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Schottky Barrier Diodes

BAS40P2

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

- S 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

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	40	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
Forward Continuous Current	I_F	120	mA
Forward Surge Current t ≤ 1 s t ≤ 10 ms	I_{FSM}	200 600	mA
Thermal Resistance (Note 1) Junction−to−Ambient (Note 2)	$R_{\theta JA}$	508 311	°C/W

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.

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

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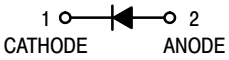
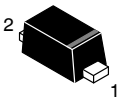
40 VOLTS
SCHOTTKY BARRIER DIODES





SOD−923
CASE 514AB

MARKING DIAGRAM

AD = Specific Device Code
M = Date Code

ORDERING INFORMATION

Device	Package	Shipping†
BAS40P2T5G	SOD−923 (Pb−Free)	8000/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.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage (I_R = 10 μA)	$V_{(BR)R}$	40	–	V
Reverse Leakage (V_R = 25 V)	I_R	–	1.0	μA
Forward Voltage (I_F = 1.0 mA) (I_F = 10 mA) (I_F = 40 mA)	V_F	– – –	380 500 1000	mV
Total Capacitance (V_R = 1.0 V, f = 1.0 MHz)	C_T	–	5.0	pF

TYPICAL CHARACTERISTICS

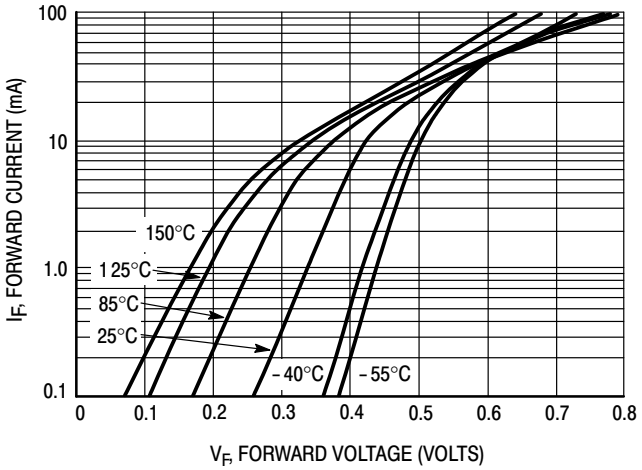


Figure 1. Typical Forward Voltage

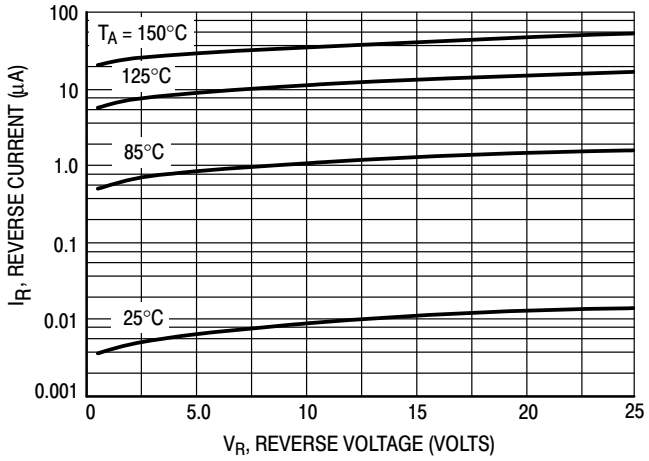


Figure 2. Reverse Current versus Reverse Voltage

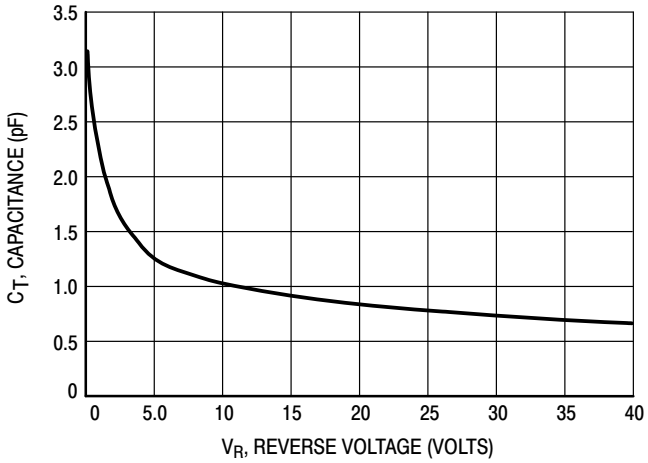
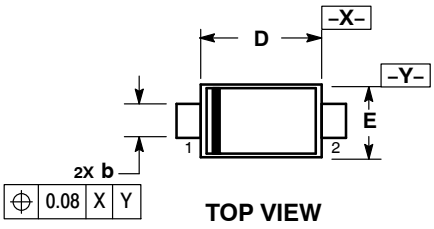


Figure 3. Typical Capacitance

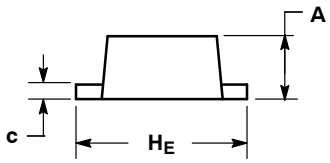
BAS40P2

PACKAGE DIMENSIONS

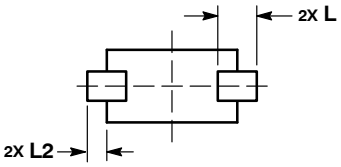
SOD−923
CASE 514AB
ISSUE D



TOP VIEW



SIDE VIEW

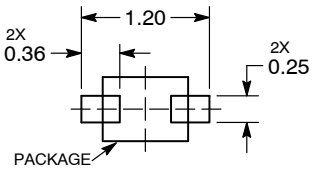


BOTTOM VIEW

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 BASE MATERIAL.
4. DIMENSIONS D AND E DO NOT INCLUDE MOLD FLASH, PROTRUSIONS, OR GATE BURRS.
5. DIMENSION L WILL NOT EXCEED 0.30mm.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
A	0.34	0.37	0.40	0.013	0.015	0.016
b	0.15	0.20	0.25	0.006	0.008	0.010
c	0.07	0.12	0.17	0.003	0.005	0.007
D	0.75	0.80	0.85	0.030	0.031	0.033
E	0.55	0.60	0.65	0.022	0.024	0.026
H_E	0.95	1.00	1.05	0.037	0.039	0.041
L	0.19 REF			0.007 REF		
L2	0.05	0.10	0.15	0.002	0.004	0.006

SOLDERING FOOTPRINT*



DIMENSIONS: MILLIMETERS

See Application Note AND8455/D for more mounting details

*For additional information on our Pb−Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
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