

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

MAXIMUM RATINGS (T_J = 150°C unless otherwise noted)

| Rating | Symbol | Value | Unit |
|---|-----------------------------------|-------------|-------------|
| Forward Current | I _F | 70 | mA |
| Non-Repetitive Peak Forward Surge Current (t ≤ 1.0 s) | I _{FSM} | 100 | mA |
| Reverse Voltage | V _R | 70 | V |
| Forward Power Dissipation @ T _A = 25°C Derate above 25°C | P _F | 225 1.8 | mW mW/°C |
| Operating Junction and Storage Temperature Range | T _J , T _{stg} | -55 to +150 | °C |

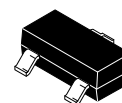
Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.



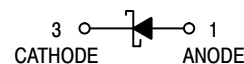
ON Semiconductor®

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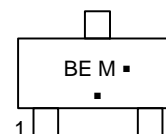
70 VOLTS SCHOTTKY BARRIER DIODES



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 (Pb-Free) | 3,000 / Tape & Reel |
| NSVBAS70LT1G | SOT-23 (Pb-Free) | 3,000 / 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.

BAS70LT1G, NSVBAS70LT1G

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 ($V_R = 50 \text{ V}$) ($V_R = 70 \text{ V}$) | I_R | - - | 0.1 10 | μA |
| 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 |

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

TYPICAL CHARACTERISTICS

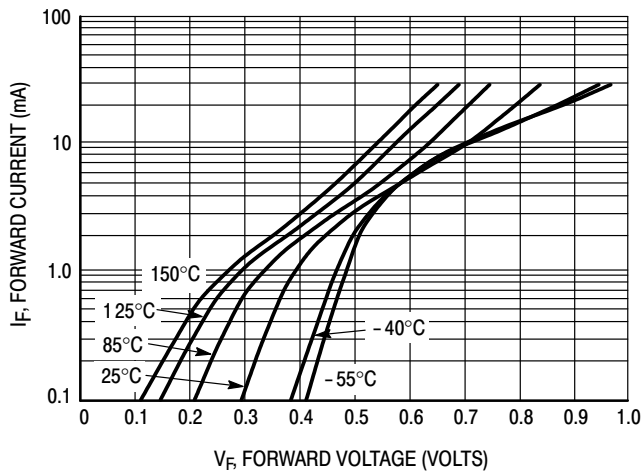


Figure 1. Typical Forward Voltage

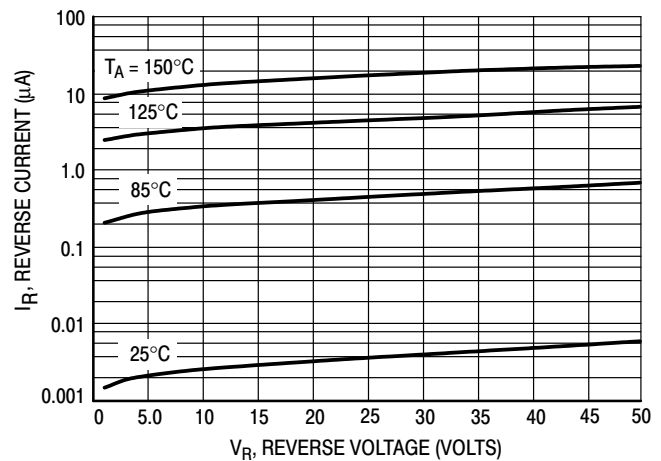


Figure 2. Reverse Current versus Reverse Voltage

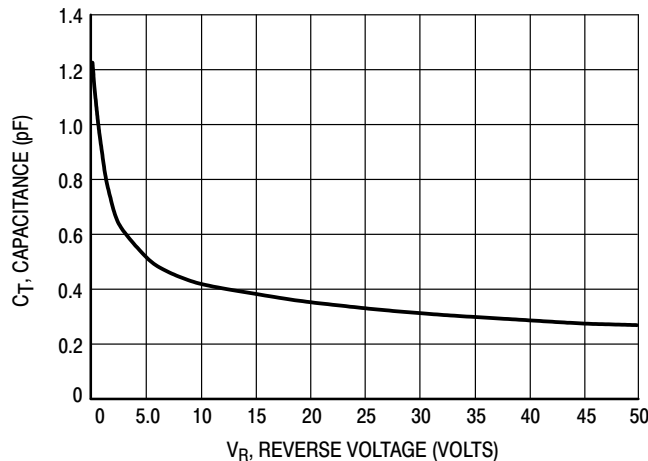
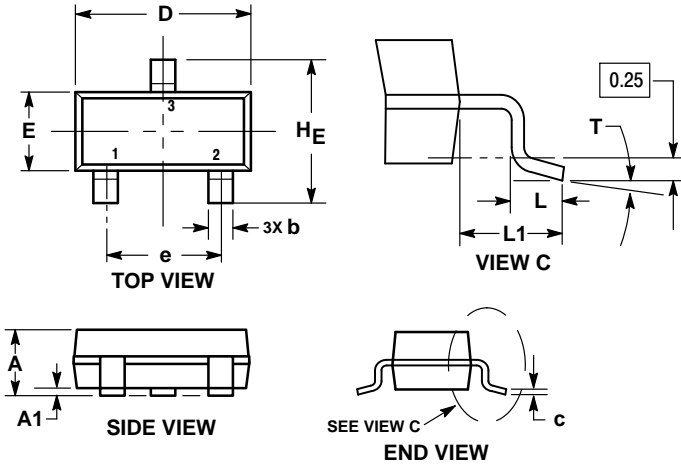


Figure 3. Typical Capacitance

BAS70LT1G, NSVBAS70LT1G

PACKAGE DIMENSIONS

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



NOTES:

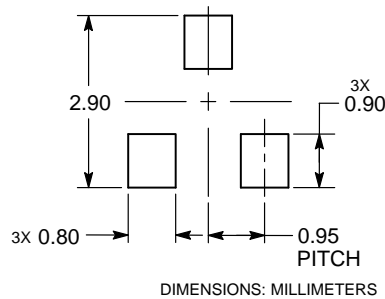
1. DIMENSIONING AND TOLERANCING PER ASME Y14.5M, 1994.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF THE BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.

| DIM | MILLIMETERS | | | INCHES | | |
|-----|-------------|------|------|--------|-------|-------|
| | MIN | NOM | MAX | MIN | NOM | MAX |
| A | 0.89 | 1.00 | 1.11 | 0.035 | 0.039 | 0.044 |
| A1 | 0.01 | 0.06 | 0.10 | 0.000 | 0.002 | 0.004 |
| b | 0.37 | 0.44 | 0.50 | 0.015 | 0.017 | 0.020 |
| c | 0.08 | 0.14 | 0.20 | 0.003 | 0.006 | 0.008 |
| 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 | 0.080 |
| L | 0.30 | 0.43 | 0.55 | 0.012 | 0.017 | 0.022 |
| L1 | 0.35 | 0.54 | 0.69 | 0.014 | 0.021 | 0.027 |
| HE | 2.10 | 2.40 | 2.64 | 0.083 | 0.094 | 0.104 |
| T | 0° | — | 10° | 0° | — | 10° |

STYLE 8:

1. ANODE
2. NO CONNECTION
3. CATHODE

RECOMMENDED SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

*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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