

MOTOROLA SEMICONDUCTOR TECHNICAL DATA

Order this data sheet
by BAS116LT1/D

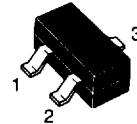
Advance Information Switching Diode

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	mA
Peak Forward Surge Current	$I_{FM(surge)}$	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	$^\circ\text{C/W}$
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	$^\circ\text{C/W}$
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.



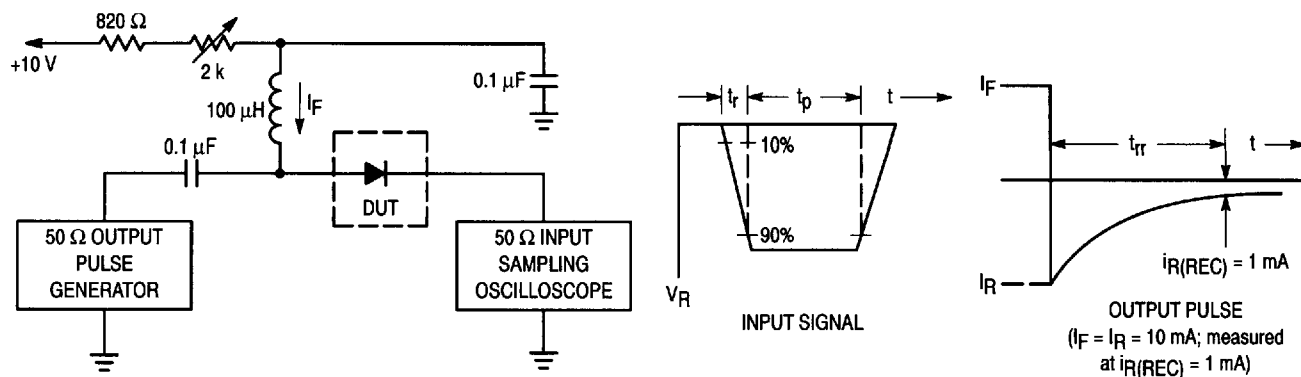
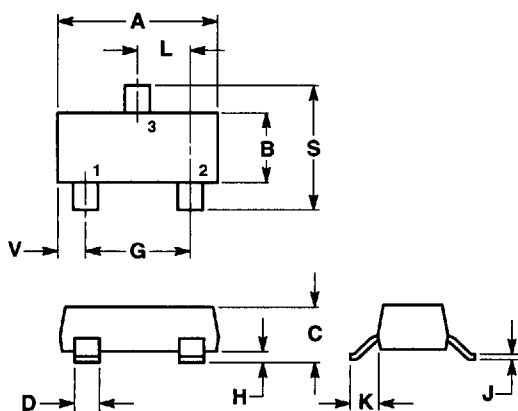


Figure 1. Recovery Time Equivalent Test Circuit

OUTLINE DIMENSIONS

NOTES

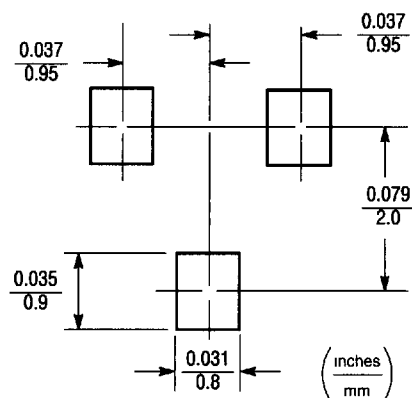
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH
3. MAXIMUM LEAD THICKNESS INCLUDES LEAD FINISH THICKNESS. MINIMUM LEAD THICKNESS IS THE MINIMUM THICKNESS OF BASE MATERIAL.



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	0.0830	0.0984	2.10	2.50
V	0.0177	0.0236	0.45	0.60

STYLE 8*

- 1 ANODE
- 2 NO CONNECTION
- 3 CATHODE



SOT-23 Footprint

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

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