

BAS16XV2T1

Preferred Device

Switching Diode

- High-Speed Switching Applications
- Lead Finish: 100% Matte Sn (Tin)
- Qualified Reflow Temperature: 260°C
- Extremely Small SOD-523 Package



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

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	120	mW
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	635	°C/W
Junction and Storage Temperature	T_J, T_{stg}	-55 to 150	°C

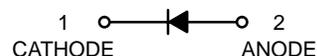
1. FR-4 Minimum Pad.
2. 300 mW for 1 in. copper.

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-523
CASE 502

MARKING DIAGRAM



A6 = Specific Device Code
d = Date Code

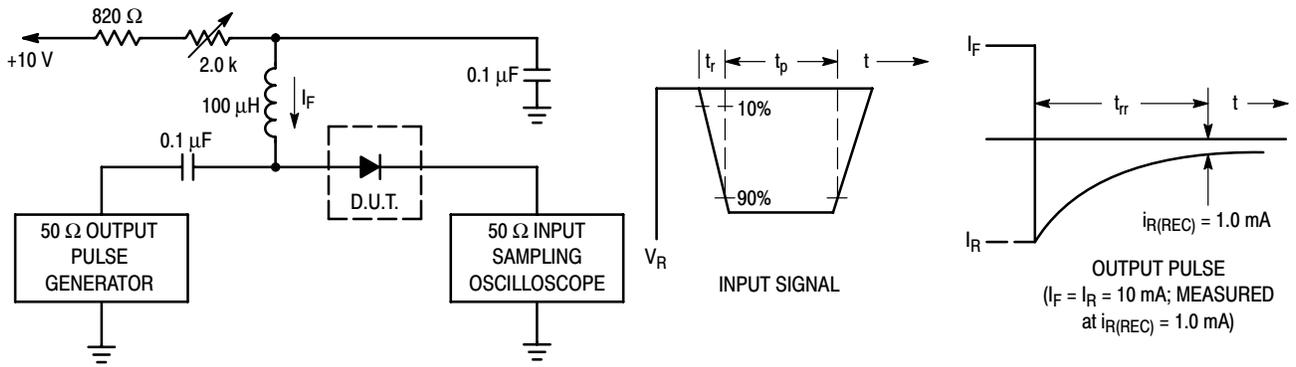
ORDERING INFORMATION

Device	Package	Shipping†
BAS16XV2T1	SOD-523	4 mm Pitch 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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- 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

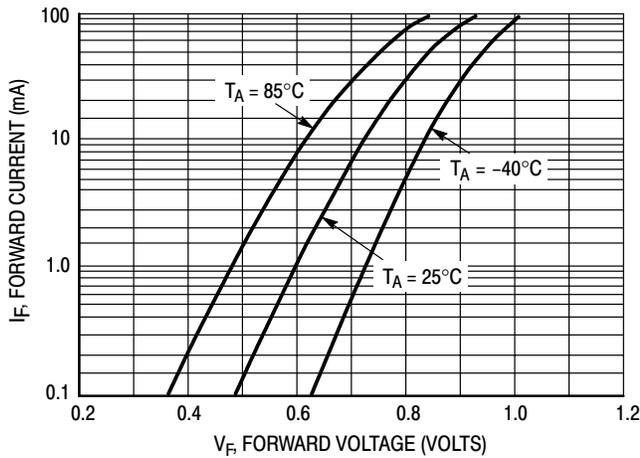


Figure 2. Forward Voltage

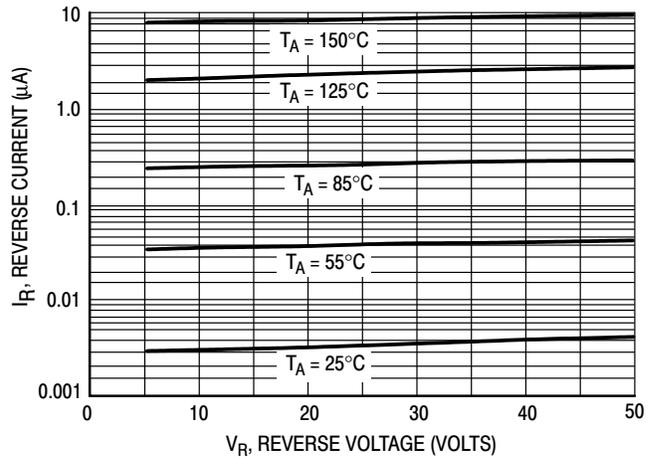


Figure 3. Leakage Current

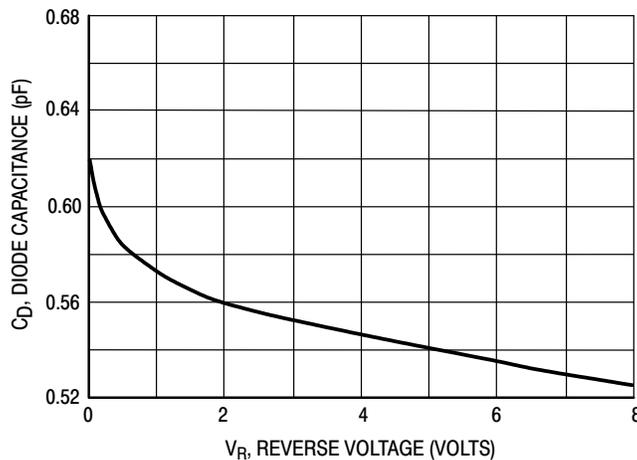
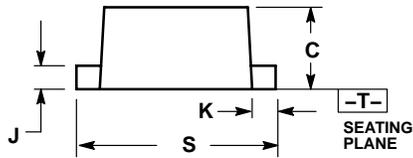
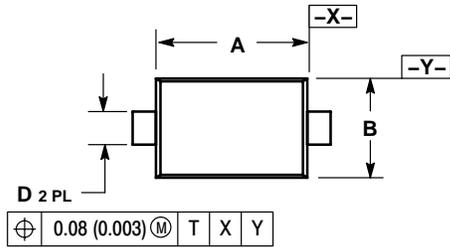


Figure 4. Capacitance

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PACKAGE DIMENSIONS

SOD-523
CASE 502-01
ISSUE O



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: MILLIMETER.
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	1.10	1.20	1.30	0.043	0.047	0.051
B	0.70	0.80	0.90	0.028	0.032	0.035
C	0.50	0.60	0.70	0.020	0.024	0.028
D	0.25	0.30	0.35	0.010	0.012	0.014
J	0.07	0.14	0.20	0.0028	0.0055	0.0079
K	0.15	0.20	0.25	0.006	0.008	0.010
S	1.50	1.60	1.70	0.059	0.063	0.067

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