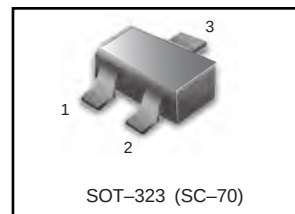


Dual Switching Diodes

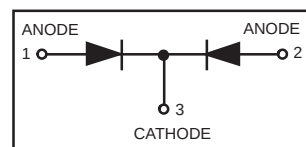
FEATURE

- Small plastic SMD package.
- For high-speed switching applications.
- We declare that the material of product compliance with RoHS requirements.



DEVICE MARKING AND ORDERING INFORMATION

Device	Marking	Shipping
FDS70U	A4	3000/Tape&Reel



MAXIMUM RATINGS ($T_A = 25^\circ\text{C}$)

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⁾ $T_A = 25^\circ\text{C}$	P_D	200	mW
Derate above 25°C		1.6	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient	$R_{\theta JA}$	0.625	$^\circ\text{C/W}$
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
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{Adc}$)	$V_{(BR)}$	70	—	Vdc
Reverse Voltage Leakage Current ($V_R = 70 \text{ Vdc}$)	I_{R1}	—	5.0	μAdc
($V_R = 50 \text{ Vdc}$)	I_{R2}	—	100	nAdc
Diode Capacitance ($V_R = 0, f = 1.0 \text{ MHz}$)	C_D	—	1.5	pF
Forward Voltage ($I_F = 1.0 \text{ mAdc}$)	V_F	—	715	mVdc
($I_F = 10 \text{ mAdc}$)		—	855	
($I_F = 50 \text{ mAdc}$)		—	1000	
($I_F = 150 \text{ mAdc}$)		—	1250	
Reverse Recovery Time ($I_F = I_R = 10 \text{ mAdc}, R_L = 100\Omega, I_{R(REC)} = 1.0 \text{ mAdc}$) (Figure 1)	t_{rr}	—	6.0	ns
Forward Recovery Voltage ($I_F = 10 \text{ mAdc}, t_r = 20 \text{ ns}$) (Figure 2)	V_{RF}	—	1.75	V

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.

