

BAV70WT1

Preferred Device

Dual Switching Diode Common Cathode

Features

- Pb-Free Package is Available

MAXIMUM RATINGS (T_A = 25°C)

Rating	Symbol	Max	Unit
Reverse Voltage	V _R	70	V
Forward Current	I _F	200	mA
Peak Forward Surge Current	I _{FM(surge)}	500	mA

Stresses exceeding Maximum Ratings may damage the device. Maximum Ratings are stress ratings only. Functional operation above the Recommended Operating Conditions is not implied. Extended exposure to stresses above the Recommended Operating Conditions may affect device reliability.

THERMAL CHARACTERISTICS

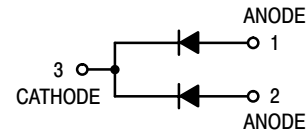
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) T _A = 25°C Derate above 25°C	P _D	200 1.6	mW mW/°C
Thermal Resistance, Junction-to-Ambient	R _{θJA}	625	°C/W
Total Device Dissipation Alumina Substrate (Note 2) T _A = 25°C Derate above 25°C	P _D	300 2.4	mW mW/°C
Thermal Resistance, Junction-to-Ambient	R _{θJA}	417	°C/W
Junction and Storage Temperature	T _J , T _{stg}	-55 to +150	°C

- FR-5 = 1.0 × 0.75 × 0.062 in.
- Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

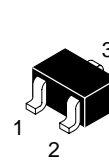


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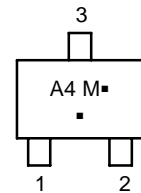
<http://onsemi.com>



MARKING DIAGRAM



SOT-323
CASE 419
STYLE 5



A4 = Specific Device Code
M = Date Code
▪ = Pb-Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
BAV70WT1	SOT-323	3000/Tape & Reel
BAV70WT1G	SOT-323 (Pb-Free)	3000/Tape & Reel

†For information on tape and reel specifications, including part orientation and tape sizes, please refer to our Tape and Reel Packaging Specifications Brochure, BRD8011/D.

Preferred devices are recommended choices for future use and best overall value.

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

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage ($I_{BR} = 100 \mu\text{A}$)	$V_{(BR)}$	70	–	V
Reverse Voltage Leakage Current (Note 3) ($V_R = 70 \text{ V}$) ($V_R = 50 \text{ V}$)	I_R	– –	5.0 100	μA nA
Forward Voltage ($I_F = 1.0 \text{ mA}$) ($I_F = 10 \text{ mA}$) ($I_F = 50 \text{ mA}$) ($I_F = 150 \text{ mA}$)	V_F	– – – –	715 855 1000 1250	mV
Diode Capacitance ($V_R = 0 \text{ V}$, $f = 1.0 \text{ MHz}$)	C_D	–	1.5	pF
Reverse Recovery Time ($I_F = I_R = 10 \text{ mA}$, $R_L = 100 \Omega$, $I_{R(REC)} = 1.0 \text{ mA}$) (Figure 1)	t_{rr}	–	6.0	ns
Forward Recovery Voltage ($I_F = 10 \text{ mA}$, $t_r = 20 \text{ ns}$) (Figure 2)	V_{RF}	–	1.75	V

