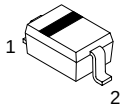
Switching Diode

BAS16HT1

ON Semiconductor Preferred Device



CASE 477–02, STYLE 1
SOD323

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

THERMAL CHARACTERISTICS

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

*FR-4 Minimum Pad

DEVICE MARKING

BAS16HT1 = A6

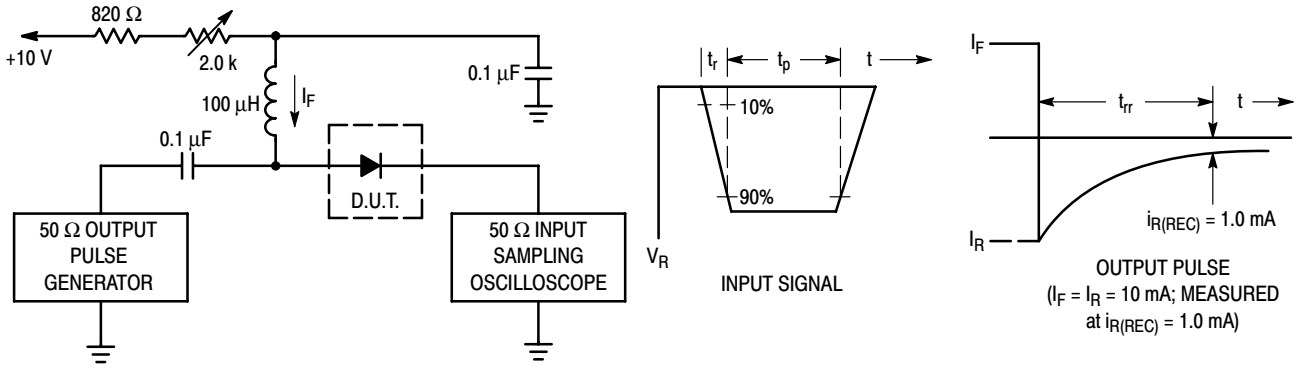
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Voltage Leakage Current	I_R			μAdc
(V_R = 75 Vdc)		—	1.0	
(V_R = 75 Vdc, T_J = 150°C)		—	50	
(V_R = 25 Vdc, T_J = 150°C)		—	30	
Reverse Breakdown Voltage (I_{BR} = 100 μAdc)	$V_{(BR)}$	75	—	Vdc
Forward Voltage	V_F			mV
(I_F = 1.0 mAdc)		—	715	
(I_F = 10 mAdc)		—	855	
(I_F = 50 mAdc)		—	1000	
(I_F = 150 mAdc)		—	1250	
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

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

May, 2001 – Rev. 1

Publication Order Number:
BAS16HT1/D



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

Figure 1. Recovery Time Equivalent Test Circuit

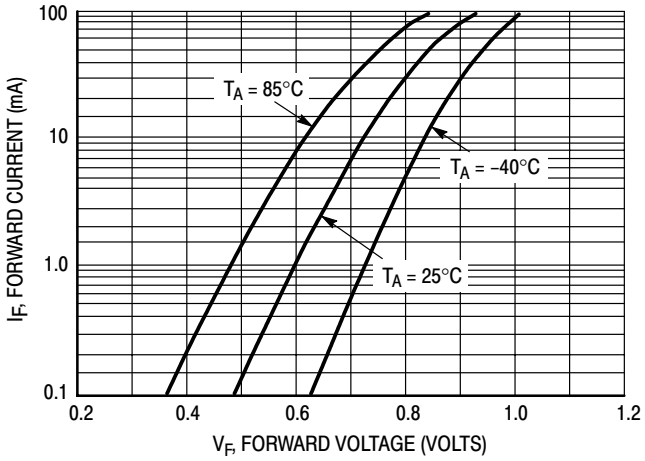


Figure 2. Forward Voltage

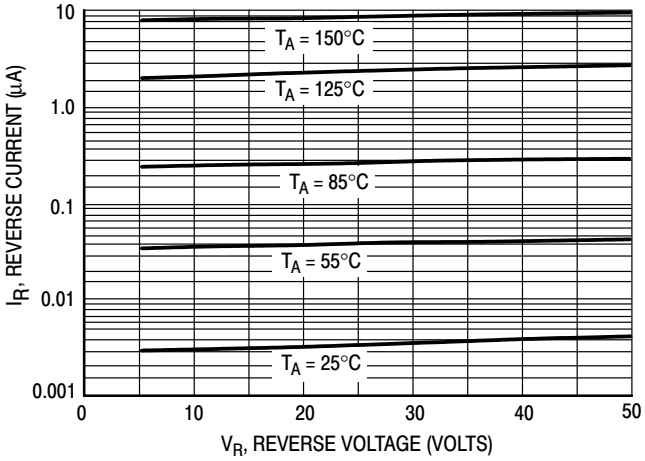


Figure 3. Leakage Current

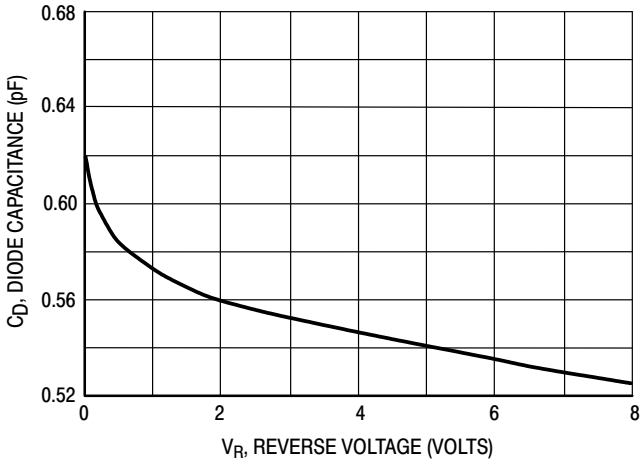
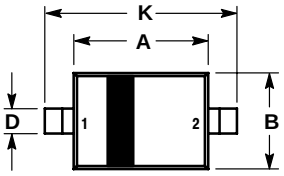
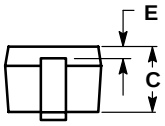


Figure 4. Capacitance

PACKAGE DIMENSIONS

SOD−323
CASE 477−02
ISSUE B

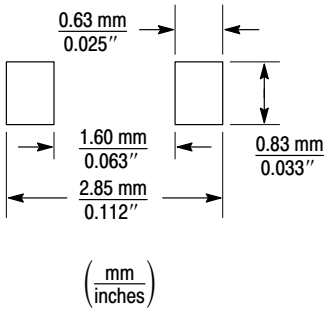




NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

	MILLIMETERS		INCHES	
DIM	MIN	MAX	MIN	MAX
A	1.60	1.80	0.063	0.071
B	1.15	1.35	0.045	0.053
C	0.80	1.00	0.031	0.039
D	0.25	0.40	0.010	0.016
E	0.15 REF		0.006 REF	
H	0.00	0.10	0.000	0.004
J	0.089	0.177	0.0035	0.0070
K	2.30	2.70	0.091	0.106

STYLE 1:
PIN 1. CATHODE
2. ANODE



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Soldering Footprint

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