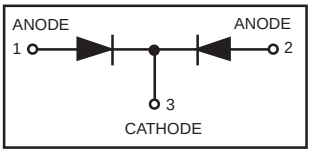
Dual Switching Diodes

BAV70WT1

CASE 419–04, STYLE 5
SOT–323 (SC–70)



DEVICE MARKING

BAV70WT1 = A4

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Max	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	200	mW
Derate above 25°C		1.6	mW/°C
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.625	°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	TJ, Tstg	–55 to +150	°C

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

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_{R1}	—	5.0	µAdc
(V_R = 50 Vdc)	I_{R2}	—	100	nAdc
Diode Capacitance (V_R = 0, f = 1.0 MHz)	C_D	—	1.5	pF
Forward Voltage	V_F			mVdc
(I_F = 1.0 mAdc)		—	715	
(I_F = 10 mAdc)		—	855	
(I_F = 50 mAdc)		—	1000	
(I_F = 150 mAdc)		—	1250	
Reverse Recovery Time (I_F= I_R=10 mAdc, R_L= 100Ω, $I_{R(REC)}$= 1.0 mAdc) (Figure 1)	t_{rr}	—	6.0	ns
Forward Recovery Voltage (I_F = 10 mAdc, t_r = 20 ns) (Figure 2)	V_{RF}	—	1.75	V

1. FR–5 = 1.0 × 0.75 × 0.062 in.
2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.
3.For each individual diode while the seeond diode is unbiased.

