

# BAS40LT1

Preferred Device

## 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

- Pb-Free Package is Available

### MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	$V_R$	40	V
Forward Power Dissipation @ $T_A = 25^\circ\text{C}$ Derate above $25^\circ\text{C}$	$P_F$	225 1.8	mW mW/ $^\circ\text{C}$
Operating Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$
Forward Continuous Current	$I_F$	120	mA
Forward Surge Current $t \leq 1 \text{ s}$ $t \leq 10 \text{ ms}$	$I_{FSM}$	200 600	mA
Thermal Resistance Junction-to-Ambient	$R_{\theta JA}$	508 (Note 1) 311 (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.

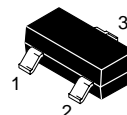
- FR-4 @ minimum pad.
- FR-4 @ 1.0 x 1.0 in pad.



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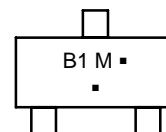
<http://onsemi.com>

## 40 VOLTS SCHOTTKY BARRIER DIODES



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

### MARKING DIAGRAM



B1 = 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†
BAS40LT1	SOT-23	3000/Tape & Reel
BAS40LT1G	SOT-23 (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 Specifications Brochure, BRD8011/D.

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

# BAS40LT1

## 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

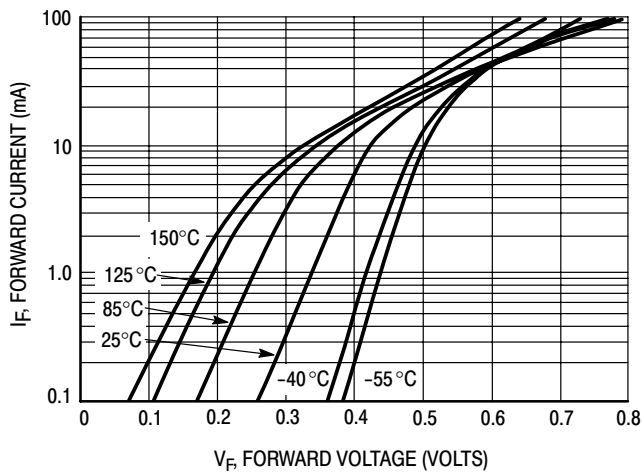


Figure 1. Typical Forward Voltage

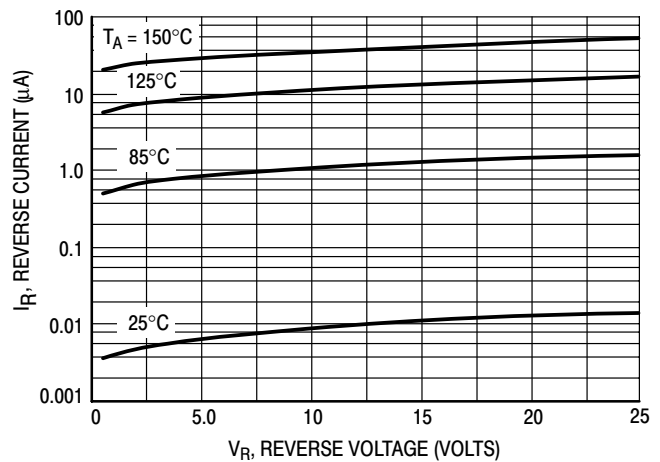


Figure 2. Reverse Current versus Reverse Voltage

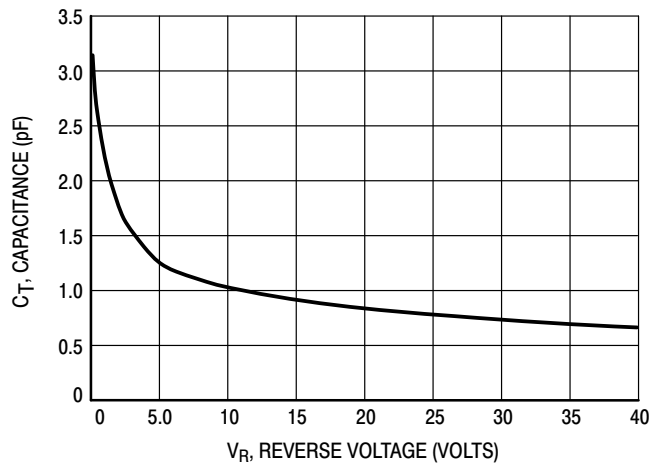
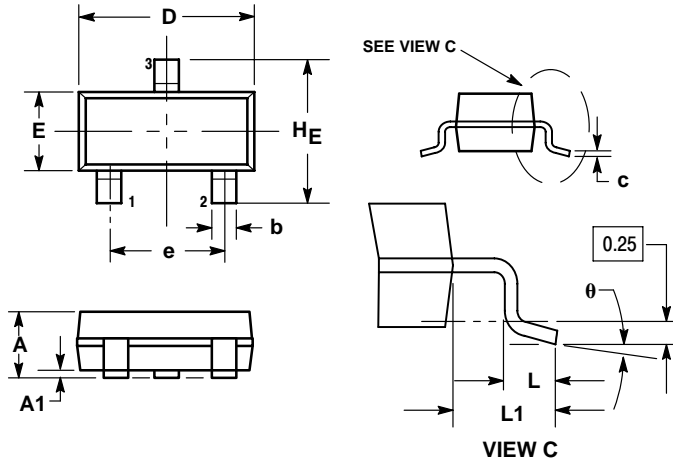


Figure 3. Typical Capacitance

# BAS40LT1

## PACKAGE DIMENSIONS

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



#### NOTES:

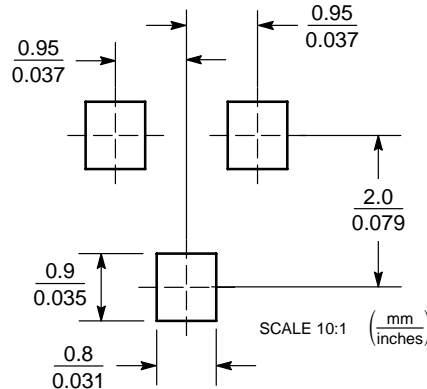
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01 THRU -07 AND -09 OBSOLETE, NEW STANDARD 318-08.

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
HE	2.10	2.40	2.64	0.083	0.094	0.104


#### STYLE 8:

- PIN 1: ANODE
- NO CONNECTION
- 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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