

# BAV70WT1

Preferred Device

## Dual Switching Diode

### Features

- Pb-Free Package is Available

### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

Rating	Symbol	Max	Unit
Reverse Voltage	V <sub>R</sub>	70	Vdc
Forward Current	I <sub>F</sub>	200	mAdc
Peak Forward Surge Current	I <sub>FM(surge)</sub>	500	mAdc

Maximum ratings are those values beyond which device damage can occur. Maximum ratings applied to the device are individual stress limit values (not normal operating conditions) and are not valid simultaneously. If these limits are exceeded, device functional operation is not implied, damage may occur and reliability may be affected.

### THERMAL CHARACTERISTICS

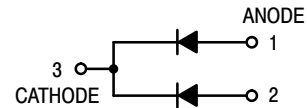
Characteristic	Symbol	Max	Unit
Total Device Dissipation FR-5 Board (Note 1) T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	200	mW
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	0.625	°C/W
Total Device Dissipation Alumina Substrate (Note 2) T <sub>A</sub> = 25°C Derate above 25°C	P <sub>D</sub>	300	mW
Thermal Resistance, Junction-to-Ambient	R <sub>θJA</sub>	417	°C/W
Junction and Storage Temperature	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150	°C

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

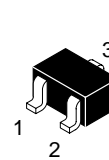


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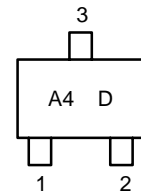
<http://onsemi.com>



### MARKING DIAGRAM



SOT-323  
CASE 419  
STYLE 5



A4 = Specific Device Code  
D = Date Code

### 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
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{BR} = 100 \mu\text{A}$ )	$V_{(BR)}$	70	–	Vdc
Reverse Voltage Leakage Current (Note 3) ( $V_R = 70 \text{ Vdc}$ ) ( $V_R = 50 \text{ Vdc}$ )	$I_R$ $I_R$	– –	5.0 100	$\mu\text{A}$ $\text{nA}$
Diode Capacitance ( $V_R = 0, f = 1.0 \text{ MHz}$ )	$C_D$	–	1.5	pF
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	mVdc
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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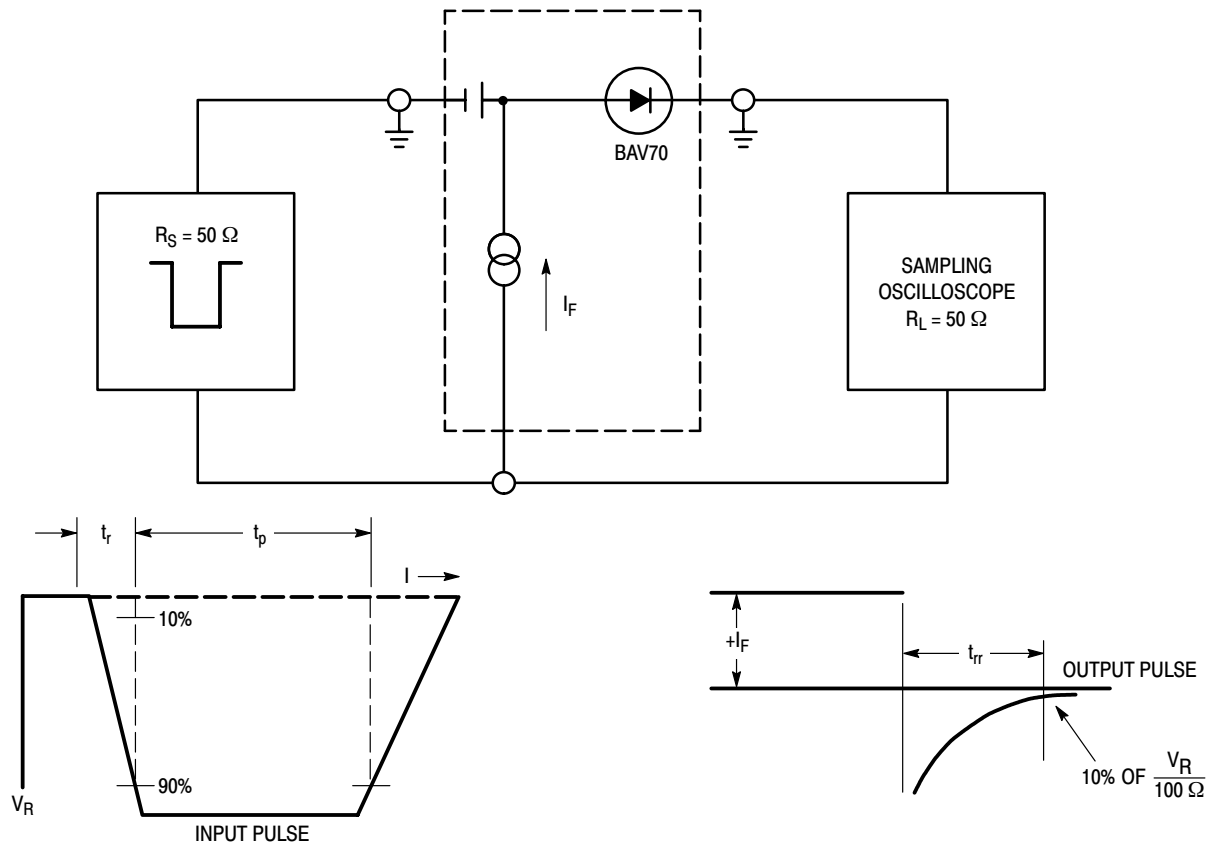


