

# BAS40-04LT1

Preferred Device

## 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.

- Extremely Fast Switching Speed
- Low Forward Voltage

### Features

- Pb-Free Package is Available

### MAXIMUM RATINGS

| Rating                                                                                     | Symbol          | Value                              | Unit                       |
|--------------------------------------------------------------------------------------------|-----------------|------------------------------------|----------------------------|
| Reverse Voltage                                                                            | $V_R$           | 40                                 | 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<br>+150                     | $^\circ\text{C}$           |
| Forward Continuous Current                                                                 | $I_{FM}$        | 120                                | mA                         |
| Single Forward Current<br>$t \leq 1\text{ s}$<br>$t \leq 10\text{ ms}$                     | $I_{FSM}$       | 200<br>600                         | mA                         |
| Thermal Resistance<br>Junction-to-Ambient                                                  | $R_{\theta JA}$ | 508<br>(Note 1)<br>311<br>(Note 2) | $^\circ\text{C/W}$         |

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

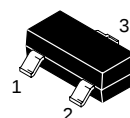
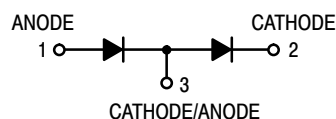
1. FR-4 @ minimum pad.
2. FR-4 @ 1.0 x 1.0 in pad.



**ON Semiconductor®**

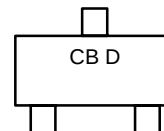
<http://onsemi.com>

## 40 VOLTS SCHOTTKY BARRIER DIODES



**SOT-23 (TO-236AB)  
CASE 318  
Style 11**

### MARKING DIAGRAM



CB = Specific Device Code  
D = Date Code

### ORDERING INFORMATION

| Device       | Package          | Shipping <sup>†</sup> |
|--------------|------------------|-----------------------|
| BAS40-04LT1  | SOT-23           | 3000/ Tape & Reel     |
| BAS40-04LT1G | SOT-23 (Pb-Free) | 3000/ Tape & Reel     |

<sup>†</sup>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.

**Preferred** devices are recommended choices for future use and best overall value.

## BAS40-04LT1

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

| Characteristic                                                      | Symbol      | Min | Max | Unit               |
|---------------------------------------------------------------------|-------------|-----|-----|--------------------|
| Reverse Breakdown Voltage ( $I_R = 10\ \mu\text{A}$ )               | $V_{(BR)R}$ | 40  | –   | V                  |
| Total Capacitance ( $V_R = 1.0\ \text{V}$ , $f = 1.0\ \text{MHz}$ ) | $C_T$       | –   | 5.0 | pF                 |
| Reverse Leakage ( $V_R = 25\ \text{V}$ )                            | $I_R$       | –   | 1.0 | $\mu\text{A}_{dc}$ |
| Forward Voltage ( $I_F = 1.0\ \text{mA}_{dc}$ )                     | $V_F$       | –   | 380 | mVdc               |
| Forward Voltage ( $I_F = 10\ \text{mA}_{dc}$ )                      | $V_F$       | –   | 500 | mVdc               |
| Forward Voltage ( $I_F = 40\ \text{mA}_{dc}$ )                      | $V_F$       | –   | 1.0 | Vdc                |

