

# BAV70TT1

Preferred Device

## Dual Switching Diode

### Features

- Pb-Free Package May be Available.\* The G-Suffix Denotes a Pb-Free Lead Finish



ON Semiconductor®

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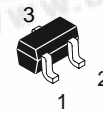
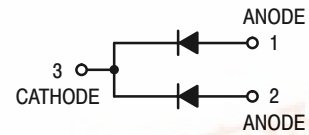
### MAXIMUM RATINGS (T<sub>A</sub> = 25°C)

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

### THERMAL CHARACTERISTICS

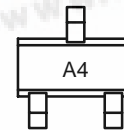
Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR-4 Board (1) T <sub>A</sub> = 25°C Derated above 25°C	P <sub>D</sub>	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient (1)	R <sub>θJA</sub>	555	°C/W
Total Device Dissipation, FR-4 Board (2) T <sub>A</sub> = 25°C Derated above 25°C	P <sub>D</sub>	360 2.9	mW mW/°C
Thermal Resistance, Junction-to-Ambient (2)	R <sub>θJA</sub>	345	°C/W
Junction and Storage Temperature Range	T <sub>J</sub> , T <sub>stg</sub>	-55 to +150	°C

- FR-4 @ Minimum Pad
- FR-4 @ 1.0 × 1.0 Inch Pad



CASE 463  
SOT-416/SC-75  
STYLE 3

### DEVICE MARKING



### ORDERING INFORMATION

Device	Package	Shipping†
BAV70TT1	SOT-416	3000 / Tape & Reel
BAV70TT1G	SOT-416 (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.

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

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



# BAV70TT1

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{(BR)} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	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	$\mu\text{Adc}$ $\text{nAdc}$
Diode Capacitance ( $V_R = 0, f = 1.0 \text{ MHz}$ )	$C_D$	–	1.5	pF
Forward Voltage ( $I_F = 1.0 \text{ mAdc}$ ) ( $I_F = 10 \text{ mAdc}$ ) ( $I_F = 50 \text{ mAdc}$ ) ( $I_F = 150 \text{ mAdc}$ )	$V_F$	– – – –	715 855 1000 1250	mVdc
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