Figure 1. Recovery Time Equivalent Test Circuit

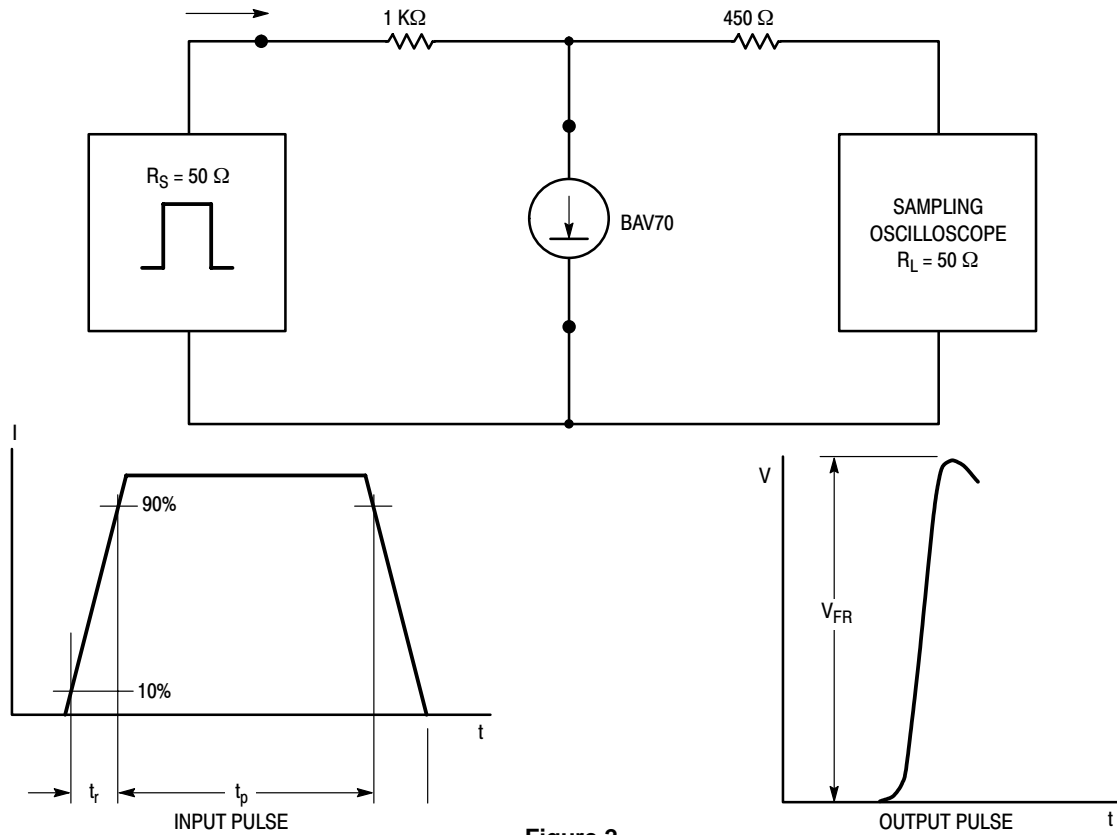


Figure 2.