3. For each individual diode while the second diode is unbiased.

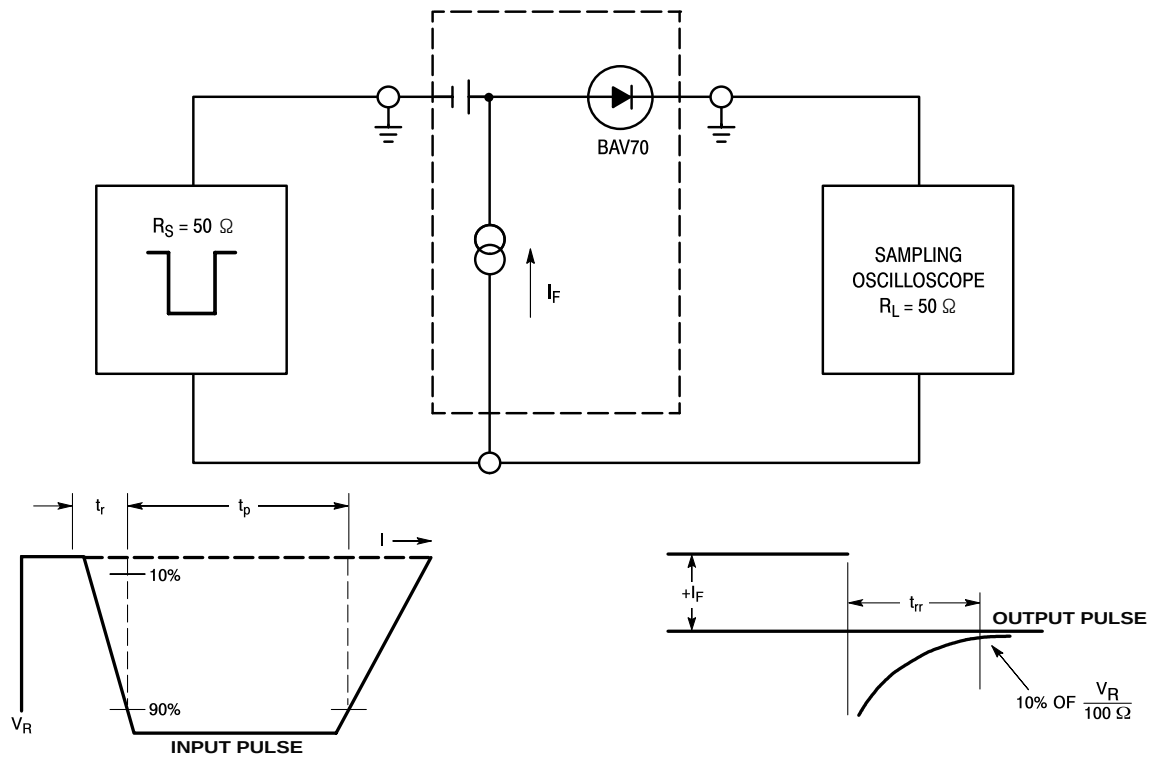


Figure 1. Recovery Time Equivalent Test Circuit

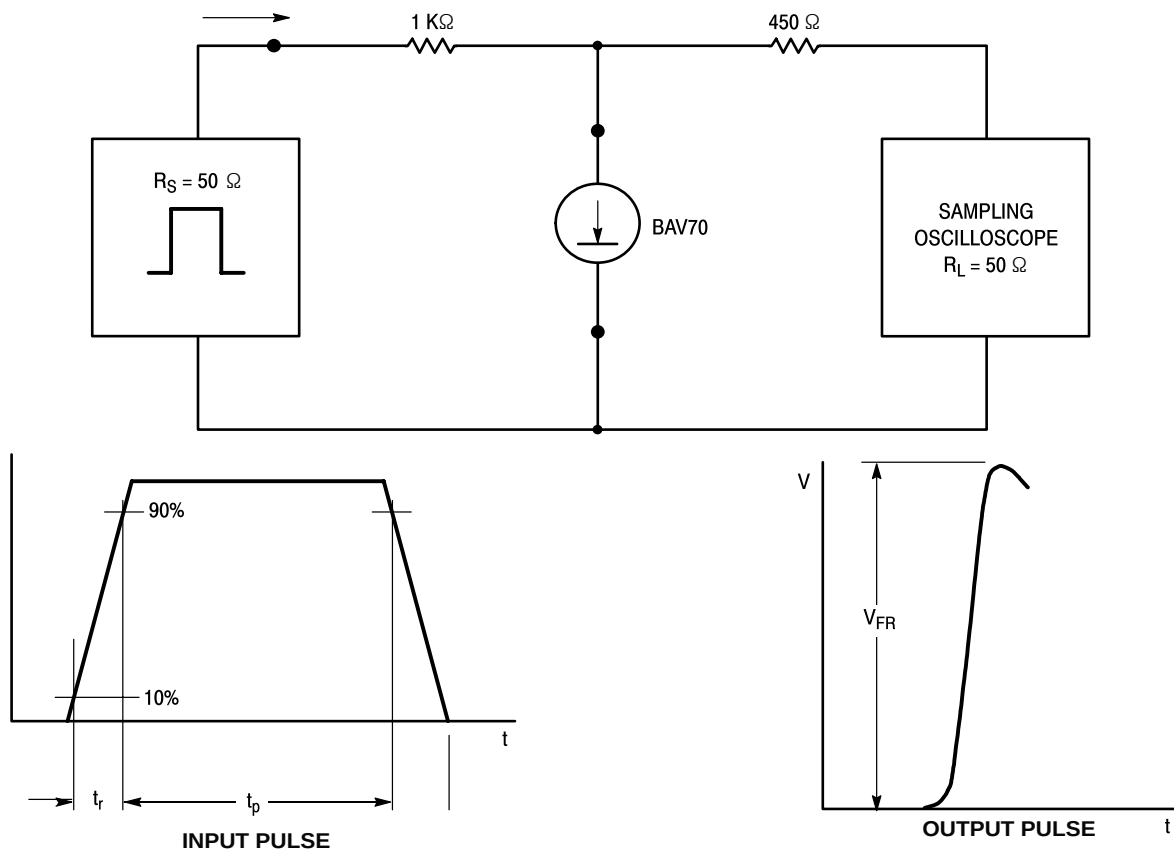


Figure 2. Forward Recovery Voltage Equivalent Test Circuit

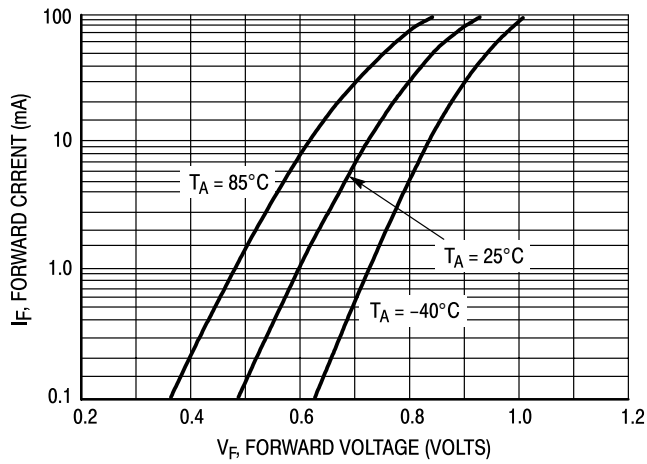


Figure 3. Forward Voltage

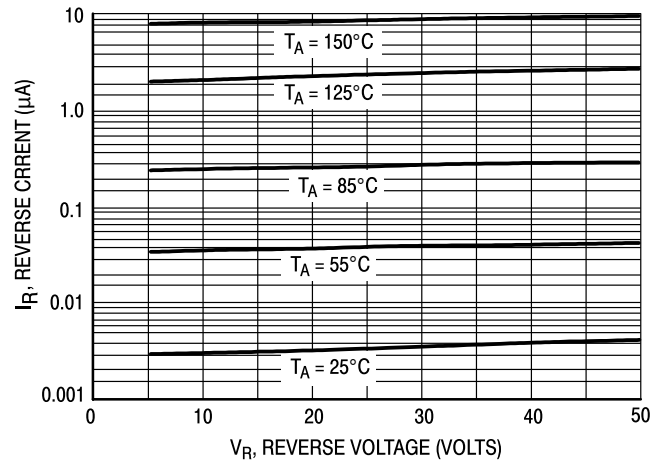


Figure 4. Leakage Current

