

BAS16HT1

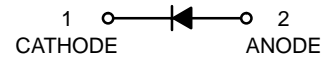
Preferred Device

Switching Diode



ON Semiconductor®

<http://onsemi.com>



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	75	Vdc
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

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.

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	200	mW
		1.57	mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to 150	$^\circ\text{C}$

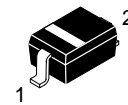
1. FR-4 Minimum Pad.

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

Reverse Voltage Leakage Current ($V_R = 75$ Vdc) ($V_R = 75$ Vdc, $T_J = 150^\circ\text{C}$) ($V_R = 25$ Vdc, $T_J = 150^\circ\text{C}$)	I_R	-	1.0 50 30	μAdc
Reverse Breakdown Voltage ($I_{BR} = 100$ μAdc)	$V_{(BR)}$	75	-	Vdc
Forward Voltage ($I_F = 1.0$ mAdc) ($I_F = 10$ mAdc) ($I_F = 50$ mAdc) ($I_F = 150$ mAdc)	V_F	-	715 855 1000 1250	mV
Diode Capacitance ($V_R = 0$, $f = 1.0$ MHz)	C_D	-	2.0	pF
Forward Recovery Voltage ($I_F = 10$ mAdc, $t_r = 20$ ns)	V_{FR}	-	1.75	Vdc
Reverse Recovery Time ($I_F = I_R = 10$ mAdc, $R_L = 50$ Ω)	t_{rr}	-	6.0	ns
Stored Charge ($I_F = 10$ mAdc to $V_R = 5.0$ Vdc, $R_L = 500$ Ω)	Q_S	-	45	pC



SOD-323
CASE 477
STYLE 1

MARKING DIAGRAM



A6 = Specific Device Code
M = Date Code

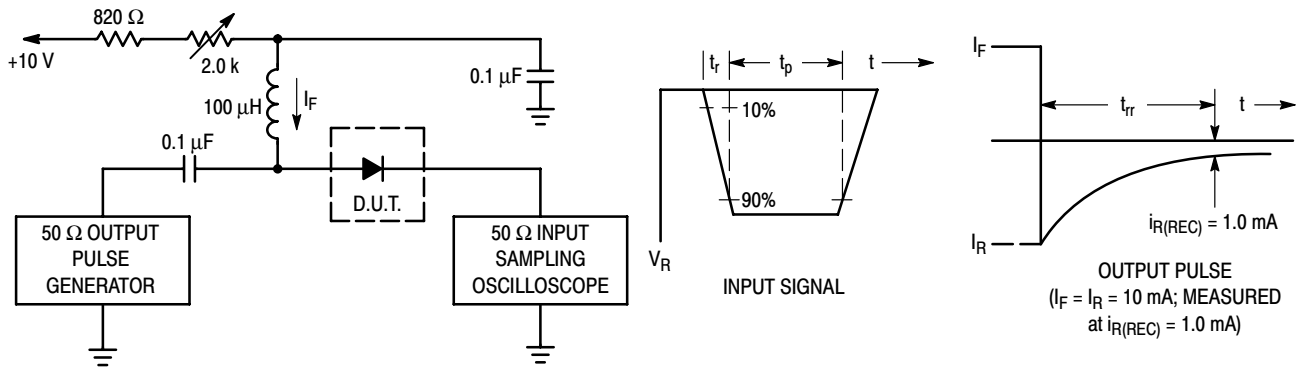
ORDERING INFORMATION

Device	Package	Shipping†
BAS16HT1	SOD-323	3000/Tape & Reel
BAS16HT1G	SOD-323 (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.

