BAV70TT1

Preferred Device

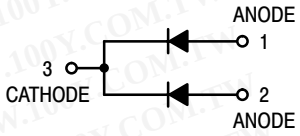
Dual Switching Diode

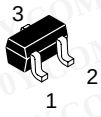
ON Semiconductor®

http://onsemi.com

Features

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





CASE 463
SOT−416/SC−75
STYLE 3

MAXIMUM RATINGS (T_A = 25°C)

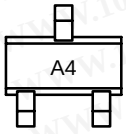
Rating	Symbol	Max	Unit
Reverse Voltage	V_R	70	Vdc
Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR−4 Board (1) T_A = 25°C Derated above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction to Ambient (1)	$R_{\theta JA}$	555	°C/W
Total Device Dissipation, FR−4 Board (2) T_A = 25°C Derated above 25°C	P_D	360 2.9	mW mW/°C
Thermal Resistance, Junction−to−Ambient (2)	$R_{\theta JA}$	345	°C/W
Junction and Storage Temperature Range	T_J, T_{stg}	−55 to +150	°C

1. FR−4 @ Minimum Pad
2. FR−4 @ 1.0 × 1.0 Inch Pad

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.

ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted)

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
Reverse Breakdown Voltage ($I_{(BR)}$ = 100 μAdc)	$V_{(BR)}$	70	–	Vdc
Reverse Voltage Leakage Current (Note 3) (V_R = 70 Vdc) (V_R = 50 Vdc)	 I_R I_R	 – –	 5.0 100	 μAdc nAdc
Diode Capacitance (V_R = 0, f = 1.0 MHz)	C_D	–	1.5	pF
Forward Voltage (I_F = 1.0 mAdc) (I_F = 10 mAdc) (I_F = 50 mAdc) (I_F = 150 mAdc)	V_F	 – – – –	 715 855 1000 1250	mVdc
Reverse Recovery Time (I_F = I_R = 10 mAdc, R_L = 100 Ω, $I_{R(REC)}$ = 1.0 mAdc) (Figure 1)	t_{rr}	–	6.0	ns
Forward Recovery Voltage (I_F = 10 mAdc, t_r = 20 ns) (Figure 2)	V_{RF}	–	1.75	V

