

Monolithic Dual Switching Diode

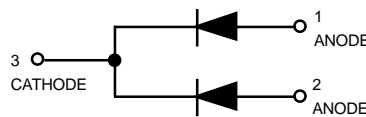
This switching diode has the following features:

- Low Leakage Current Applications
- Medium Speed Switching Times
- Available in 8 mm Tape and Reel
 - Use BAV170LT1 to order the 7 inch/3,000 unit reel
 - Use BAV170LT3 to order the 13 inch/10,000 unit reel

BAV170LT1



CASE 318-08, STYLE 9
SOT-23 (TO-236AB)



MAXIMUM RATINGS

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	70	Vdc
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 ⁽¹⁾ $T_A = 25^\circ\text{C}$ Derate above 25°C	P_D	225	mW
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	mW
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	417	$^\circ\text{C/W}$
Junction and Storage Temperature	T_J, T_{stg}	-55 to +150	$^\circ\text{C}$

DEVICE MARKING

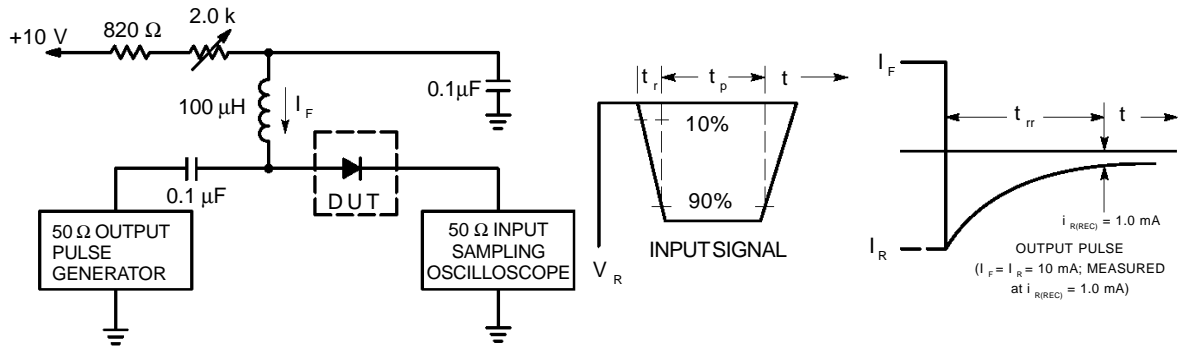
BAV170LT1 = JX

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{(BR)} = 100 \mu\text{Adc}$)	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ($V_R = 70 \text{ Vdc}$)	I_R	—	5.0	nAdc
Reverse Voltage Leakage Current ($V_R = 70 \text{ Vdc}, T_J = 150^\circ\text{C}$)		—	80	nAdc
Diode Capacitance ($V_R = 0 \text{ V}, f = 1.0 \text{ MHz}$)	C_D	—	2.0	pF
Forward Voltage ($I_F = 1.0 \text{ mAdc}$)	V_F	—	900	mVdc
Forward Voltage ($I_F = 10 \text{ mAdc}$)		—	1000	mVdc
Forward Voltage ($I_F = 50 \text{ mAdc}$)		—	1100	mVdc
Forward Voltage ($I_F = 150 \text{ mAdc}$)		—	1250	mVdc
Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}$) (Figure 1)	$R_L = 100 \Omega$ 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.



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

Figure 1. Recovery Time Equivalent Test Circuit