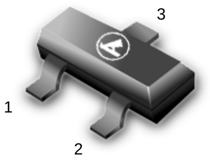
Monolithic Dual Switching Diode

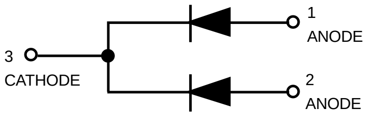
BAV170LT1

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



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

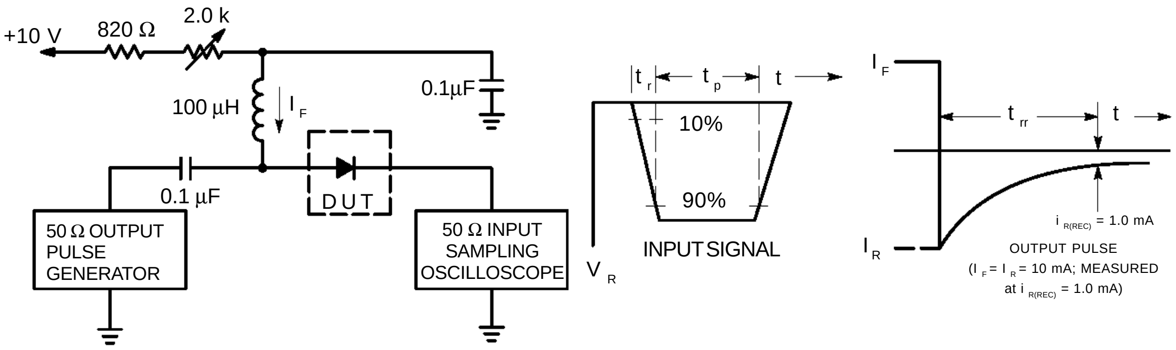
DEVICE MARKING

BAV170LT1 = JX

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (EACH DIODE)

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



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