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

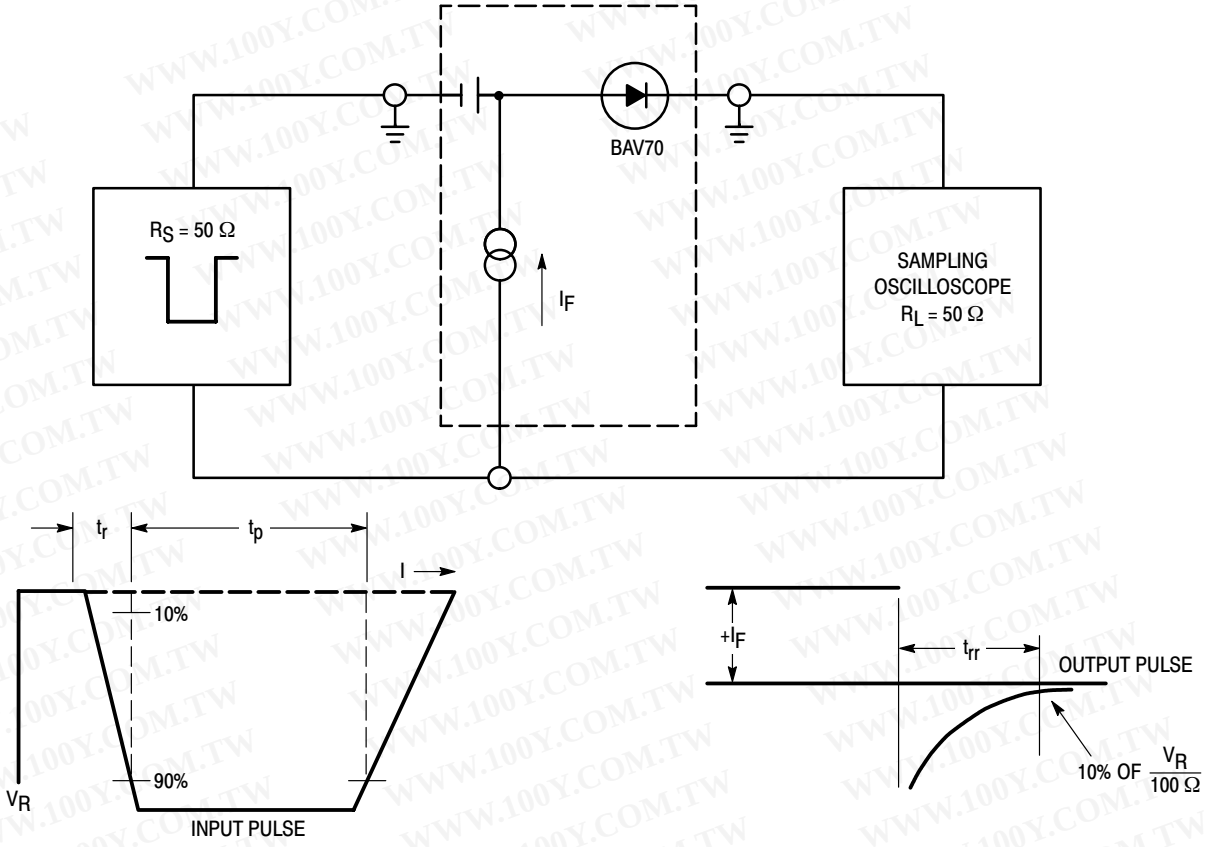


Figure 1. Recovery Time Equivalent Test Circuit

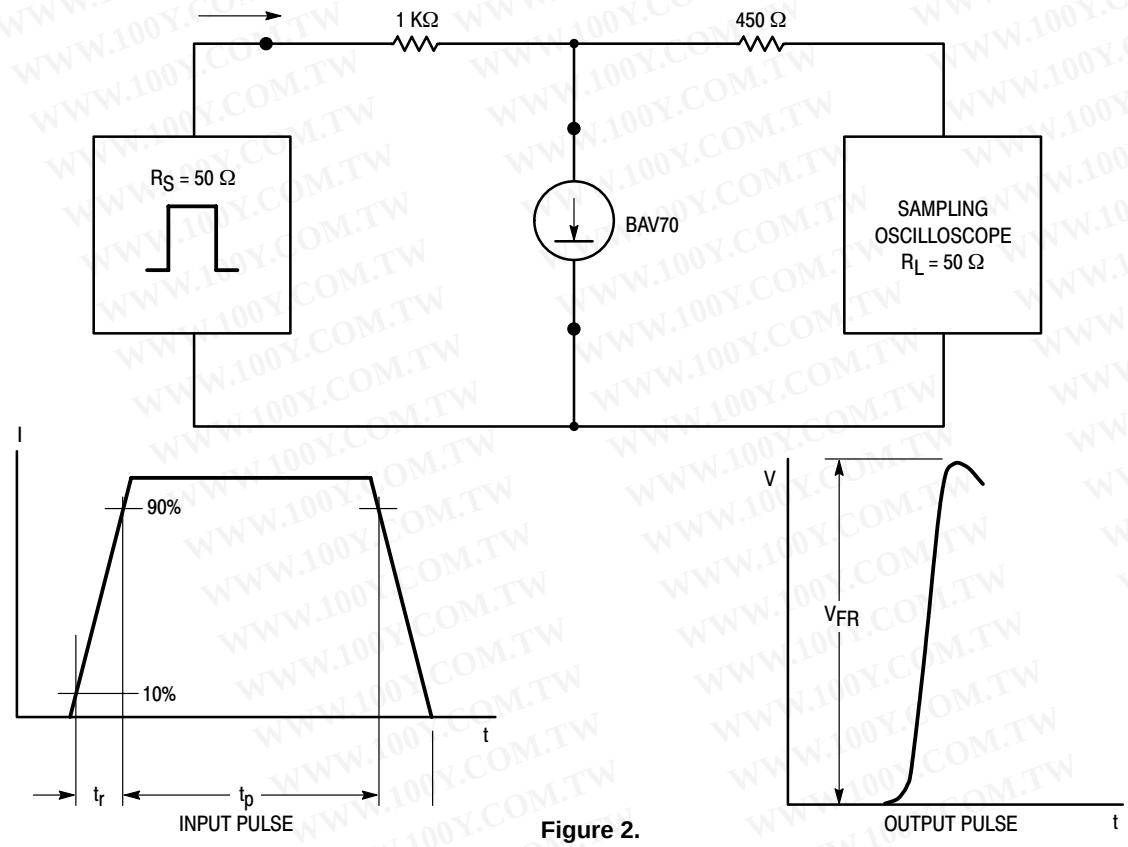


Figure 2.

