

# BAS20HT1

Preferred Device

## High Voltage Switching Diode

### Features

- Pb-Free Package is Available

### MAXIMUM RATINGS

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

### THERMAL CHARACTERISTICS

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

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

\*FR-5 Minimum Pad

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

Characteristic	Symbol	Min	Max	Unit
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### OFF CHARACTERISTICS

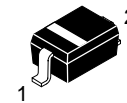
Reverse Voltage Leakage Current ( $V_R = 200$ Vdc) ( $V_R = 200$ Vdc, $T_J = 150^\circ\text{C}$ )	$I_R$	-	1.0 100	$\mu\text{Adc}$
Reverse Breakdown Voltage ( $I_{BR} = 100$ $\mu\text{Adc}$ )	$V_{(BR)}$	250	-	Vdc
Forward Voltage ( $I_F = 100$ mAdc) ( $I_F = 200$ mAdc)	$V_F$	-	1000 1250	mV
Diode Capacitance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



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## HIGH VOLTAGE SWITCHING DIODE



SOD-323  
CASE 477  
STYLE 1

### MARKING DIAGRAM



JR = Specific Device Code

M = Date Code\*

▪ = Pb-Free Package

(Note: Microdot may be in either location)

\*Date Code orientation may vary depending upon manufacturing location.

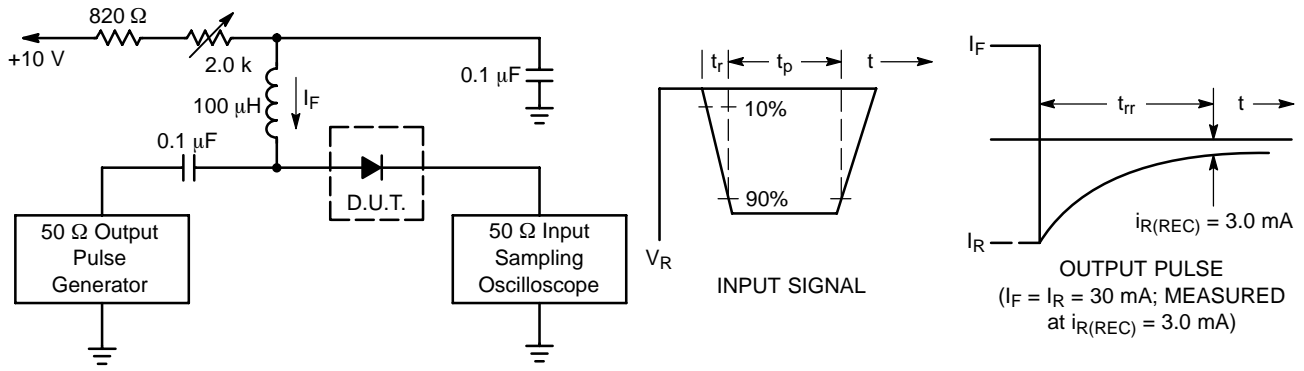
### ORDERING INFORMATION

Device	Package	Shipping†
BAS20HT1	SOD-323	3000/Tape & Reel
BAS20HT1G	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 Specification Brochure, BRD8011/D.