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

# BAV70TT1

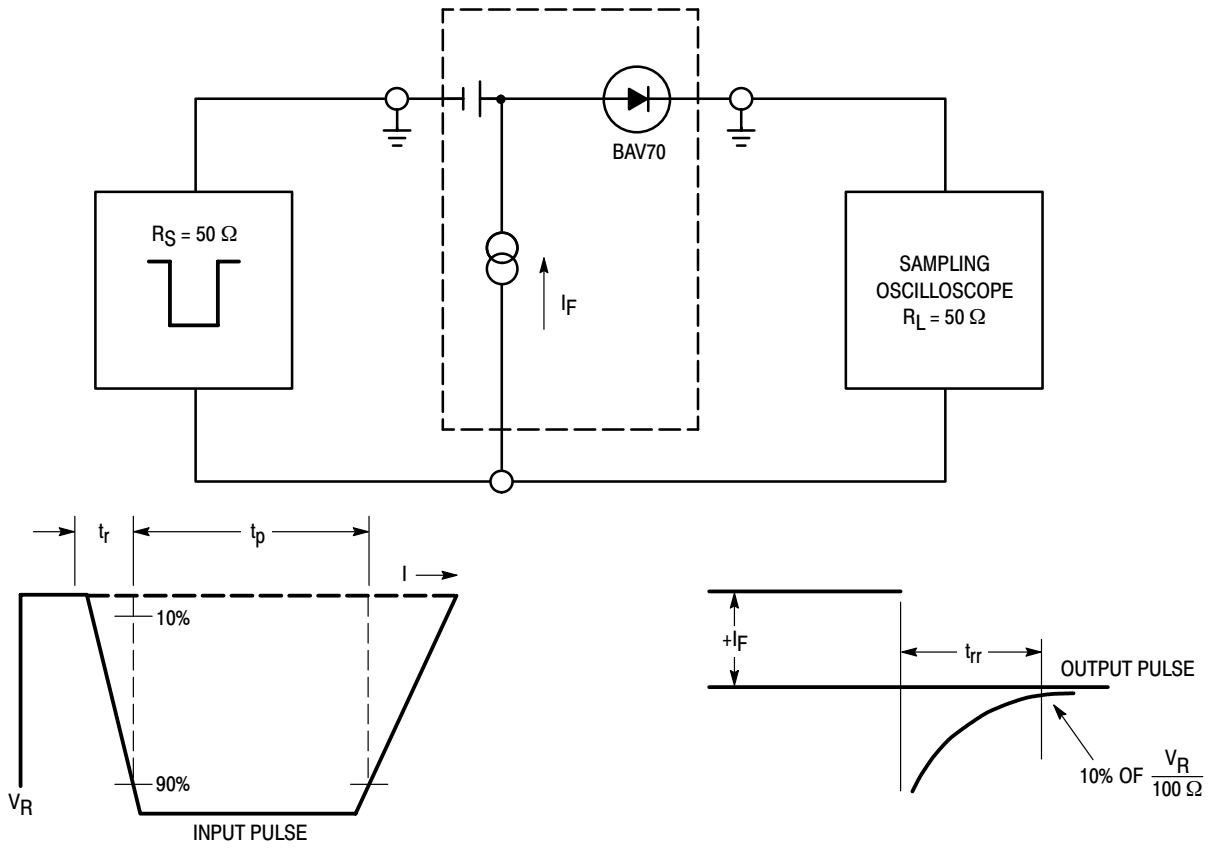


Figure 1. Recovery Time Equivalent Test Circuit

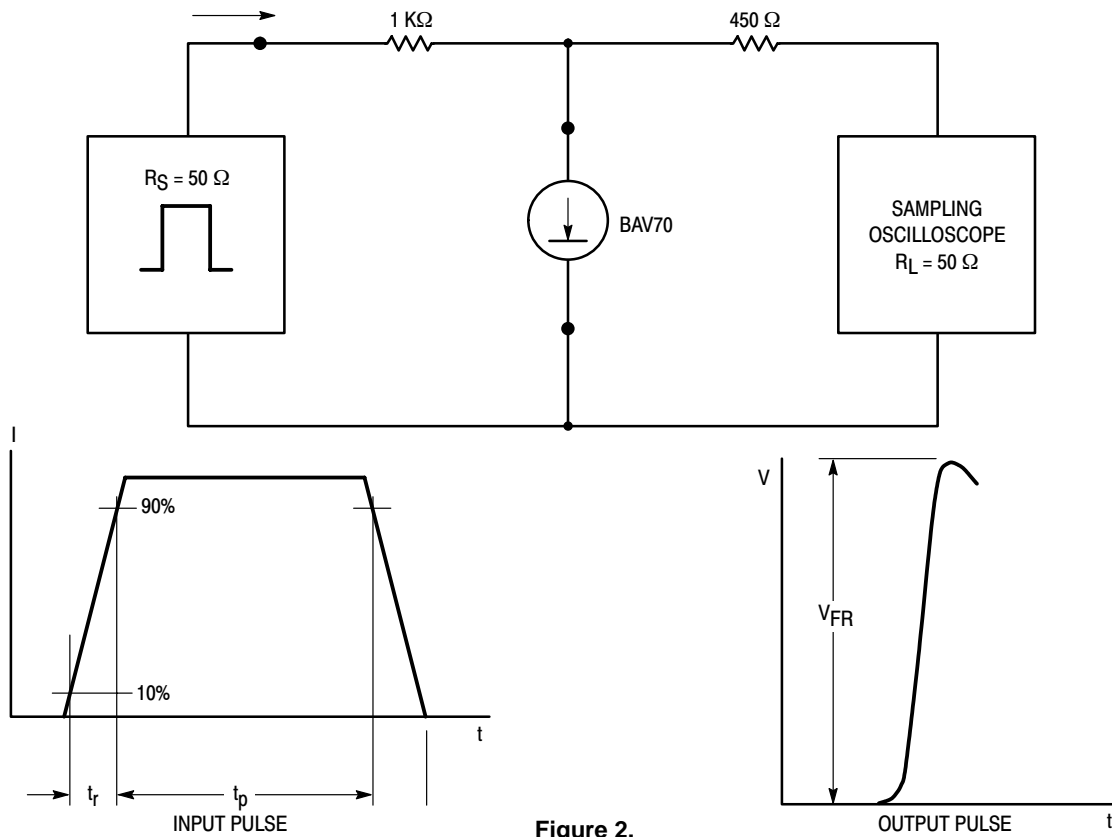


Figure 2.

