

BAS21HT1

Preferred Device

High Voltage Switching Diode

- Device Marking: JS

MAXIMUM RATINGS

Symbol	Rating	Value	Unit
V_R	Continuous Reverse Voltage	250	Vdc
V_{RRM}	Repetitive Peak Reverse Voltage	250	Vdc
I_F	Peak Forward Current	200	mAdc
$I_{FM(surge)}$	Peak Forward Surge Current	625	mAdc

THERMAL CHARACTERISTICS

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

*FR-5 Minimum Pad

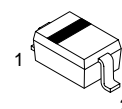
Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.



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HIGH VOLTAGE SWITCHING DIODE



SOD-323
CASE 477
STYLE 1

MARKING DIAGRAM



JS = Device Code

ORDERING INFORMATION

Device	Package	Shipping†
BAS21HT1	SOD-323	3000/Tape & Reel

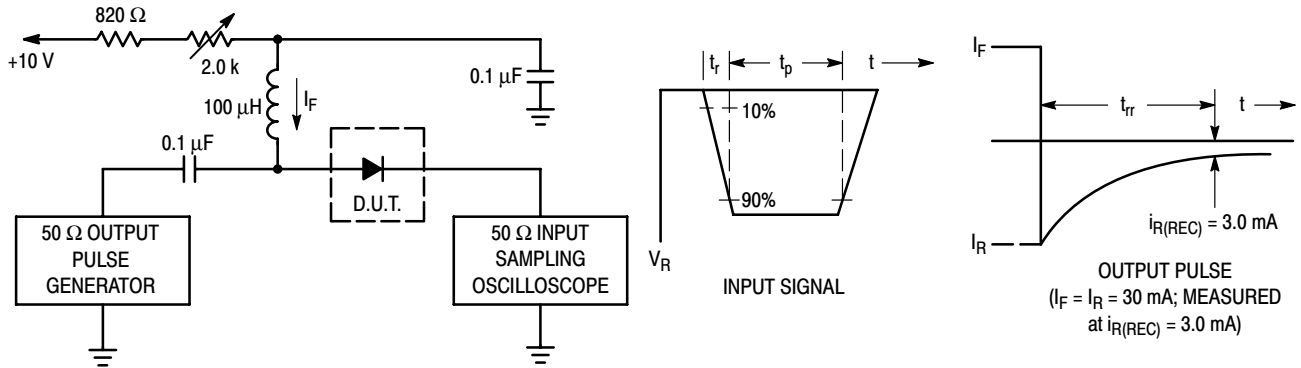
†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

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
OFF CHARACTERISTICS				
Reverse Voltage Leakage Current ($V_R = 200\text{ Vdc}$) ($V_R = 200\text{ Vdc}$, $T_J = 150^\circ\text{C}$)	I_R	–	0.1 100	μA dc
Reverse Breakdown Voltage ($I_{BR} = 100\ \mu\text{A}$ dc)	$V_{(BR)}$	250	–	Vdc
Forward Voltage ($I_F = 100\ \text{mA}$ dc) ($I_F = 200\ \text{mA}$ dc)	V_F	–	1000 1250	mV
Diode Capacitance ($V_R = 0$, $f = 1.0\ \text{MHz}$)	C_D	–	5.0	pF
Reverse Recovery Time ($I_F = I_R = 30\ \text{mA}$ dc, $R_L = 100\ \Omega$)	t_{rr}	–	50	ns



- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 30 mA.
 2. Input pulse is adjusted so $I_{R(\text{peak})}$ is equal to 30 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

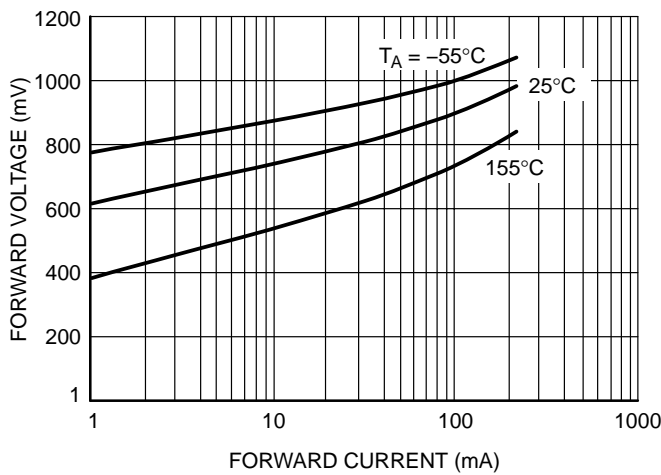


Figure 2. Forward Voltage

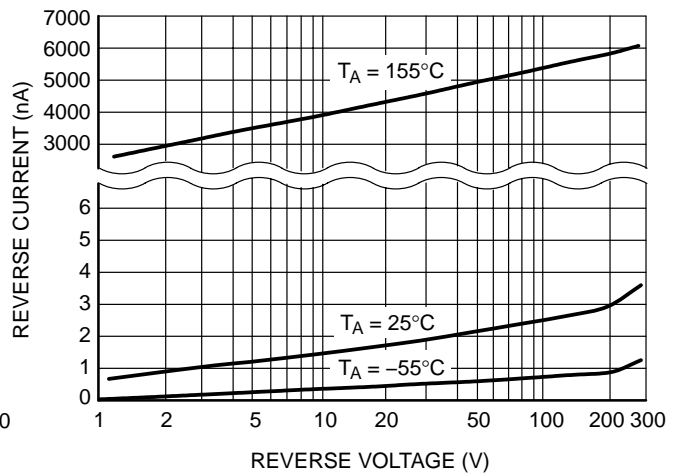
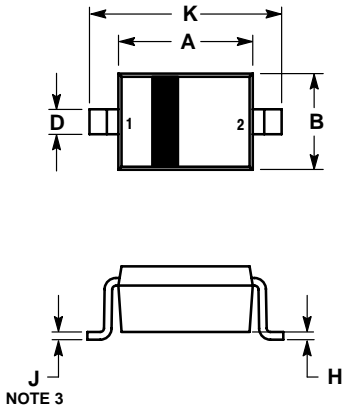


Figure 3. Reverse Leakage

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PACKAGE DIMENSIONS

SOD-323
 PLASTIC PACKAGE
 CASE 477-02
 ISSUE A

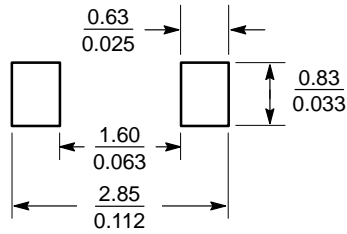


- NOTES:
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
 2. CONTROLLING DIMENSION: MILLIMETERS.
 3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.

DIM	MILLIMETERS		INCHES	
	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


SOLDERING FOOTPRINT*



SCALE 10:1 ($\frac{\text{mm}}{\text{inches}}$)

*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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