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

# BAS20HT1



- 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

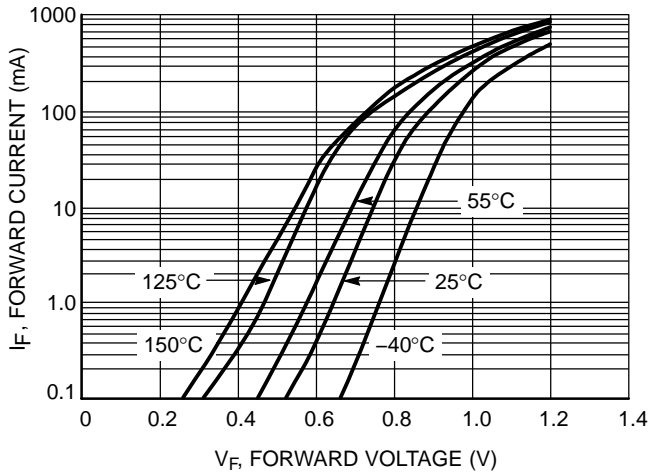


Figure 2. Forward Current

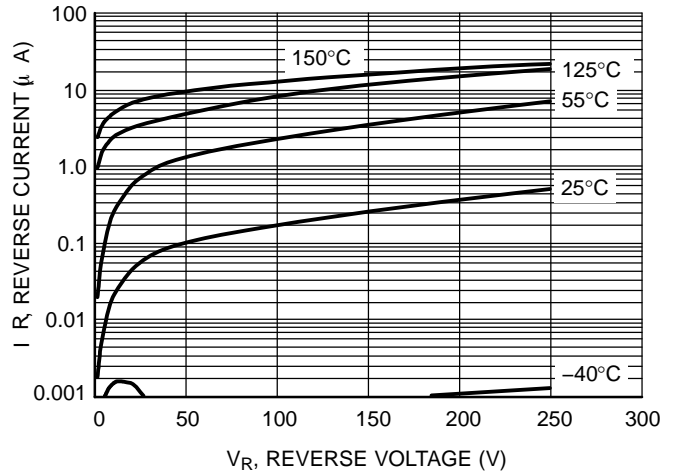


Figure 3. Leakage Current

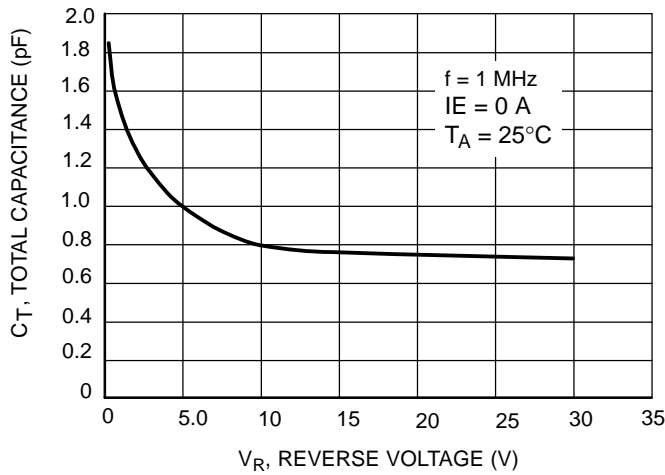
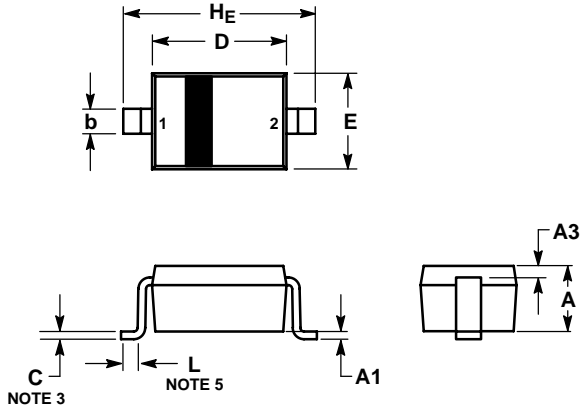


Figure 4. Total Capacitance

# BAS20HT1

## PACKAGE DIMENSIONS

SOD-323  
CASE 477-02  
ISSUE G



### NOTES:

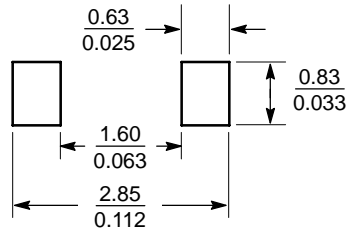
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETERS.
3. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING.
4. DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS.
5. DIMENSION L IS MEASURED FROM END OF RADIUS.

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:

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.

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