

BAS40-06LT1

Preferred Device

Common Anode 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.

- Extremely Fast Switching Speed
- Low Forward Voltage

MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	40	V

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
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_{FM}	120	mA
Single Forward 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)	$^\circ\text{C/W}$

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.

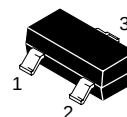
1. FR-4 @ minimum pad.
2. FR-4 @ 1.0 x 1.0 in pad.



ON Semiconductor®

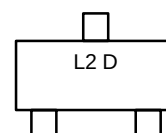
<http://onsemi.com>

40 VOLTS SCHOTTKY BARRIER DIODE

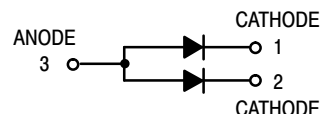


SOT-23 (TO-236AB)
CASE 318
Style 12

MARKING DIAGRAM



L2 = Specific Device Code
D = Date Code



ORDERING INFORMATION

Device	Package	Shipping†
BAS40-06LT1	SOT-23	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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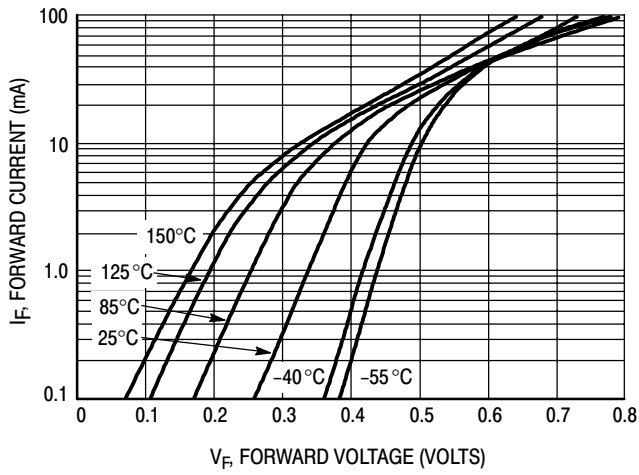


Figure 1. Typical Forward Voltage

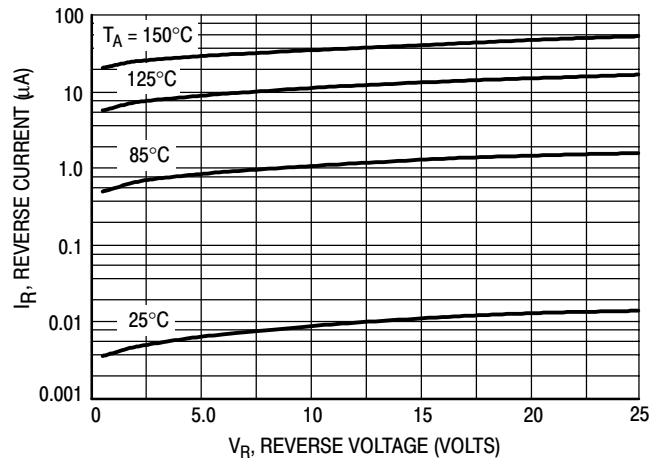


Figure 2. Reverse Current versus Reverse Voltage

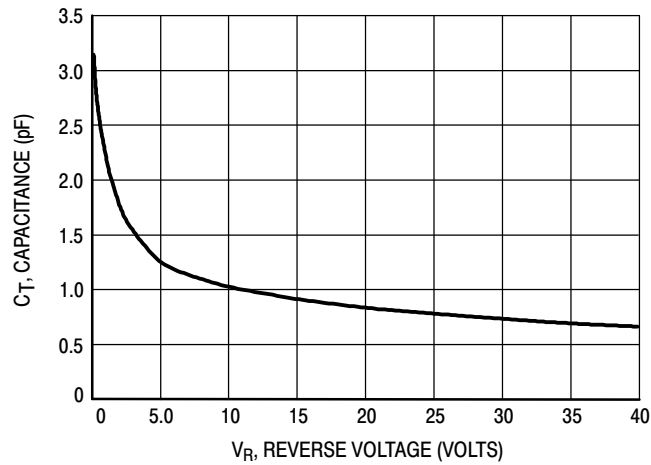
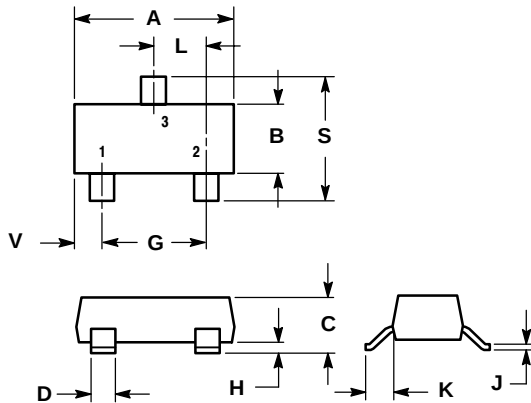


Figure 3. Typical Capacitance

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PACKAGE DIMENSIONS

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



NOTES:

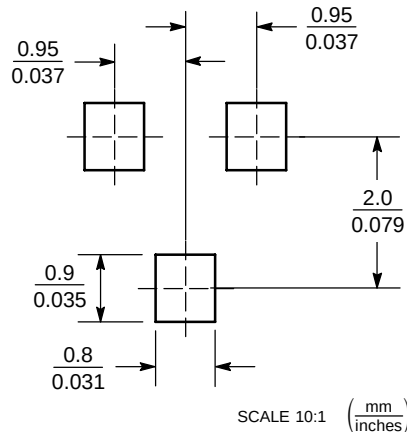
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.
4. 318-01, -02, AND -06 OBSOLETE, NEW STANDARD 318-09.

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:

- PIN 1. ANODE
- NO CONNECTION
- CATHODE

SOLDERING FOOTPRINT*



SOT-23

*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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