BAS16HT1



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

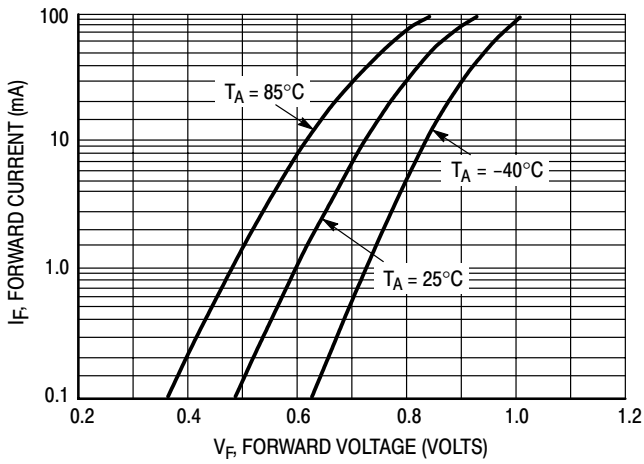


Figure 2. Forward Voltage

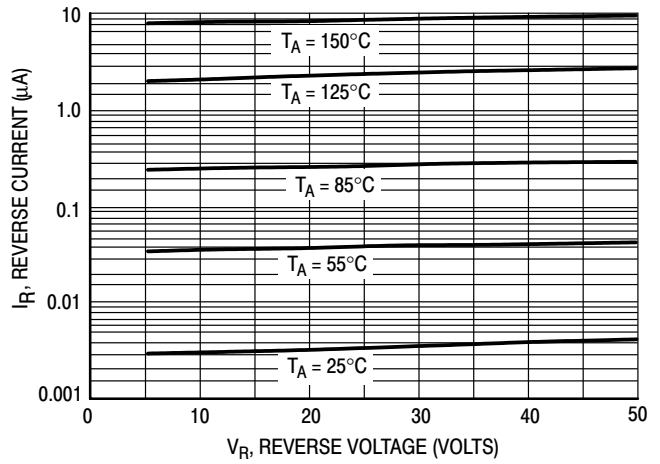


Figure 3. Leakage Current

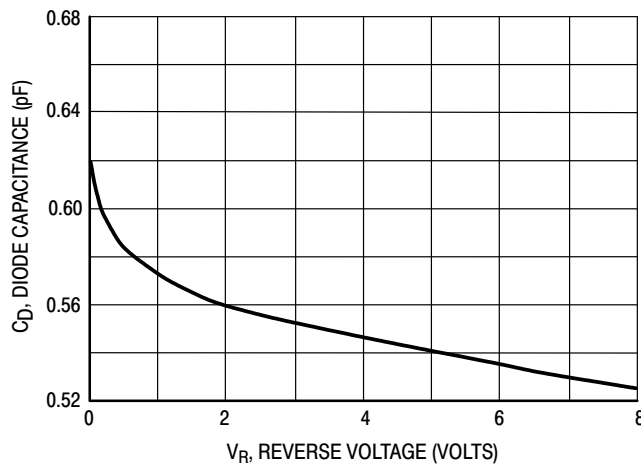
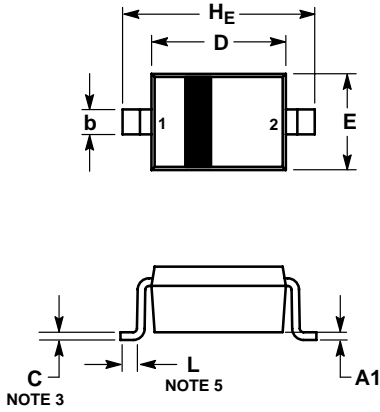


Figure 4. Capacitance

BAS16HT1

PACKAGE DIMENSIONS

SOD-323
CASE 477-02
ISSUE G



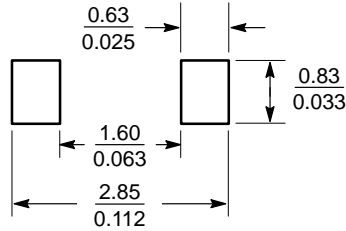
NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.80	0.90	1.00	0.031	0.035	0.040
A1	0.00	0.05	0.10	0.000	0.002	0.004
A3	0.15 REF			0.006 REF		
b	0.25	0.32	0.4	0.010	0.012	0.016
C	0.089	0.12	0.177	0.003	0.005	0.007
D	1.60	1.70	1.80	0.062	0.066	0.070
E	1.15	1.25	1.35	0.045	0.049	0.053
L	0.08			0.003		
HE	2.30	2.50	2.70	0.090	0.098	0.105

STYLE 1:
PIN 1. CATHODE
2. ANODE

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.

BAS16HT1

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