# BAS40-04LT1

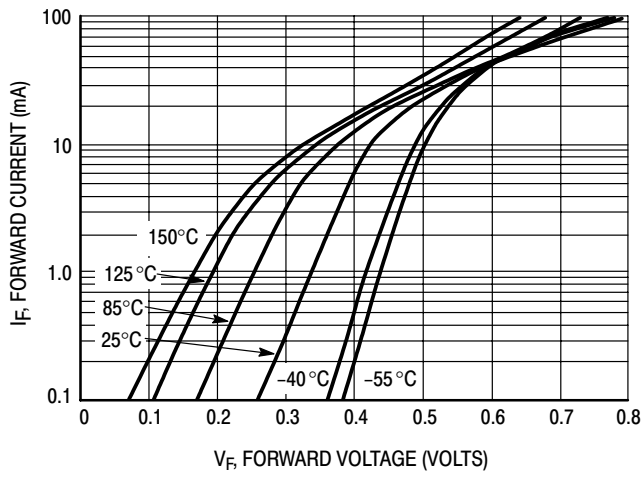


Figure 1. Typical Forward Voltage

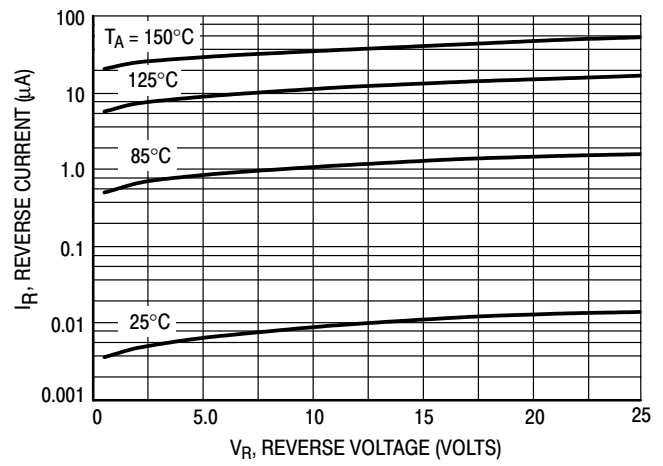


Figure 2. Reverse Current versus Reverse Voltage

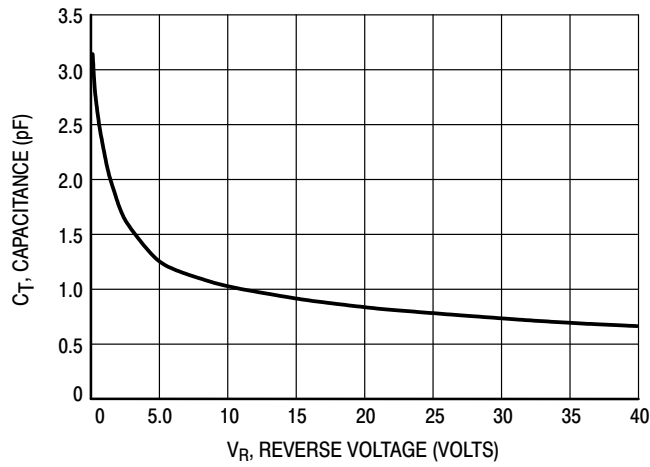
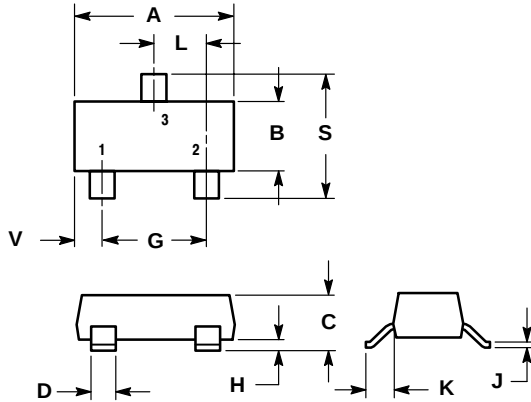


Figure 3. Typical Capacitance

# BAS40-04LT1

## PACKAGE DIMENSIONS

### SOT-23 (TO-236AB) CASE 318-08 ISSUE AH



#### NOTES:

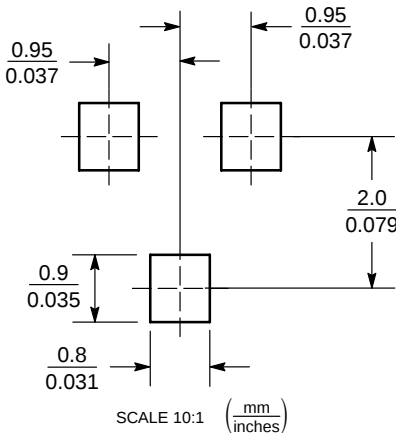
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01, -02, AND -06 OBSOLETE, NEW STANDARD 318-09.

| DIM | INCHES |        | MILLIMETERS |       |
|-----|--------|--------|-------------|-------|
|     | MIN    | MAX    | MIN         | MAX   |
| A   | 0.1102 | 0.1197 | 2.80        | 3.04  |
| B   | 0.0472 | 0.0551 | 1.20        | 1.40  |
| C   | 0.0385 | 0.0498 | 0.99        | 1.26  |
| D   | 0.0140 | 0.0200 | 0.36        | 0.50  |
| G   | 0.0670 | 0.0826 | 1.70        | 2.10  |
| H   | 0.0040 | 0.0098 | 0.10        | 0.25  |
| J   | 0.0034 | 0.0070 | 0.085       | 0.177 |
| K   | 0.0180 | 0.0236 | 0.45        | 0.60  |
| L   | 0.0350 | 0.0401 | 0.89        | 1.02  |
| S   | 0.0830 | 0.0984 | 2.10        | 2.50  |
| V   | 0.0177 | 0.0236 | 0.45        | 0.60  |

#### STYLE 11:

- PIN 1: ANODE  
2: CATHODE  
3: CATHODE-ANODE

### SOLDERING FOOTPRINT\*



### SOT-123

\*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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