

# BAS70-04LT1G, SBAS70-04LT1G

## Dual Series Schottky Barrier Diode

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
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant
- S Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable

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

| Rating                                                      | Symbol    | Value | Unit |
|-------------------------------------------------------------|-----------|-------|------|
| Reverse Voltage                                             | $V_R$     | 70    | V    |
| Non-Repetitive Peak Forward Surge Current ( $t \leq 1.0$ s) | $I_{FSM}$ | 100   | mA   |

### THERMAL CHARACTERISTICS

| Characteristic                                                                             | Symbol          | Max                                | Unit                       |
|--------------------------------------------------------------------------------------------|-----------------|------------------------------------|----------------------------|
| 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                        | $^\circ\text{C}$           |
| Thermal Resistance<br>Junction-to-Ambient                                                  | $R_{\theta JA}$ | 508<br>(Note 1)<br>311<br>(Note 2) | $^\circ\text{C/W}$         |

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.

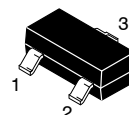
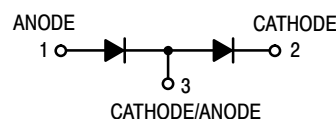
1. FR-4 @ minimum pad.
2. FR-4 @ 1.0 x 1.0 in pad.



ON Semiconductor®

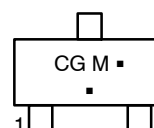
<http://onsemi.com>

## 70 VOLTS SCHOTTKY BARRIER DIODE



SOT-23  
(TO-236AB)  
CASE 318

### MARKING DIAGRAM



CG = 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†          |
|---------------|---------------------|--------------------|
| BAS70-04LT1G  | SOT-23<br>(Pb-Free) | 3000 / Tape & Reel |
| SBAS70-04LT1G | SOT-23<br>(Pb-Free) | 3000 / Tape & Reel |

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

# BAS70-04LT1G, SBAS70-04LT1G

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

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

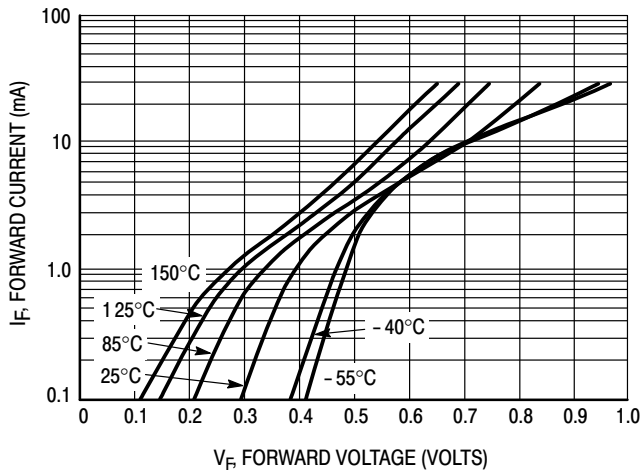


Figure 1. Typical Forward Voltage

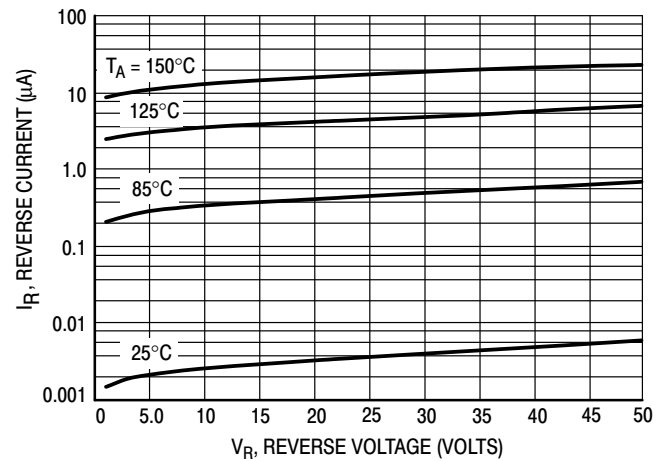


Figure 2. Reverse Current versus Reverse Voltage

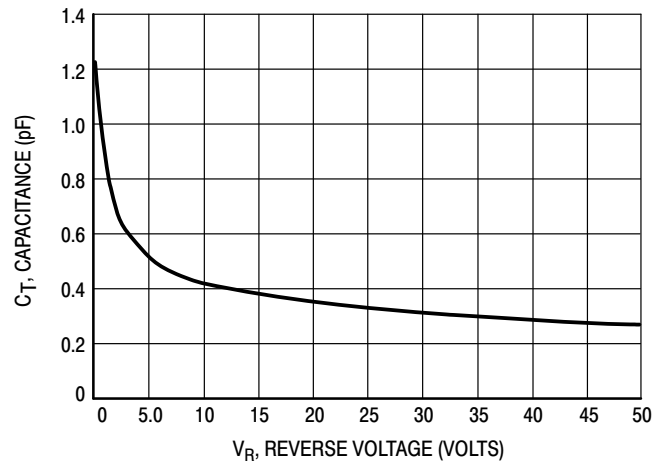
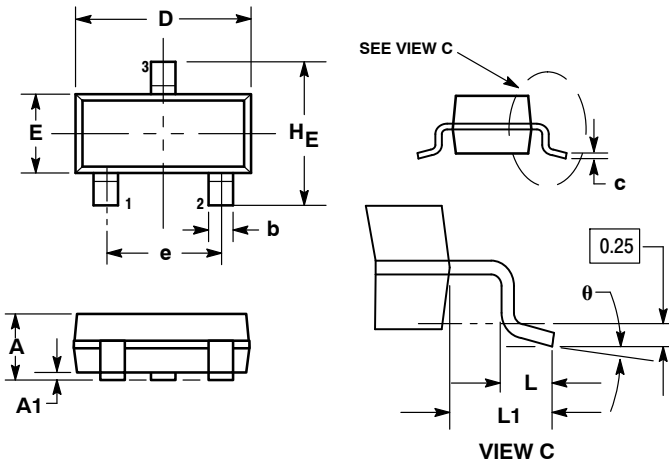


Figure 3. Typical Capacitance

# BAS70-04LT1G, SBAS70-04LT1G

## PACKAGE DIMENSIONS

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



### NOTES:

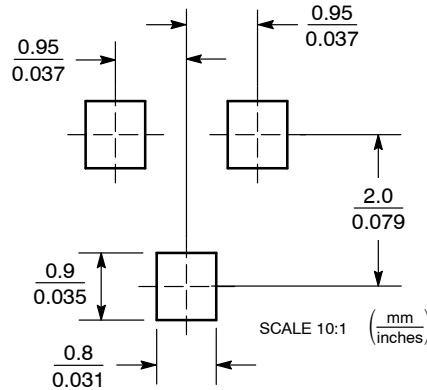
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

| 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 |
| H_E | 2.10        | 2.40 | 2.64 | 0.083  | 0.094 | 0.104 |

### STYLE 8:

1. ANODE
2. NO CONNECTION
3. CATHODE

## SOLDERING FOOTPRINT\*



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

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BAS70-04LT1/D

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