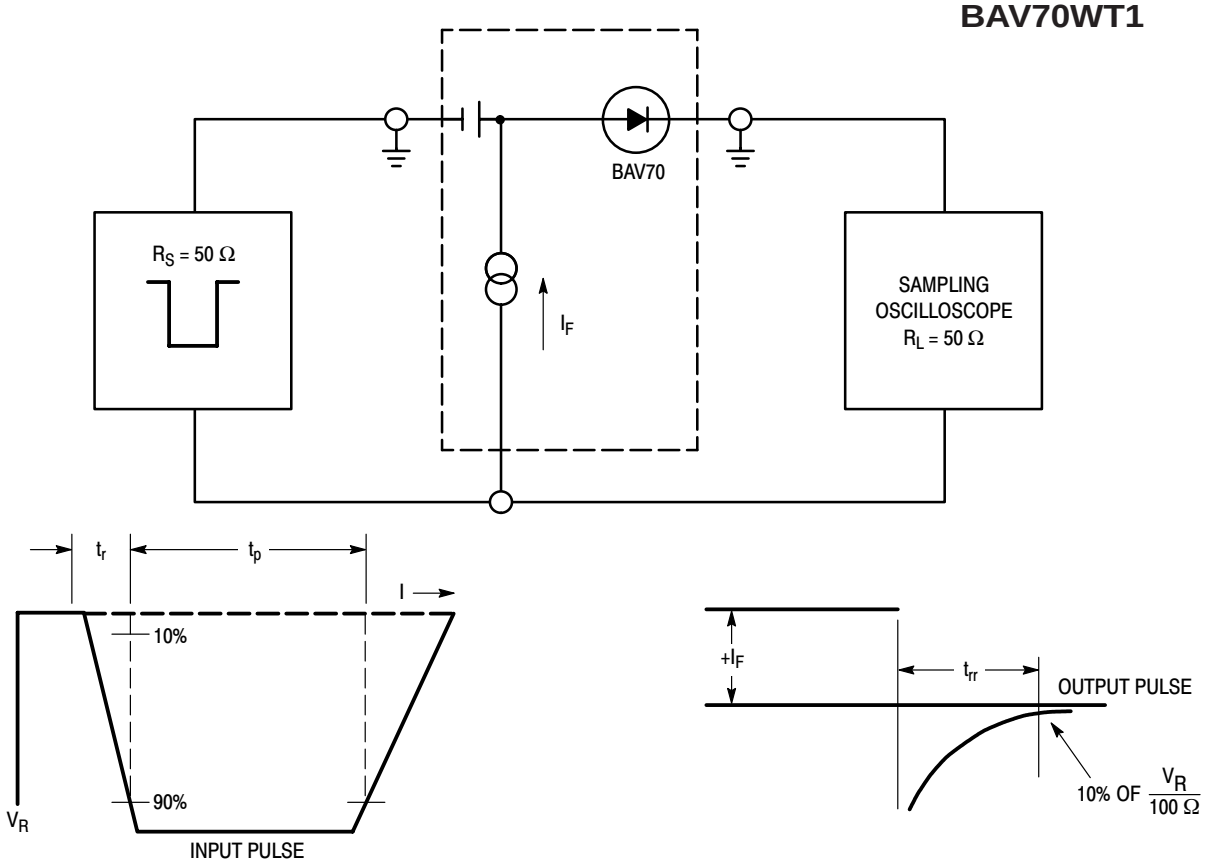


Figure 1. Recovery Time Equivalent Test Circuit

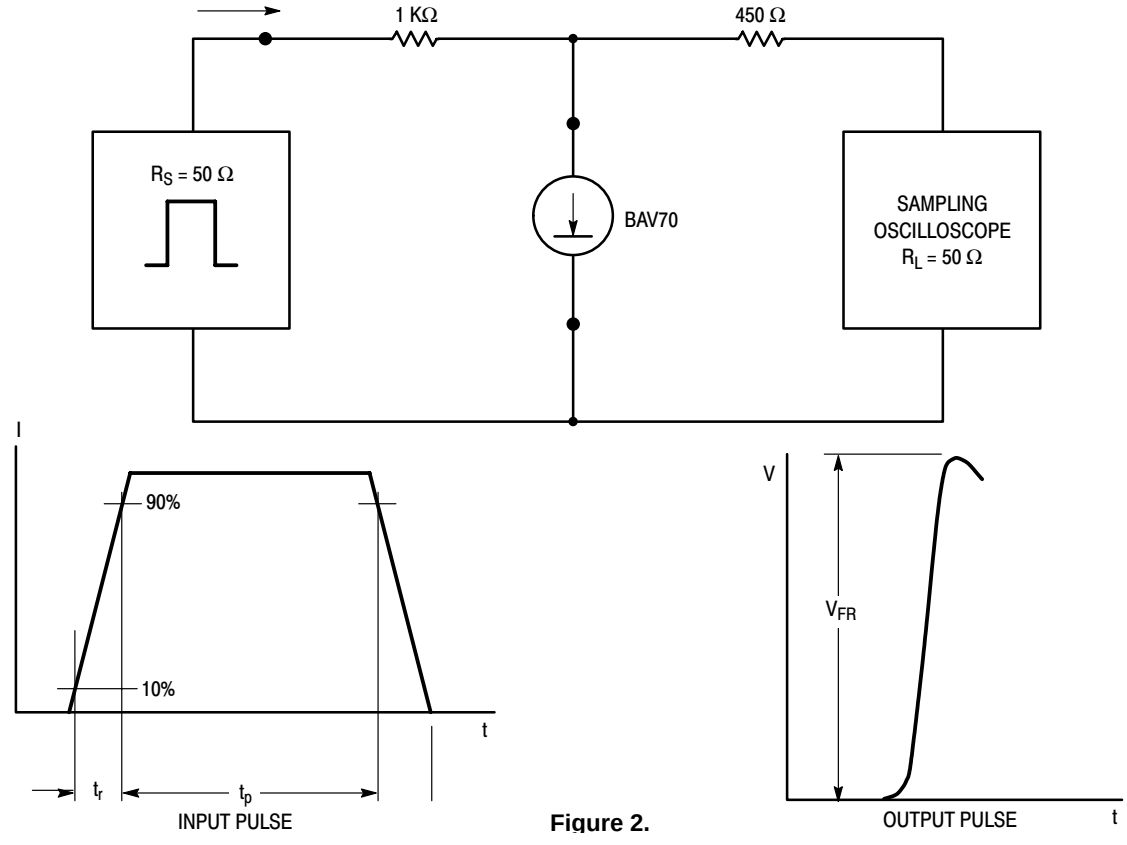


Figure 2.

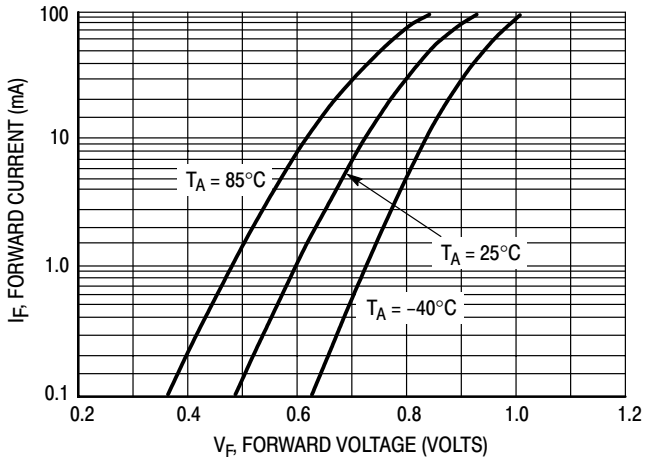


Figure 3. Forward Voltage

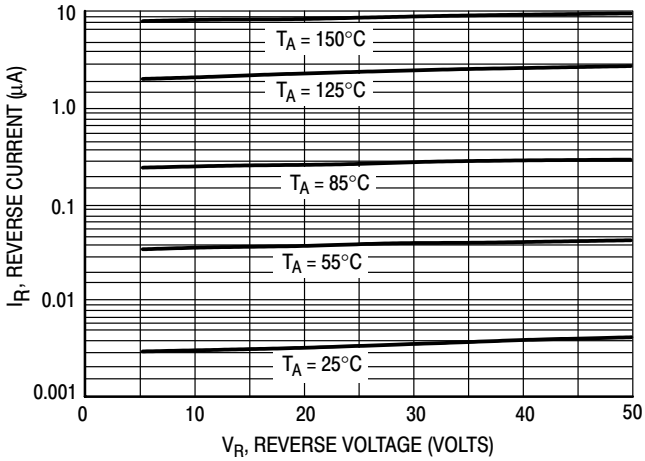


Figure 4. Leakage Current

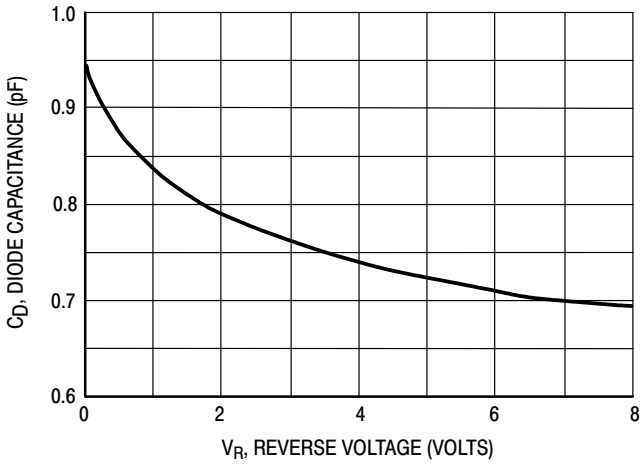


Figure 5. Capacitance