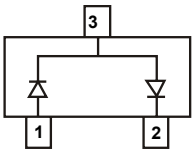
RoHS Compliant



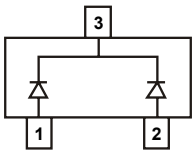

| SOT-23 | | |
|---|---|---|
| **Dim** | **Min** | **Max** |
| **A** | 2.800 | 3.040 |
| **B** | 1.200 | 1.400 |
| **C** | 0.890 | 1.110 |
| **D** | 0.370 | 0.500 |
| **G** | 1.780 | 2.040 |
| **H** | 0.013 | 0.100 |
| **J** | 0.085 | 0.177 |
| **K** | 0.450 | 0.600 |
| **L** | 0.890 | 1.020 |
| **S** | 2.100 | 2.500 |
| **V** | 0.450 | 0.600 |
| All Dimension in mm | | |



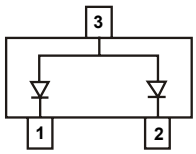
BAS70 Marking : BE



BAS70-04 Marking : CG



BAS70-05 Marking : EH



BAS70-06 Marking : GK

## 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 |
| Forward Continuous Current | $I_F$ | 70 | mA |
| Non-Repetitive Peak Forward Surge Current @ t < 1.0s | $I_{FSM}$ | 100 | mA |
| Operating Temperature Range | $T_J$ | -55 to +125 | °C |
| Storage Temperature Range | $T_{STG}$ | -65 to +150 | °C |

## Thermal Characteristics

| Characteristic | Symbol | Value | Unit |
|---|---|---|---|
| Power Dissipation (Note 1) | $P_D$ | 200 | mW |
| Thermal Resistance, Junction to Ambient (Note 1) | $R_{\theta JA}$ | 625 | °C/W |

Note: 1. Mounted on FR-4 PC board with minimum recommended pad layout.

# BAS70/-04/-05/-06

## SURFACE MOUNT SCHOTTKY BARRIER RECTIFIER

**Reverse Voltage - 70 Volts  Forward Current - 70 mAmpere**

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

| Characteristic | | Symbol | Min. | Typ. | Max. | Unit |
|---|---|---|---|---|---|---|
| Reverse Breakdown Voltage | @ $I_R$ = 10μA | $V_{(BR)}$ | 70 | | | V |
| Forward Voltage Drop | @ $I_F$ = 1.0mA<br>@ $I_F$ = 15mA | $V_F$ | | | 0.41<br>1.00 | V |
| Reverse Leakage Current | @ $V_R$ = 50V | $I_R$ | | 20 | 100 | nA |
| Diode Capacitance ($V_R$ = 0V, f = 1.0MHz) | | $C_D$ | | 1.5 | 2.0 | pF |
| Reverse Recovery Time ($I_F$ = $I_R$ = 10mA, $I_{RR}$ = 0.1 x $I_R$, $R_L$ = 100Ω) | | $t_{rr}$ | | | 5.0 | nS |

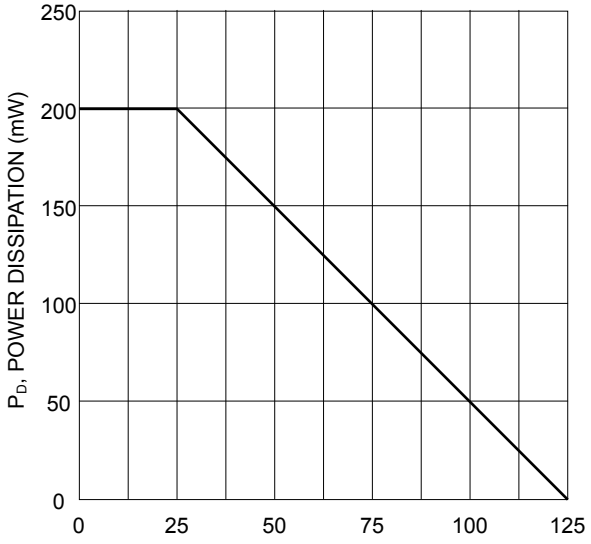


Fig. 1 Power Derating Curve

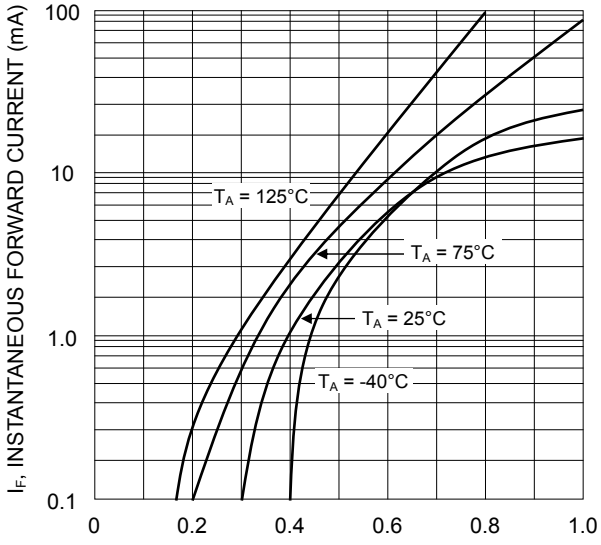


Fig. 2 Typical Forward Characteristics

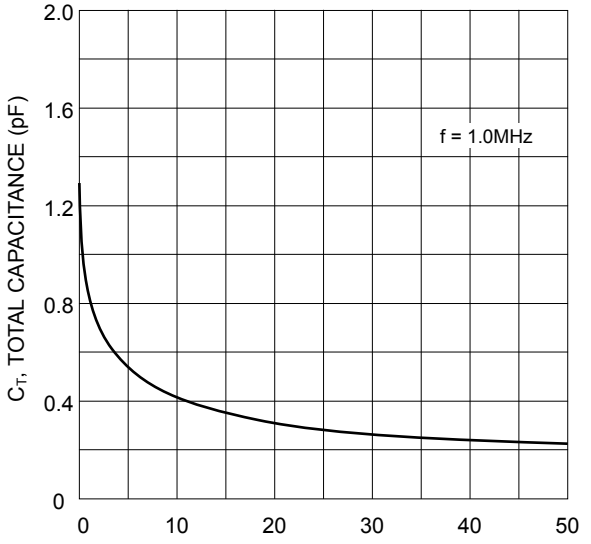


Fig. 3 Total Capacitance vs. Reverse Voltage

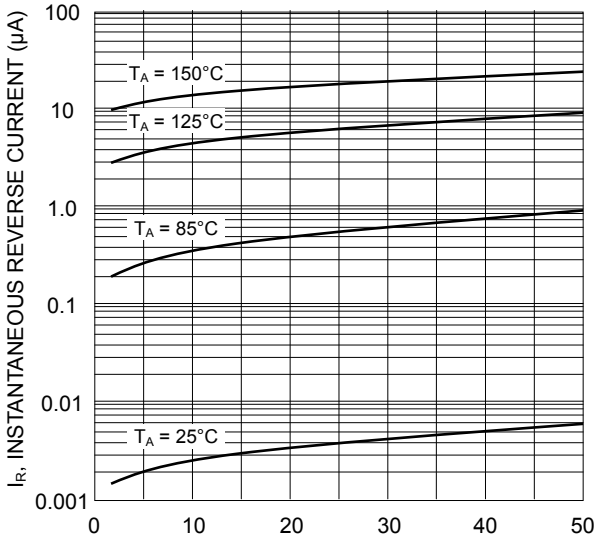


Fig. 4 Typical Reverse Characteristics