

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°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)	$^\circ\text{C}/\text{W}$

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.

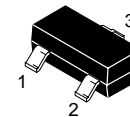
- FR-4 @ minimum pad.
- FR-4 @ 1.0 x 1.0 in pad.



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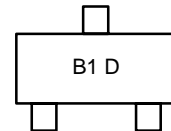
<http://onsemi.com>

40 VOLTS SCHOTTKY BARRIER DIODES



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

MARKING DIAGRAM



B1 = Specific Device Code
D = Date Code

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.

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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	μA 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

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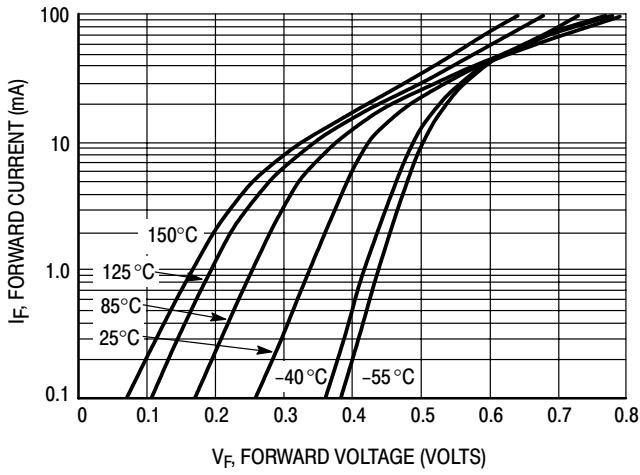


Figure 1. Typical Forward Voltage

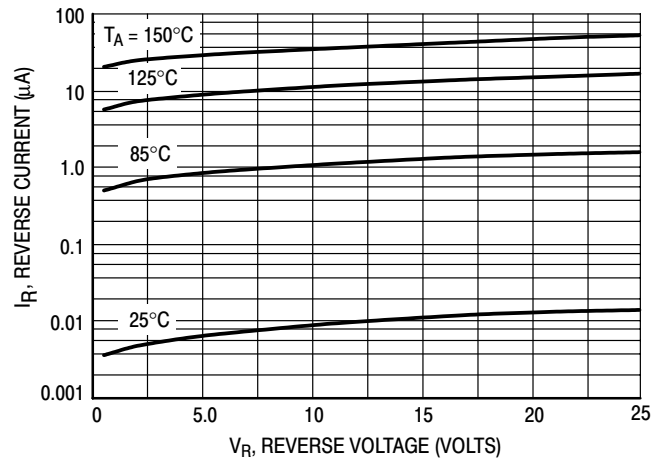


Figure 2. Reverse Current versus Reverse Voltage

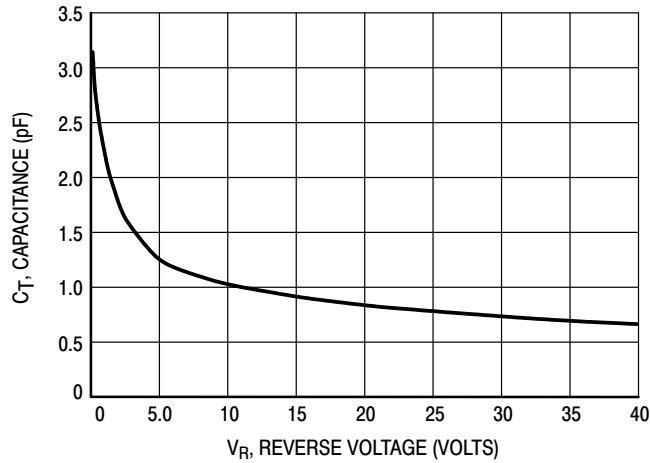
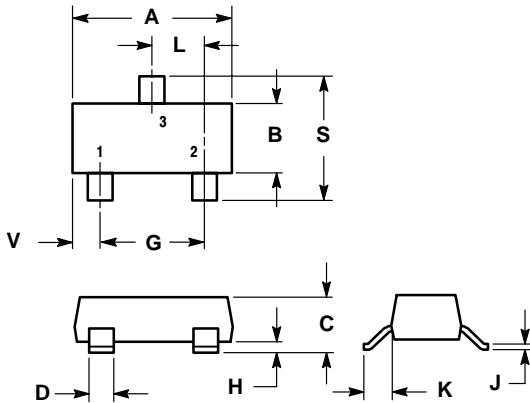


Figure 3. Typical Capacitance

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PACKAGE DIMENSIONS

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

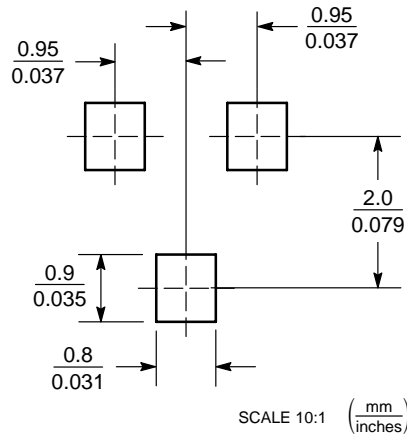


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: INCH.
 3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
 4. 318-01, -02, AND -06 OBSOLETE, NEW STANDARD 318-09.


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 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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