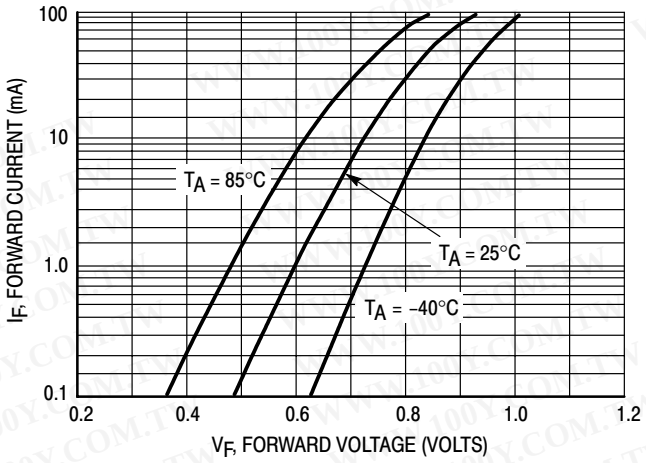


Figure 3. Forward Voltage

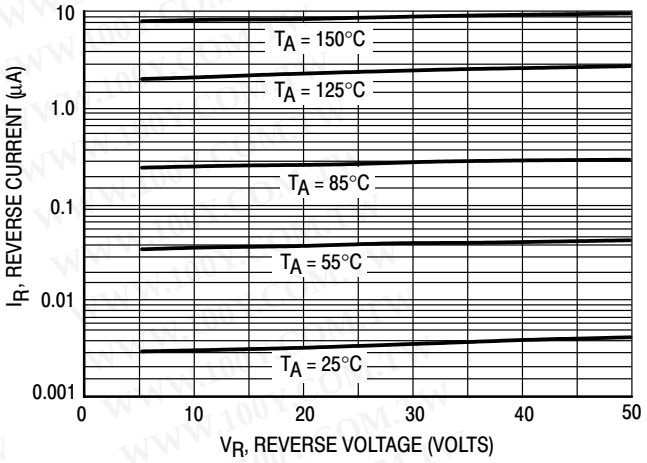


Figure 4. Leakage Current

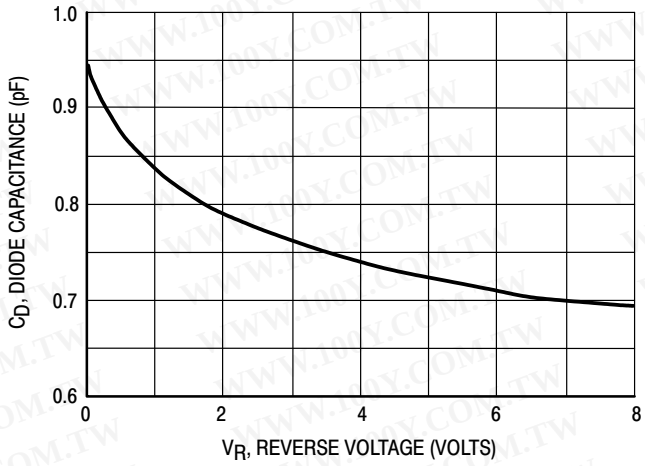


Figure 5. Capacitance

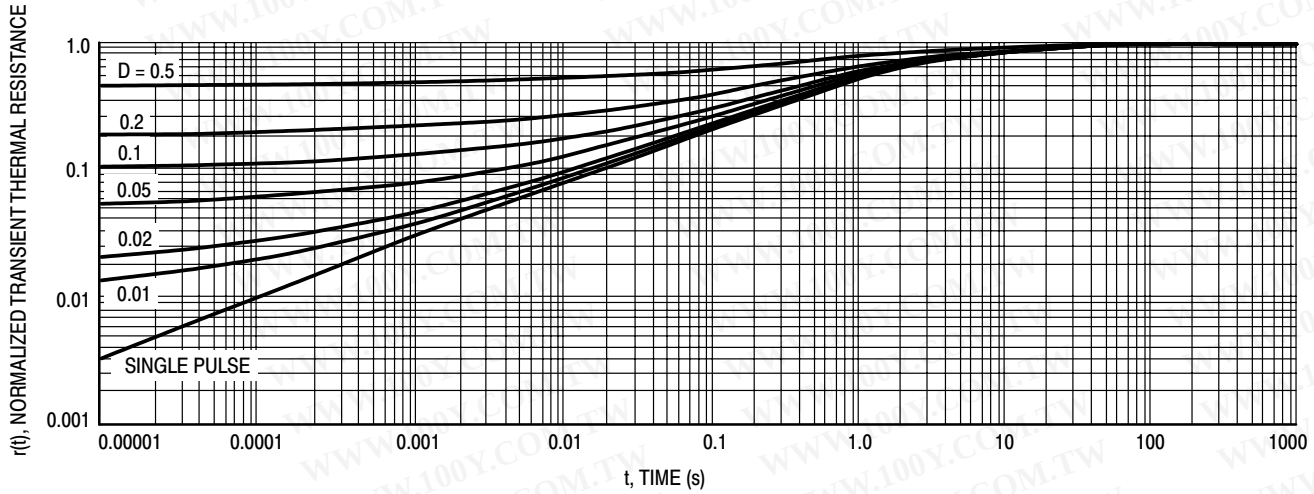
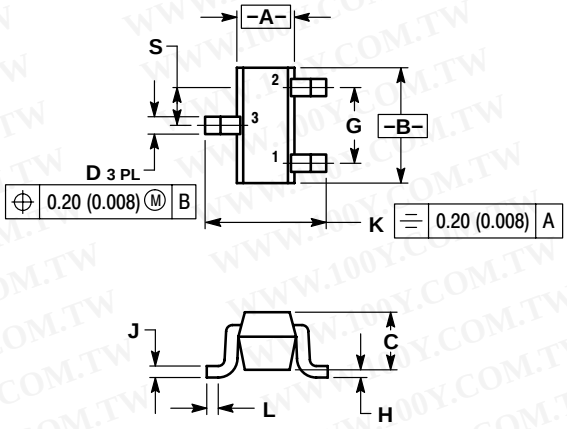


Figure 6. Normalized Thermal Response

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.

	MILLIMETERS		INCHES	
DIM	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

PUBLICATION ORDERING INFORMATION

LITERATURE FULFILLMENT:
Literature Distribution Center for ON Semiconductor
P.O. Box 5163, Denver, Colorado 80217 USA
Phone: 303−675−2175 or 800−344−3860 Toll Free USA/Canada
Fax: 303−675−2176 or 800−344−3867 Toll Free USA/Canada
Email: orderlit@onsemi.com

N. American Technical Support: 800−282−9855 Toll Free USA/Canada

Japan: ON Semiconductor, Japan Customer Focus Center
2−9−1 Kamimeguro, Meguro−ku, Tokyo, Japan 153−0051
Phone: 81−3−5773−3850

ON Semiconductor Website: http://onsemi.com

Order Literature: http://www.onsemi.com/litorder

For additional information, please contact your local Sales Representative.

BAV70TT1/D