

# BAS70LT1G, NSVBAS70LT1G

## Schottky Barrier Diodes

These Schottky barrier diodes are designed for high speed switching applications, circuit protection, and voltage clamping. Extremely low forward voltage reduces conduction loss. Miniature surface mount package is excellent for hand held and portable applications where space is limited.

### Features

- Extremely Fast Switching Speed
- Low Forward Voltage
- AEC Qualified and PPAP Capable
- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant\*

### MAXIMUM RATINGS ( $T_J = 150^{\circ}\text{C}$ unless otherwise noted)

| Rating                                                                                         | Symbol         | Value       | Unit                         |
|------------------------------------------------------------------------------------------------|----------------|-------------|------------------------------|
| Forward Current                                                                                | $I_F$          | 70          | mA                           |
| Non-Repetitive Peak Forward Surge Current ( $t \leq 1.0$ s)                                    | $I_{FSM}$      | 100         | mA                           |
| Reverse Voltage                                                                                | $V_R$          | 70          | V                            |
| Forward Power Dissipation<br>@ $T_A = 25^{\circ}\text{C}$<br>Derate above $25^{\circ}\text{C}$ | $P_F$          | 225<br>1.8  | mW<br>mW/ $^{\circ}\text{C}$ |
| Operating Junction and Storage Temperature Range                                               | $T_J, T_{stg}$ | -55 to +150 | $^{\circ}\text{C}$           |

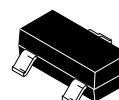
Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.



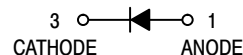
**ON Semiconductor®**

<http://onsemi.com>

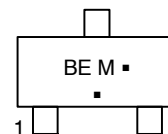
## 70 VOLTS SCHOTTKY BARRIER DIODES



**SOT-23 (TO-236)  
CASE 318  
STYLE 8**



### MARKING DIAGRAM



BE Specific Device Code  
M = Date Code\*  
▪ = Pb-Free Package

(Note: Microdot may be in either location)

\*Date Code orientation and/or overbar may vary depending upon manufacturing location.

### ORDERING INFORMATION

| Device       | Package             | Shipping†              |
|--------------|---------------------|------------------------|
| BAS70LT1G    | SOT-23<br>(Pb-Free) | 3,000 /<br>Tape & Reel |
| NSVBAS70LT1G | SOT-23<br>(Pb-Free) | 3,000 /<br>Tape & Reel |

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

\*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

# BAS70LT1G, NSVBAS70LT1G

## ELECTRICAL CHARACTERISTICS ( $T_A = 25^\circ\text{C}$ unless otherwise noted)

| Characteristic                                                          | Symbol      | Min    | Max       | Unit          |
|-------------------------------------------------------------------------|-------------|--------|-----------|---------------|
| Reverse Breakdown Voltage<br>( $I_R = 10\ \mu\text{A}$ )                | $V_{(BR)R}$ | 70     | –         | V             |
| Total Capacitance<br>( $V_R = 0\ \text{V}$ , $f = 1.0\ \text{MHz}$ )    | $C_T$       | –      | 2.0       | pF            |
| Reverse Leakage<br>( $V_R = 50\ \text{V}$ )<br>( $V_R = 70\ \text{V}$ ) | $I_R$       | –<br>– | 0.1<br>10 | $\mu\text{A}$ |
| Forward Voltage<br>( $I_F = 1.0\ \text{mA}$ )                           | $V_F$       | –      | 410       | mV            |
| Forward Voltage<br>( $I_F = 10\ \text{mA}$ )                            | $V_F$       | –      | 750       | mV            |
| Forward Voltage<br>( $I_F = 15\ \text{mA}$ )                            | $V_F$       | –      | 1.0       | V             |