# BAV70TT1

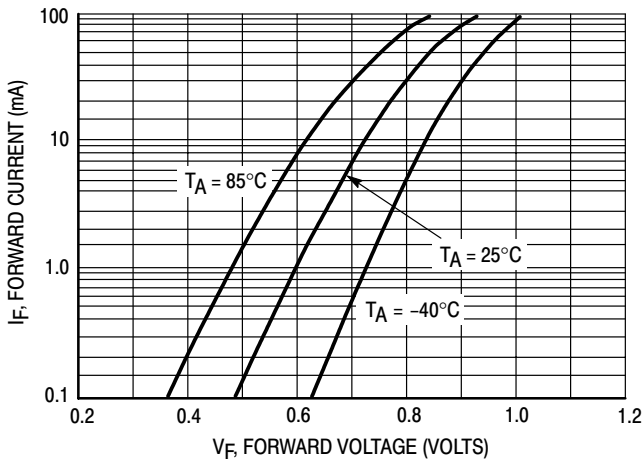


Figure 3. Forward Voltage

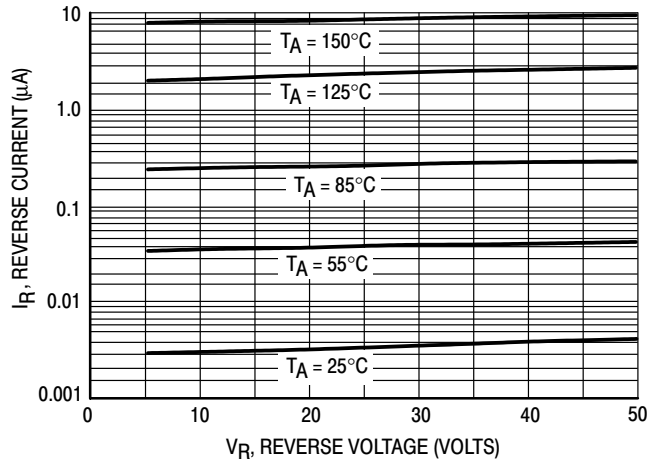


Figure 4. Leakage Current

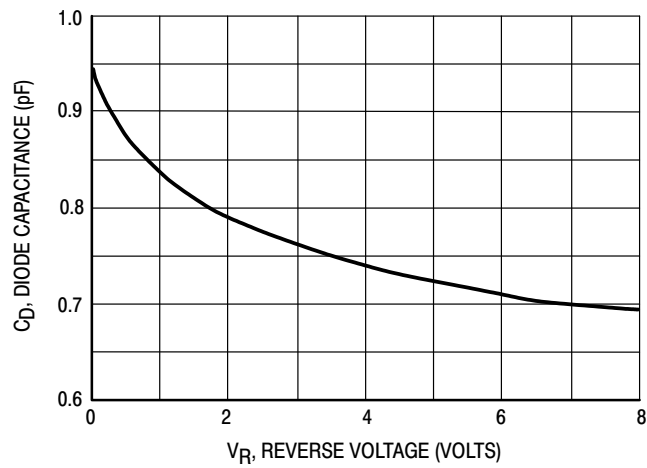


Figure 5. Capacitance

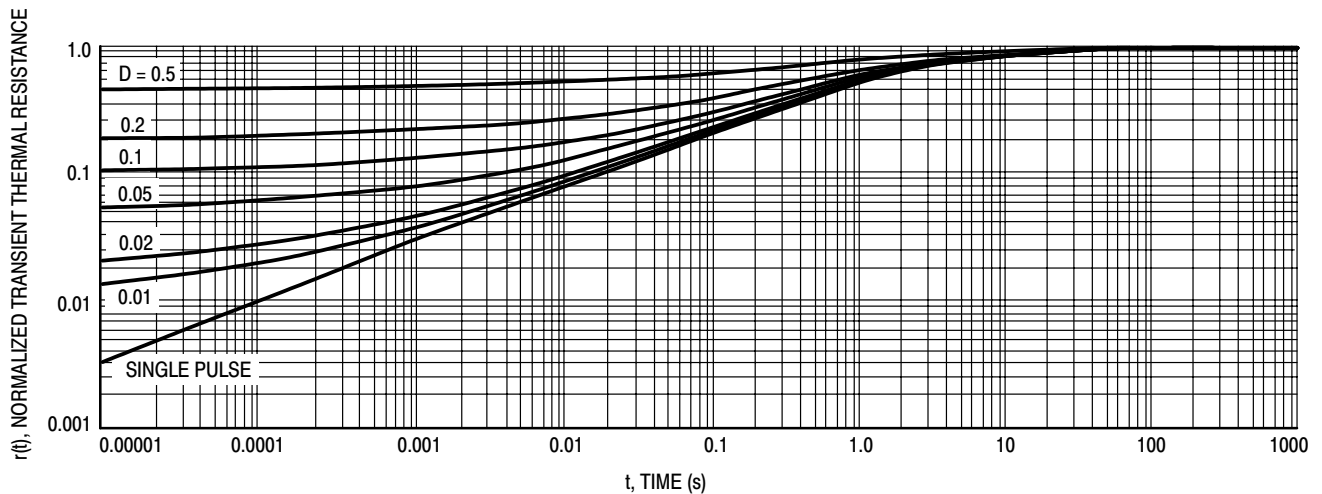


Figure 6. Normalized Thermal Response

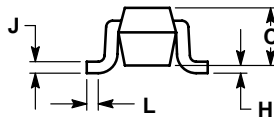
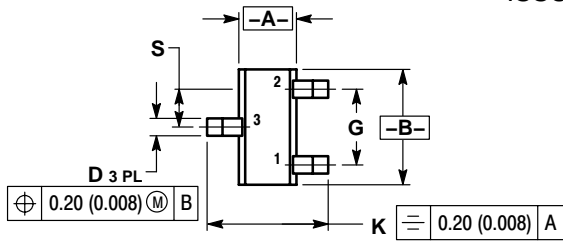
# BAV70TT1

## PACKAGE DIMENSIONS

SC-75 (SC-90, SOT-416)

CASE 463-01

ISSUE C



NOTES:

1. DIMENSIONING AND TOLERANCING PER ANSI Y14.5M, 1982.


2. CONTROLLING DIMENSION: MILLIMETER.

DIM	MILLIMETERS		INCHES	
	MIN	MAX	MIN	MAX
A	0.70	0.90	0.028	0.035
B	1.40	1.80	0.055	0.071
C	0.60	0.90	0.024	0.035
D	0.15	0.30	0.006	0.012
G	1.00 BSC		0.039 BSC	
H	---	0.10	---	0.004
J	0.10	0.25	0.004	0.010
K	1.45	1.75	0.057	0.069
L	0.10	0.20	0.004	0.008
S	0.50 BSC		0.020 BSC	

STYLE 3:

- PIN 1. ANODE
- 2. ANODE
- 3. CATHODE

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