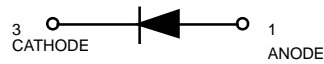
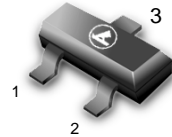


# Switching Diode



## BAS16LT1



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

BAS16LT1 = A6

### 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 $25^\circ\text{C}$		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 $25^\circ\text{C}$		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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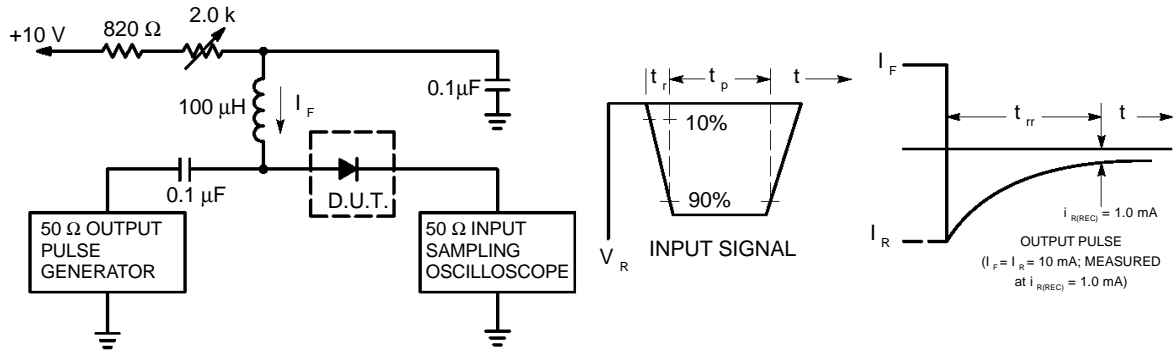
### OFF CHARACTERISTICS

Reverse Voltage Leakage Current ( $V_R = 75\text{Vdc}$ )	$I_R$	—	1.0	$\mu\text{Adc}$
( $V_R = 75\text{Vdc}, T_J = 150^\circ\text{C}$ )		—	50	
( $V_R = 25\text{Vdc}, T_J = 150^\circ\text{C}$ )		—	30	
Reverse Breakdown Voltage ( $I_{BR} = 100\ \mu\text{Adc}$ )	$V_{(BR)}$	75	—	Vdc
Forward Voltage ( $I_F = 1.0\ \text{mAdc}$ )	$V_F$	—	715	mV
( $I_F = 10\ \text{mAdc}$ )		—	855	
( $I_F = 50\ \text{mAdc}$ )		—	1000	
( $I_F = 150\ \text{mAdc}$ )		—	1250	
Diode Capacitance ( $V_R = 0, f = 1.0\ \text{MHz}$ )	$C_D$	—	2.0	pF
Forward Recovery Voltage ( $I_F = 10\ \text{mAdc}, t_r = 20\text{ns}$ )	$V_{FR}$	—	1.75	Vdc
Reverse Recovery Time ( $I_F = I_R = 10\ \text{mAdc}, R_L = 50\ \Omega$ )	$t_{rr}$	—	6.0	ns
Stored Charge ( $I_F = 10\ \text{mAdc}$ to $V_R = 5.0\text{Vdc}, R_L = 500\ \Omega$ )	$Q_S$	—	45	pC

1. FR-5 = 1.0 x 0.75 x 0.062 in.

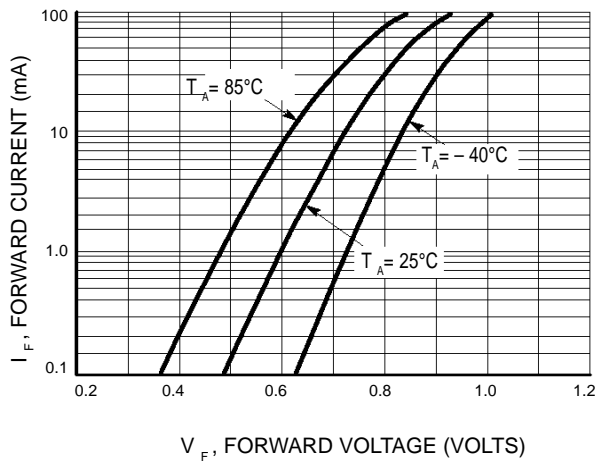
2. Alumina = 0.4 x 0.3 x 0.024 in. 99.5% alumina.

**BAS16LT1**

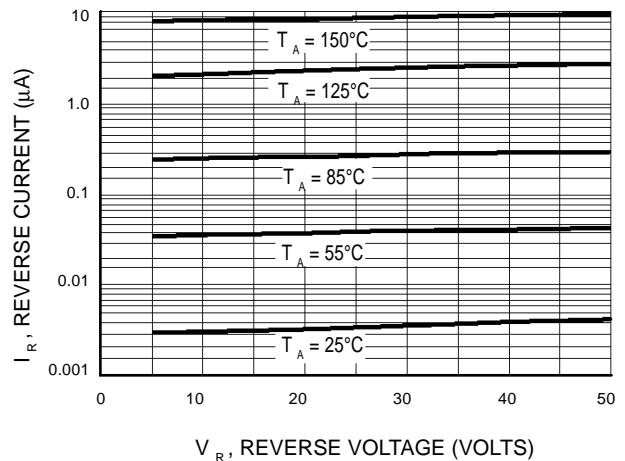


- Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current ( $I_F$ ) of 10 mA.  
 2. Input pulse is adjusted so  $I_{R(peak)}$  is equal to 10 mA.  
 3.  $t_p \gg t_{rr}$

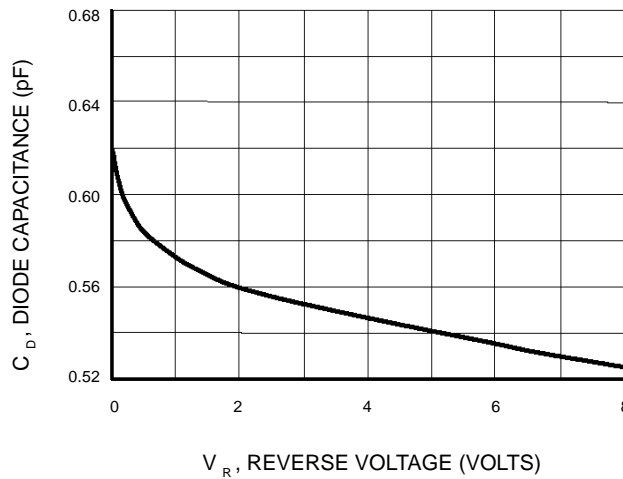
**Figure 1. Recovery Time Equivalent Test Circuit**



**Figure 2. Forward Voltage**



**Figure 3. Leakage Current**



**Figure 4. Capacitance**