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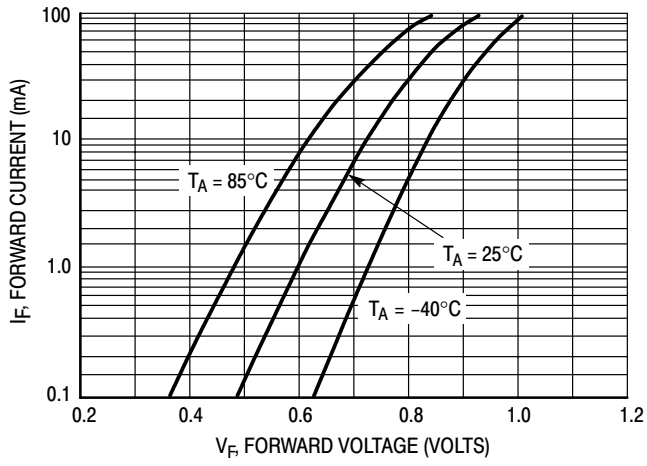


Figure 3. Forward Voltage

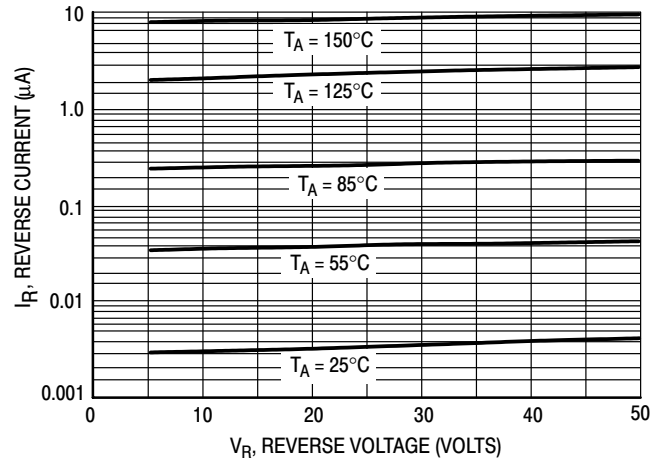


Figure 4. Leakage Current

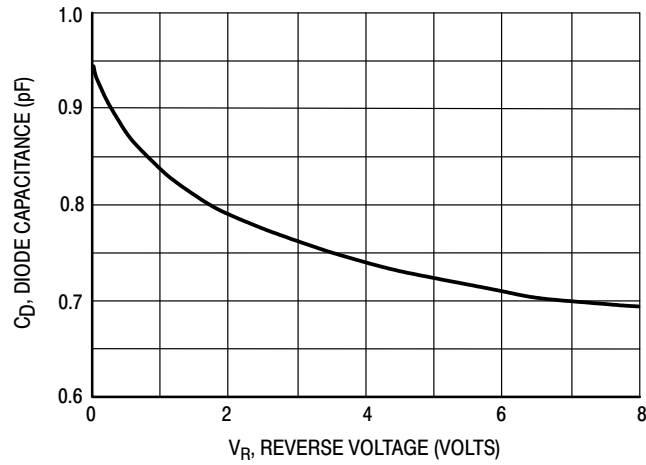
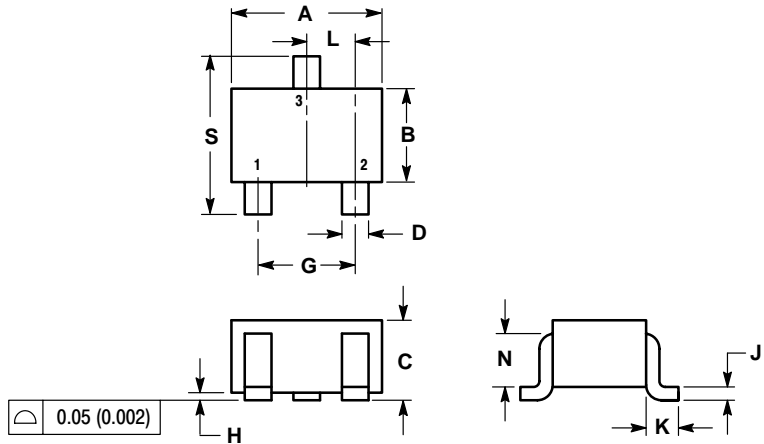


Figure 5. Capacitance

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## PACKAGE DIMENSIONS

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



NOTES:

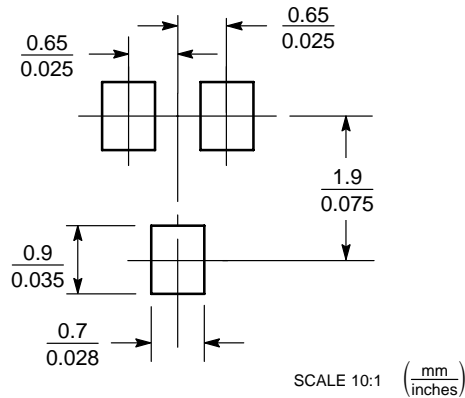
1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.
2. CONTROLLING DIMENSION: INCH.

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
- 2. ANODE
- 3. 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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