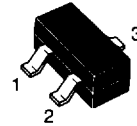


**MOTOROLA
SEMICONDUCTOR
TECHNICAL DATA****Advance Information
Switching Diode****BAS116LT1**

Motorola Preferred Device

This switching diode has the following features:

- Low Leakage Current Applications
- Medium Speed Switching Times
- Available in 8 mm Tape and Reel
 - Use BAS116LT1 to order the 7 inch/3,000 unit reel
 - Use BAS116LT3 to order the 13 inch/10,000 unit reel

CASE 318-07, STYLE 8
SOT-23 (TO-236AB)**MAXIMUM RATINGS**

Rating	Symbol	Value	Unit
Continuous Reverse Voltage	V_R	75	Vdc
Peak Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM}(\text{surge})$	500	mA

DEVICE MARKING

BAS116LT1 = JV

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (1) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225 1.8	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	556	$^\circ\text{C}/\text{W}$
Total Device Dissipation Alumina Substrate (2) $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

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

Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

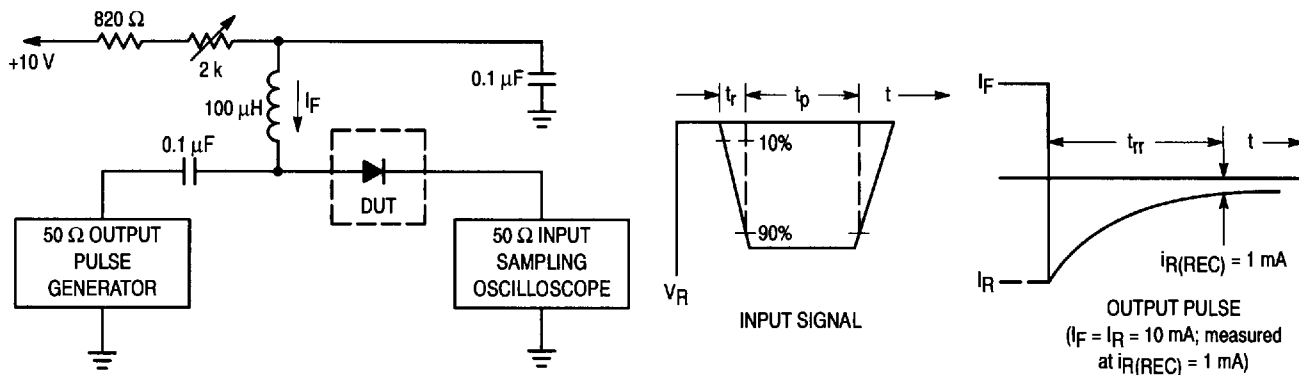
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{A}$)	$V_{(BR)}$	75	—	V
Reverse Voltage Leakage Current ($V_R = 75 \text{ V}$) ($V_R = 75 \text{ V}, T_J = 150^\circ\text{C}$)	I_R	—	5.0 80	nA
Forward Voltage ($I_F = 1.0 \text{ mA}$) ($I_F = 10 \text{ mA}$) ($I_F = 50 \text{ mA}$) ($I_F = 150 \text{ mA}$)	V_F	—	900 1000 1100 1250	mV
Diode Capacitance ($V_R = 0 \text{ V}, f = 1.0 \text{ MHz}$)	C_D	—	2.0	pF
Reverse Recovery Time ($I_F = I_R = 10 \text{ mA}$) (Figure 1)	t_{rr}	—	3.0	μs

(1) FR-5 = 1.0 x 0.75 x 0.062 in

(2) Alumina = 0.4 x 0.3 x 0.024 in 99.5% alumina

This document contains information on a new product. Specifications and information herein are subject to change without notice.

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



- 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

OUTLINE DIMENSIONS

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

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.1102	0.1197	2.80	3.04
B	0.0472	0.0551	1.20	1.40
C	0.0350	0.0440	0.89	1.11
D	0.0150	0.0200	0.37	0.50
G	0.0701	0.0807	1.78	2.04
H	0.0005	0.0040	0.013	0.100
J	0.0034	0.0070	0.085	0.177
K	0.0180	0.0236	0.45	0.60
L	0.0350	0.0401	0.89	1.02
S	0.0630	0.0964	2.10	2.50
V	0.0177	0.0236	0.45	0.60

STYLE 8:
 PIN 1 ANODE
 2 NO CONNECTION
 3 CATHODE

CASE 318-07
 SOT-23 (TO-236AB)

SOT-23 Footprint

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