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

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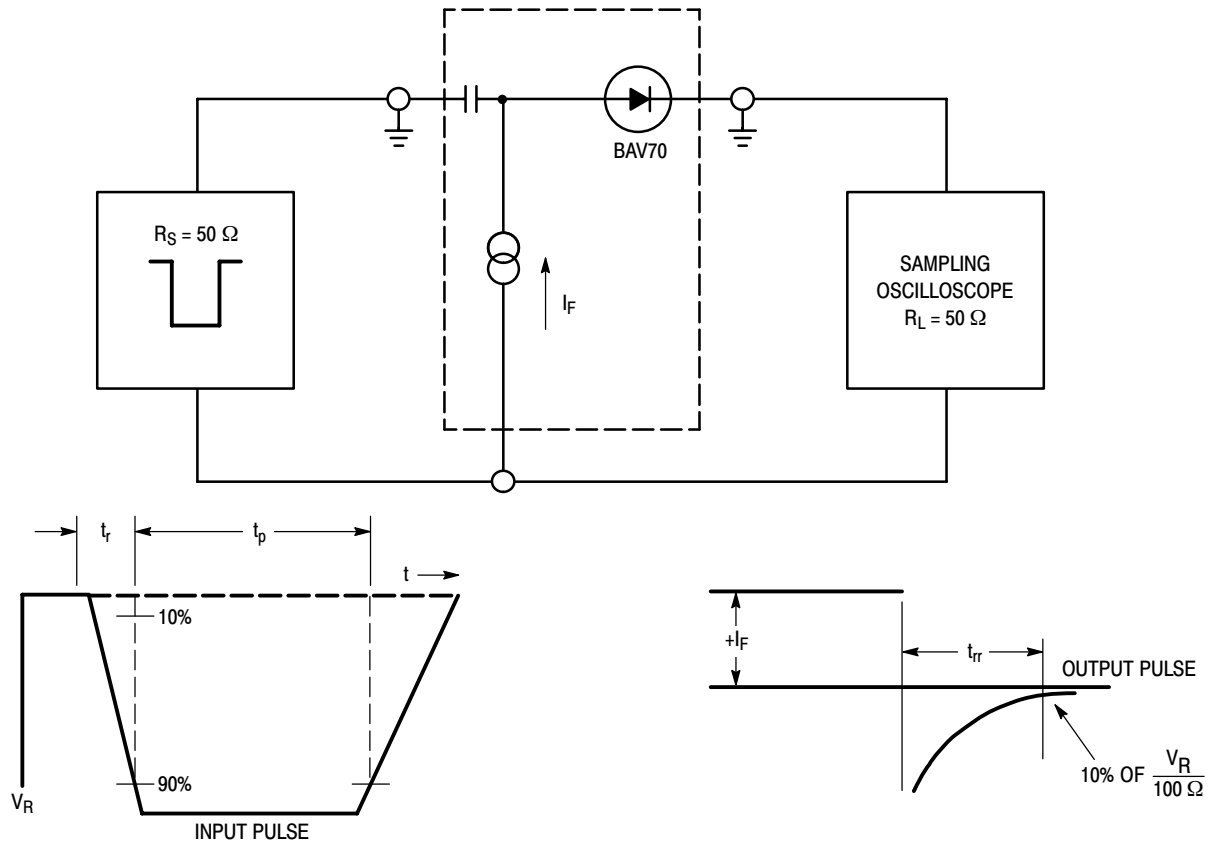


Figure 1. Recovery Time Equivalent Test Circuit

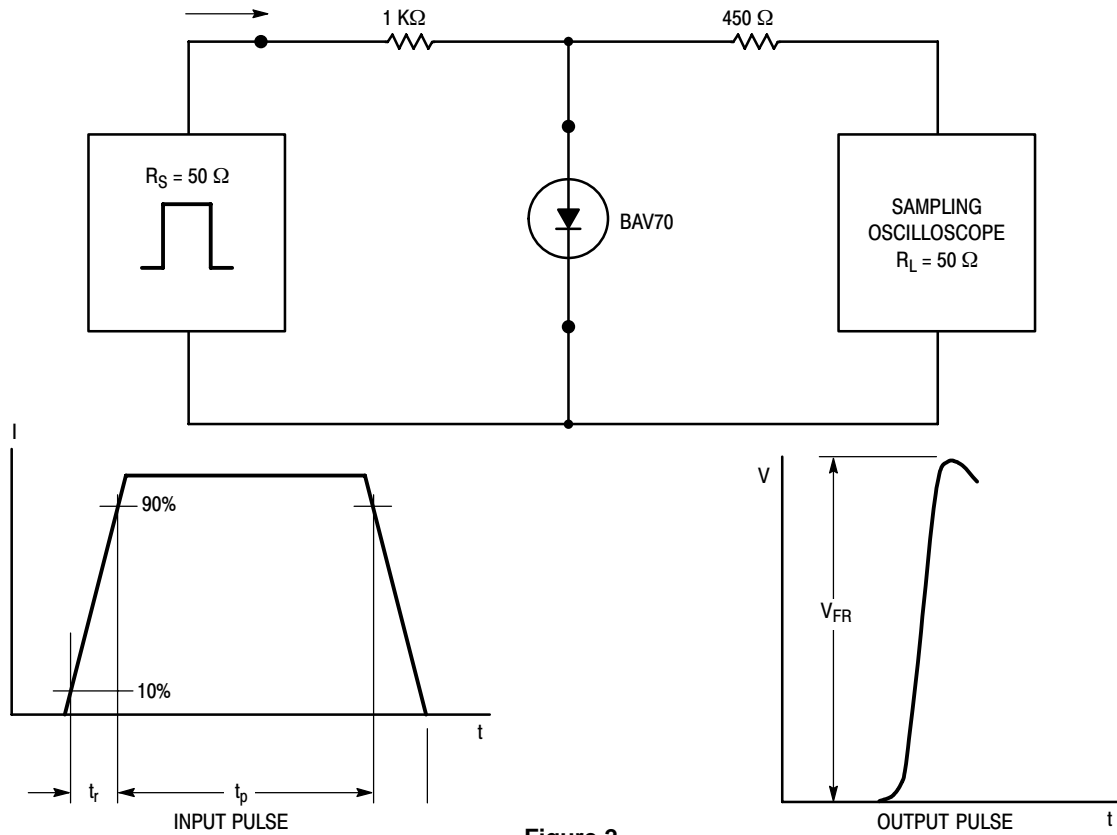


Figure 2.