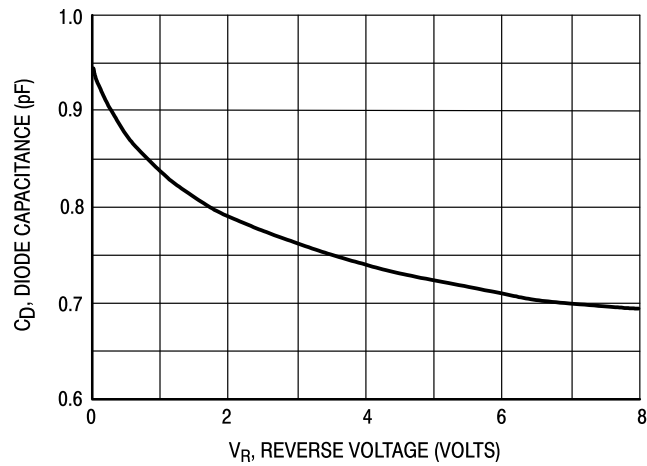


Figure 5. Capacitance



1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

DIM	INCHES		MILLIMETERS	
	MIN	MAX	MIN	MAX
A	0.071	0.087	1.80	2.20
B	0.045	0.053	1.15	1.35
C	0.032	0.040	0.80	1.00
D	0.012	0.016	0.30	0.40
G	0.047	0.055	1.20	1.40
H	0.000	0.004	0.00	0.10
J	0.004	0.010	0.10	0.25
K	0.017 REF		0.425 REF	
L	0.026 BSC		0.650 BSC	
N	0.028 REF		0.700 REF	
S	0.079	0.095	2.00	2.40