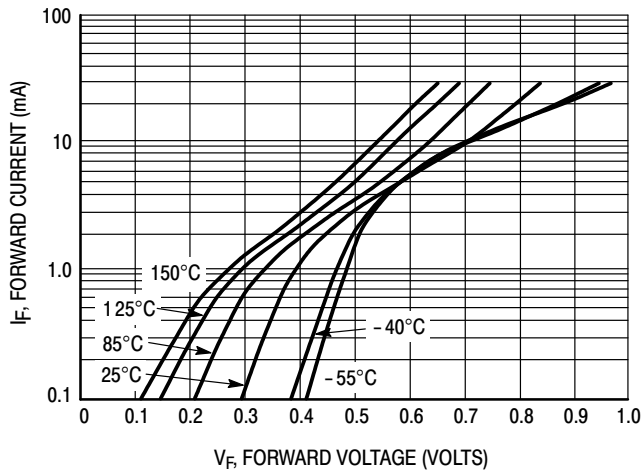


Figure 1. Typical Forward Voltage

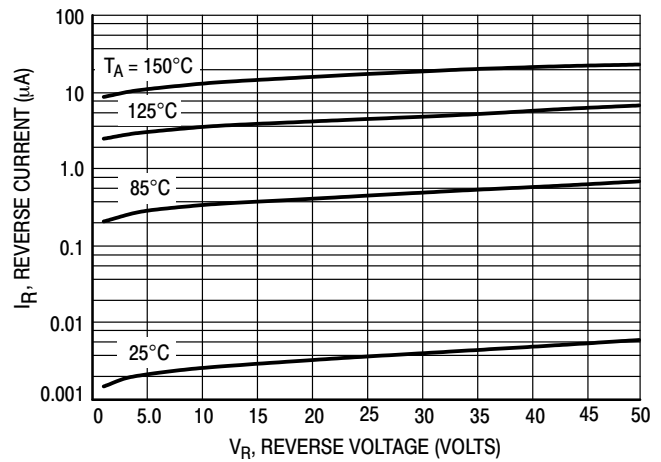


Figure 2. Reverse Current versus Reverse Voltage

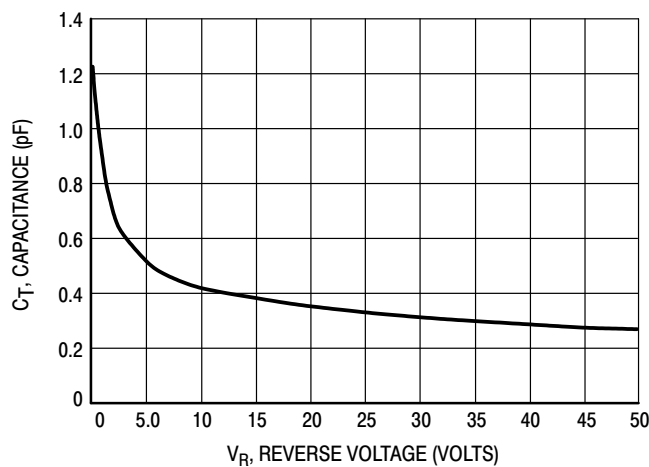
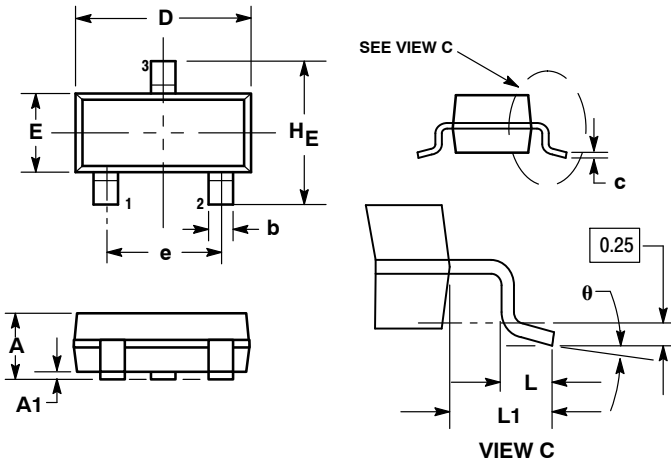


Figure 3. Typical Capacitance

# BAS70LT1G, NSVBAS70LT1G

## PACKAGE DIMENSIONS

SOT-23 (TO-236)  
CASE 318-08  
ISSUE AP



### NOTES:

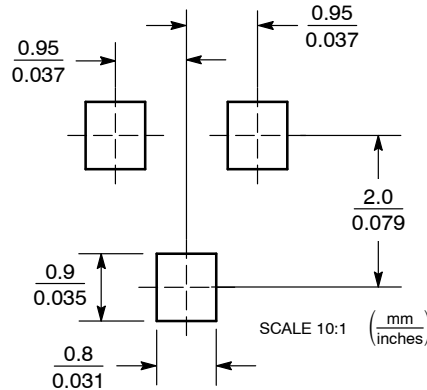
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

| DIM | MILLIMETERS |      |      | INCHES |       |       |
|-----|-------------|------|------|--------|-------|-------|
|     | MIN         | NOM  | MAX  | MIN    | NOM   | MAX   |
| A   | 0.89        | 1.00 | 1.11 | 0.035  | 0.040 | 0.044 |
| A1  | 0.01        | 0.06 | 0.10 | 0.001  | 0.002 | 0.004 |
| b   | 0.37        | 0.44 | 0.50 | 0.015  | 0.018 | 0.020 |
| c   | 0.09        | 0.13 | 0.18 | 0.003  | 0.005 | 0.007 |
| D   | 2.80        | 2.90 | 3.04 | 0.110  | 0.114 | 0.120 |
| E   | 1.20        | 1.30 | 1.40 | 0.047  | 0.051 | 0.055 |
| e   | 1.78        | 1.90 | 2.04 | 0.070  | 0.075 | 0.081 |
| L   | 0.10        | 0.20 | 0.30 | 0.004  | 0.008 | 0.012 |
| L1  | 0.35        | 0.54 | 0.69 | 0.014  | 0.021 | 0.029 |
| HE  | 2.10        | 2.40 | 2.64 | 0.083  | 0.094 | 0.104 |
| θ   | 0°          | ---  | 10°  | 0°     | ---   | 10°   |

### STYLE 8:

- PIN 1. ANODE
- NO CONNECTION
- CATHODE

## SOLDERING FOOTPRINT



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