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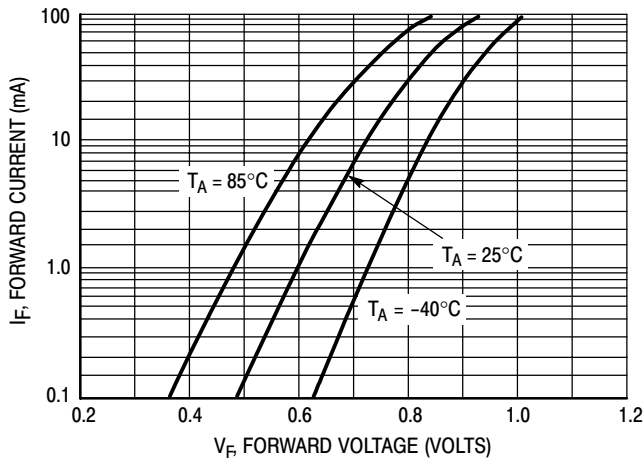


Figure 3. Forward Voltage

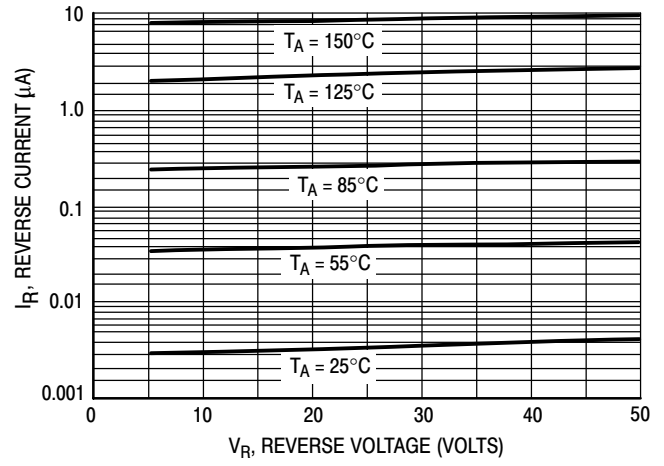


Figure 4. Leakage Current

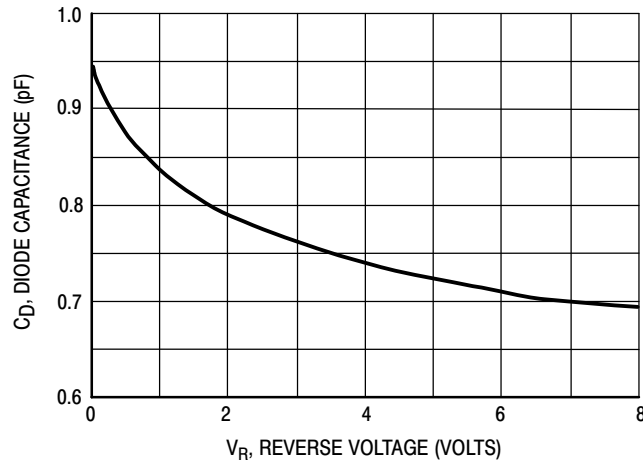
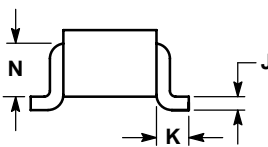
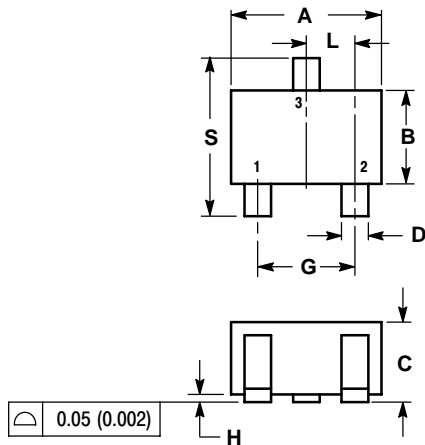


Figure 5. Capacitance

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PACKAGE DIMENSIONS

SOT-323 (SC-70)
CASE 419-04
ISSUE L



NOTES:

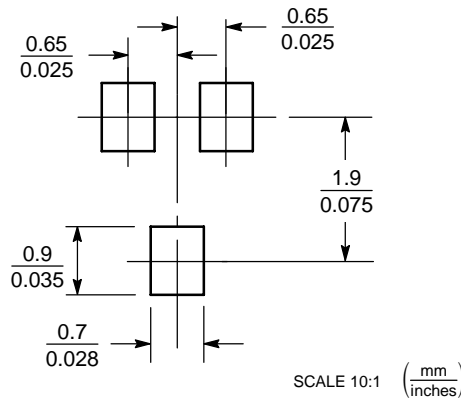
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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

STYLE 5:

- PIN 1. ANODE
- ANODE
- CATHODE

SOLDERING FOOTPRINT*



*For additional information on our Pb-Free strategy and soldering details, please download the ON Semiconductor Soldering and Mounting Techniques Reference Manual, SOLDERRM/D.

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