

Switching Diode

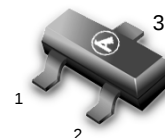
This switching diode has the following features:

- 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

BAS116LT1



CASE 318-08, 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	$I_{FM(surge)}$	500	mAdc

DEVICE MARKING

BAS116LT1 = JV

THERMAL CHARACTERISTICS

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

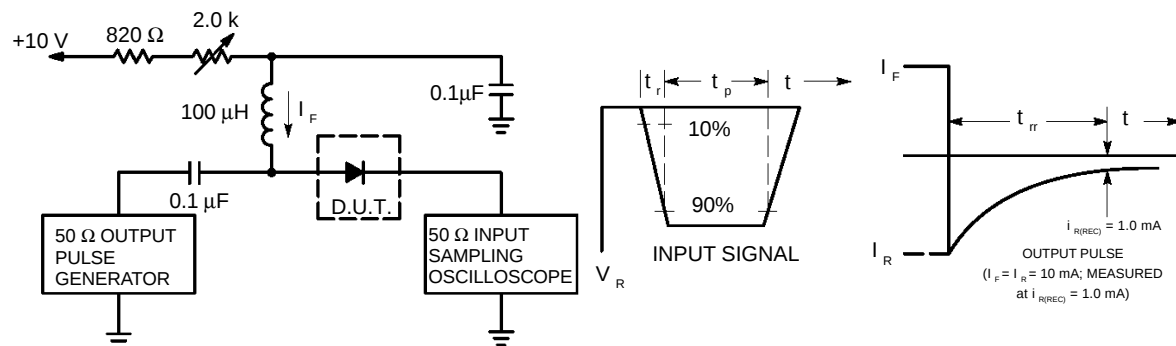
Characteristic	Symbol	Min	Max	Unit
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OFF CHARACTERISTICS

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

1. FR-5 = $1.0 \times 0.75 \times 0.062 \text{ in.}$

2. Alumina = $0.4 \times 0.3 \times 0.024 \text{ in.}$ 99.5% alumina.

BAS116LT1


Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10mA.

2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10mA.

3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit