

# BAV70TT1

Preferred Device

## Dual Switching Diode

### Features

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

### 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	$I_{FM}(\text{surge})$	500	mAdc

### THERMAL CHARACTERISTICS

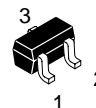
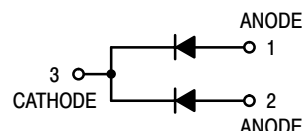
Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR-4 Board (1) $T_A = 25^\circ\text{C}$ Derated above $25^\circ\text{C}$	$P_D$	225	mW
Thermal Resistance, Junction to Ambient (1)	$R_{\theta JA}$	555	$^\circ\text{C}/\text{W}$
Total Device Dissipation, FR-4 Board (2) $T_A = 25^\circ\text{C}$ Derated above $25^\circ\text{C}$	$P_D$	360	mW
Thermal Resistance, Junction-to-Ambient (2)	$R_{\theta JA}$	345	$^\circ\text{C}/\text{W}$
Junction and Storage Temperature Range	$T_J, T_{stg}$	-55 to +150	$^\circ\text{C}$

- FR-4 @ Minimum Pad
- FR-4 @  $1.0 \times 1.0$  Inch Pad



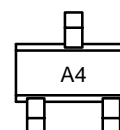
ON Semiconductor®

<http://onsemi.com>



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, SOLDERM/D.

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

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## ELECTRICAL CHARACTERISTICS (T<sub>A</sub> = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage (I <sub>(BR)</sub> = 100 μAdc)	V <sub>(BR)</sub>	70	–	Vdc
Reverse Voltage Leakage Current (Note 3) (V <sub>R</sub> = 70 Vdc) (V <sub>R</sub> = 50 Vdc)	I <sub>R</sub> I <sub>R</sub>	– –	5.0 100	μAdc nAdc
Diode Capacitance (V <sub>R</sub> = 0, f = 1.0 MHz)	C <sub>D</sub>	–	1.5	pF
Forward Voltage (I <sub>F</sub> = 1.0 mAdc) (I <sub>F</sub> = 10 mAdc) (I <sub>F</sub> = 50 mAdc) (I <sub>F</sub> = 150 mAdc)	V <sub>F</sub>	– – – –	715 855 1000 1250	mVdc
Reverse Recovery Time (I <sub>F</sub> = I <sub>R</sub> = 10 mAdc, R <sub>L</sub> = 100 Ω, I <sub>R(REC)</sub> = 1.0 mAdc) (Figure 1)	t <sub>rr</sub>	–	6.0	ns
Forward Recovery Voltage (I <sub>F</sub> = 10 mAdc, t <sub>r</sub> = 20 ns) (Figure 2)	V <sub>RF</sub>	–	1.75	V

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

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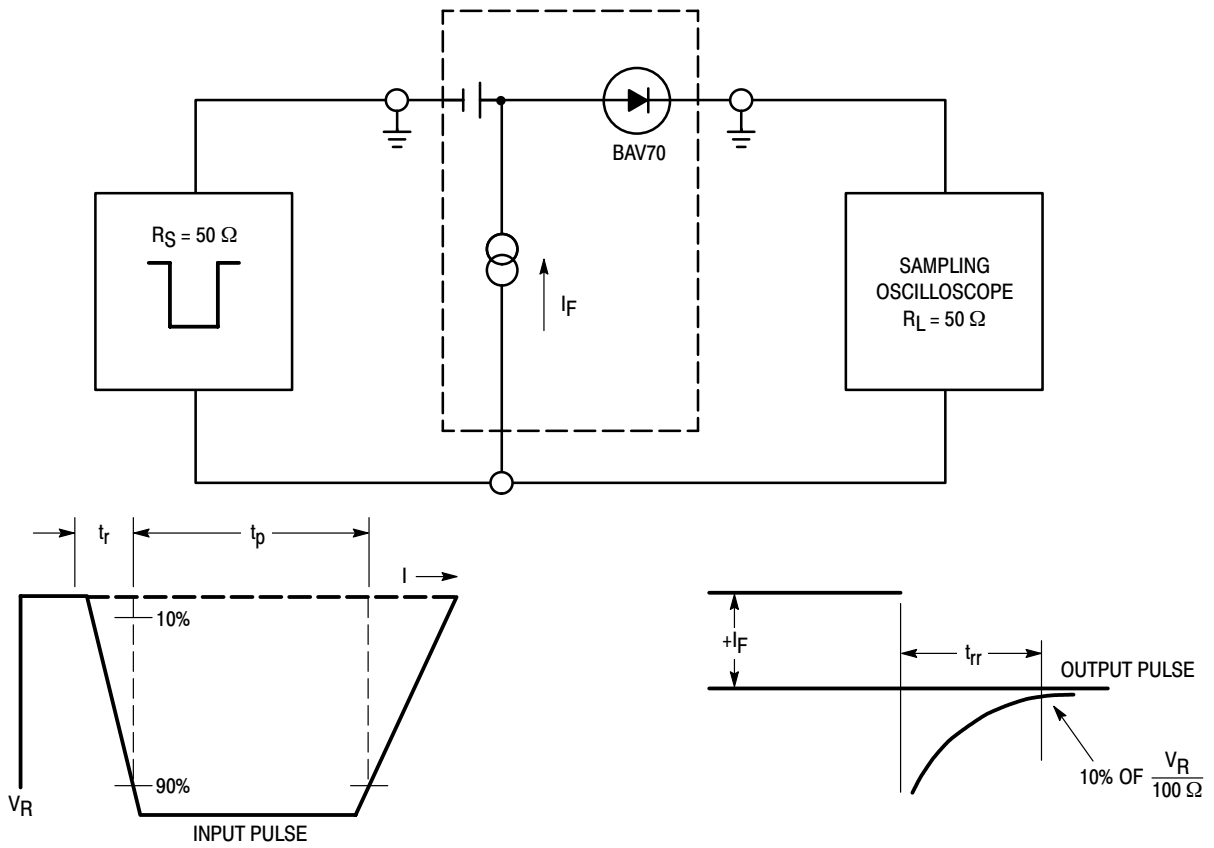


Figure 1. Recovery Time Equivalent Test Circuit

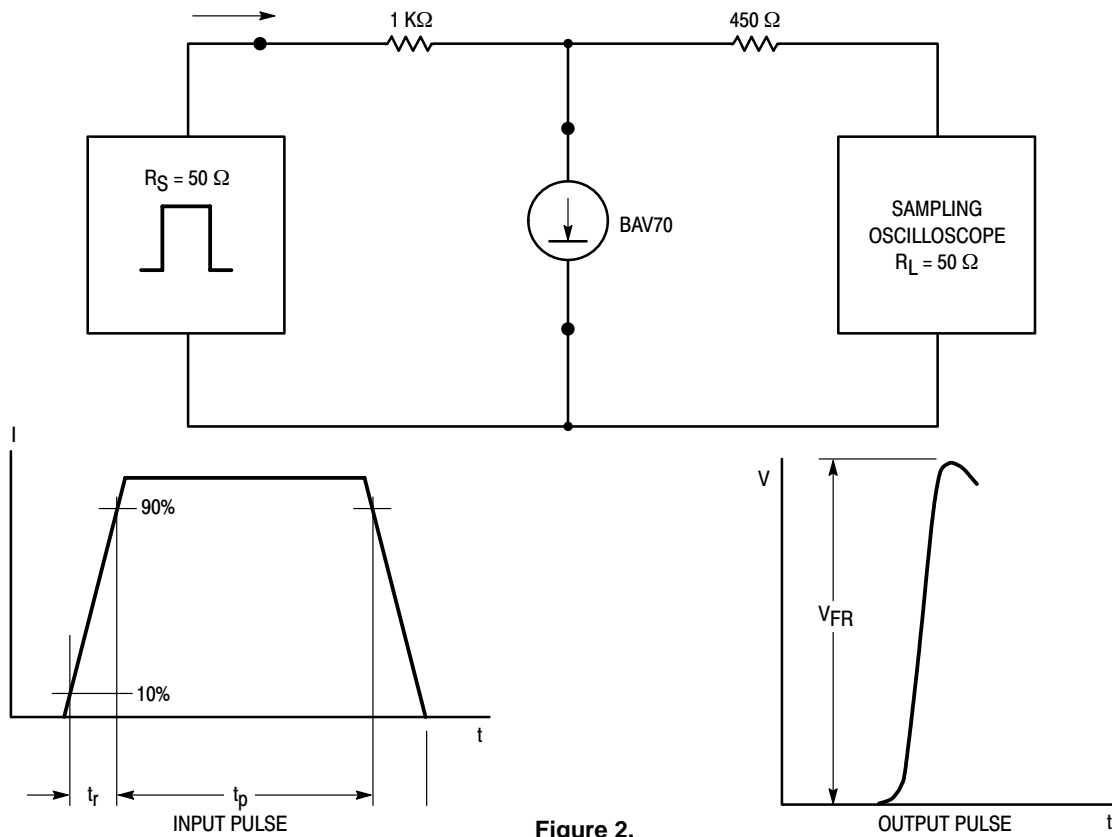


Figure 2.

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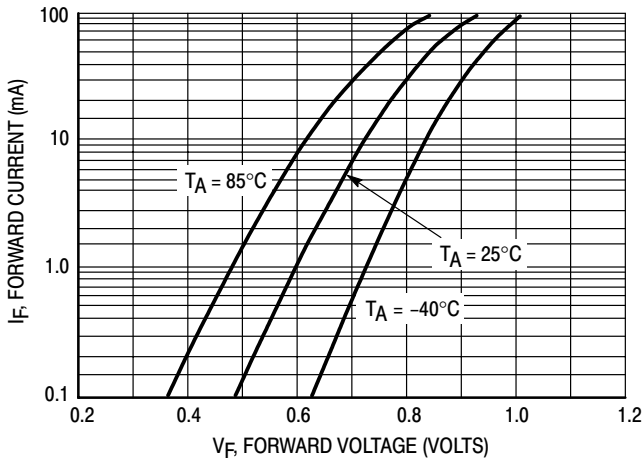


Figure 3. Forward Voltage

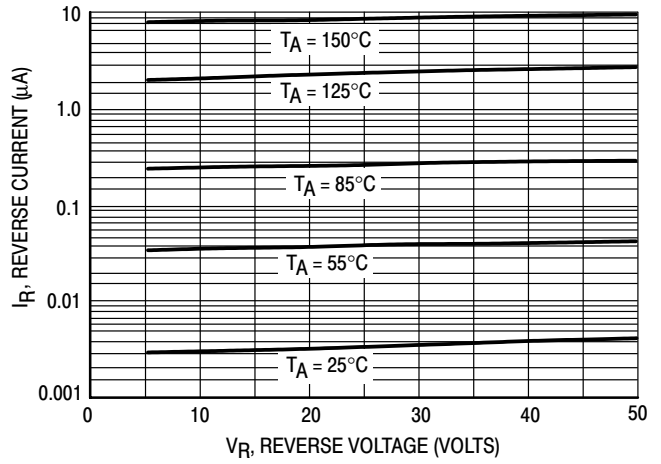


Figure 4. Leakage Current

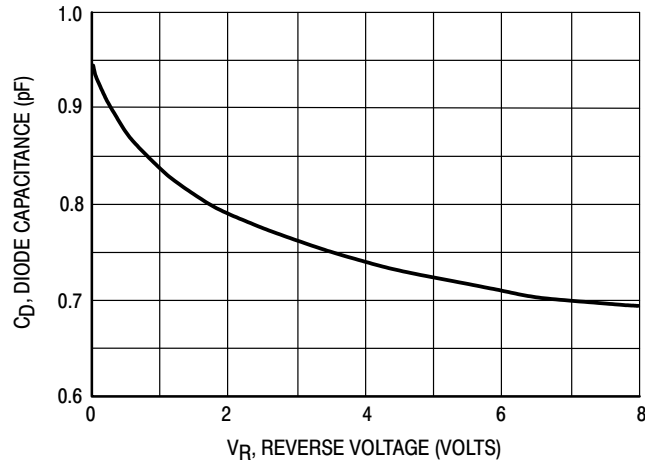


Figure 5. Capacitance

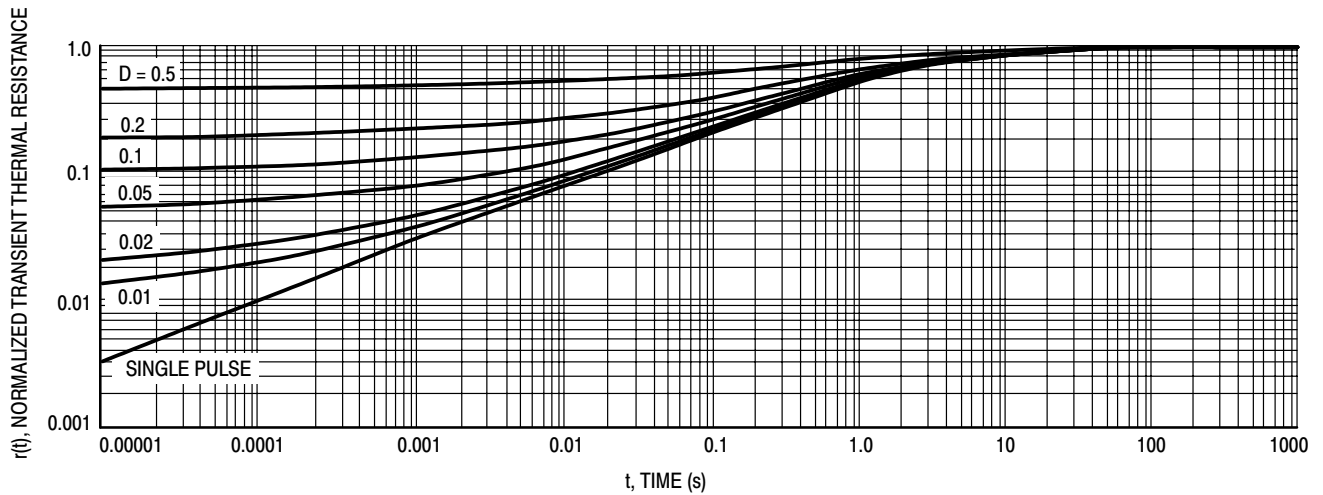
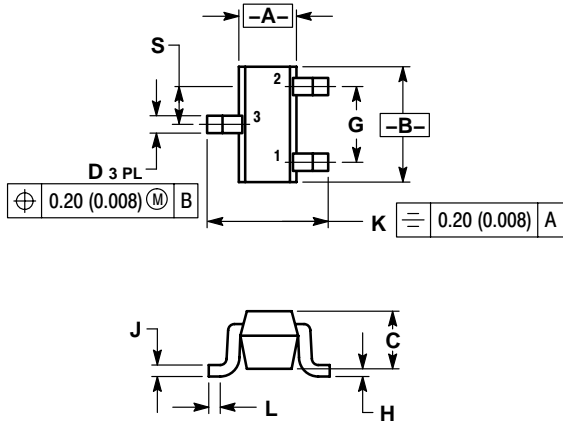


Figure 6. Normalized Thermal Response

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## 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
- ANODE
- CATHODE

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