BAS20H

High Voltage Switching Diode

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
Continuous Reverse Voltage	V _R	200	Vdc
Repetitive Peak Reverse Voltage	V _{RRM}	200	Vdc
Continuous Forward Current	١ _F	200	mAdc
Peak Forward Surge Current	I _{FM(surge)}	625	mAdc
Repetitive Peak Forward Current (Pulse Wave = 1 sec, Duty Cycle = 66%)	I _{FRM}	500	mA
Non-Repetitive Peak Forward Current (Square Wave, $T_J = 25^{\circ}C$ prior to surge) $t = 1 \ \mu s$ $t = 1 \ ms$ $t = 1 \ s$	I _{FSM}	5.0 2.0 0.5	A

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board* $T_A = 25^{\circ}C$ Derate above 25°C	P _D	200 1.57	mW mW/°C
Thermal Resistance Junction-to-Ambient	R_{\thetaJA}	635	°C/W
Junction and Storage Temperature Range	T _J , T _{stg}	–55 to +150	°C

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. *FR–5 Minimum Pad

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

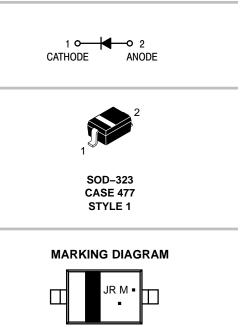
Characteristic	Symbol	Min	Max	Unit	
OFF CHARACTERISTICS					
Reverse Voltage Leakage Current ($V_R = 200 Vdc$) ($V_R = 200 Vdc$, $T_J = 150^{\circ}C$)	I _R		1.0 100	μAdc	
Reverse Breakdown Voltage (I _{BR} = 100 μAdc)	V _(BR)	250	-	Vdc	
Forward Voltage ($I_F = 100 \text{ mAdc}$) ($I_F = 200 \text{ mAdc}$)	V _F		1000 1250	mV	
Diode Capacitance ($V_R = 0, f = 1.0 \text{ MHz}$)	CD	-	5.0	pF	
Reverse Recovery Time $(I_F = I_R = 30 \text{ mAdc}, R_L = 100 \Omega)$	t _{rr}	-	50	ns	



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HIGH VOLTAGE SWITCHING DIODE



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.

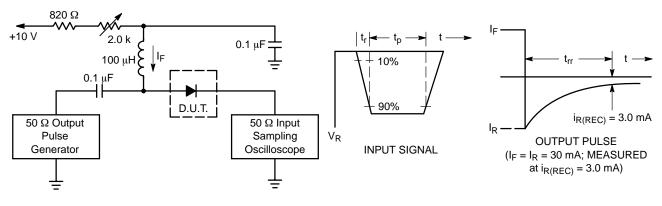
ORDERING INFORMATION

Device	Package	Shipping [†]
BAS20HT1G	SOD-323 (Pb-Free)	3000 / Tape & Reel
SBAS20HT1G	SOD–323 (Pb–Free)	3000 / Tape & Reel

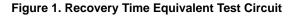
+For information on tape and reel specifications,

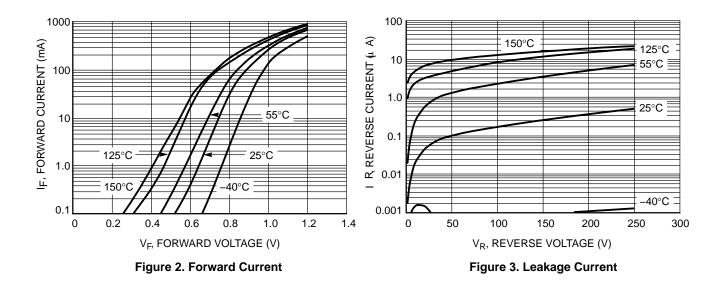
including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specification Brochure, BRD8011/D.

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Notes: 1. A 2.0 k Ω variable resistor adjusted for a Forward Current (I_F) of 30 mA. 2. Input pulse is adjusted so I_{R(peak)} is equal to 30 mA. 3. t_p » t_{rr}





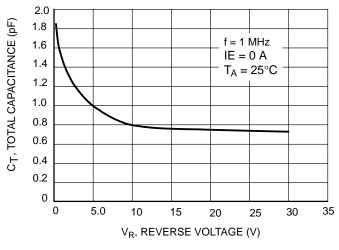
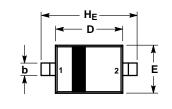


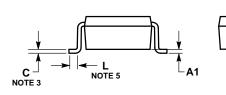
Figure 4. Total Capacitance

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PACKAGE DIMENSIONS

SOD-323 CASE 477-02 **ISSUE H**







NOTES

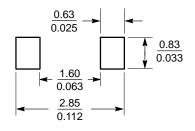
- 1. DIMENSIONING AND TOLERANCING PER ANSI
- 2.
- V14.5M, 1982. CONTROLLING DIMENSION: MILLIMETERS. LEAD THICKNESS SPECIFIED PER L/F DRAWING WITH SOLDER PLATING. 3.
- DIMENSIONS A AND B DO NOT INCLUDE MOLD FLASH, PROTRUSIONS OR GATE BURRS. DIMENSION L IS MEASURED FROM END OF RADIUS. 4.

5.

	MILLIMETERS			INCHES		
DIM	MIN	NOM	MAX	MIN	NOM	MAX
Α	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
С	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
Е	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 (POLARITY BAND) 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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