



**THE DATASHEET OF  
NSVBAV70TT1G**



# Dual Switching Diode

## BAV70T, NSVBAV70T

### Features

- NSV Prefix for Automotive and Other Applications Requiring Unique Site and Control Change Requirements; AEC-Q101 Qualified and PPAP Capable
- These Devices are Pb-Free, Halogen Free/BFR Free and are RoHS Compliant

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

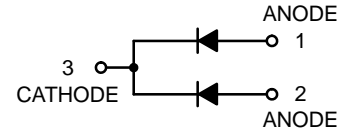
Rating	Symbol	Max	Unit
Reverse Voltage	V <sub>R</sub>	100	Vdc
Forward Current	I <sub>F</sub>	200	mAdc
Peak Forward Surge Current	I <sub>FM(surge)</sub>	500	mAdc

### THERMAL CHARACTERISTICS

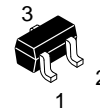
Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR-4 Board (Note 1) T <sub>A</sub> = 25°C Derated above 25°C	P <sub>D</sub>	225	mW
Thermal Resistance, Junction to Ambient (Note 1)	R <sub>θJA</sub>	555	°C/W
Total Device Dissipation, FR-4 Board (Note 2) T <sub>A</sub> = 25°C Derated above 25°C	P <sub>D</sub>	360	mW
Thermal Resistance, Junction-to-Ambient (Note 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

Stresses exceeding those listed in the Maximum Ratings table may damage the device. If any of these limits are exceeded, device functionality should not be assumed, damage may occur and reliability may be affected.

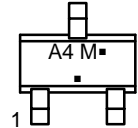
1. FR-4 @ Minimum Pad
2. FR-4 @ 1.0 × 1.0 Inch Pad



### MARKING DIAGRAM



CASE 463  
SOT-416/SC-75  
STYLE 3



- A4 = Specific Device Code
- M = Date Code
- = Pb-Free Package

### ORDERING INFORMATION

Device	Package	Shipping†
BAV70TT1G	SOT-416 (Pb-Free)	3000 / Tape & Reel
NSVBAV70TT1G	SOT-416 (Pb-Free)	3000 / Tape & Reel
NSVBAV70TT3G	SOT-416 (Pb-Free)	10000 / 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.

# BAV70T, NSVBAV70T

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

Characteristic	Symbol	Min	Max	Unit
<b>OFF CHARACTERISTICS</b>				
Reverse Breakdown Voltage ( $I_{BR} = 100 \mu\text{Adc}$ )	$V_{(BR)}$	100	–	Vdc
Reverse Voltage Leakage Current (Note 3) ( $V_R = 100 \text{Vdc}$ ) ( $V_R = 50 \text{Vdc}$ )	$I_R$ $I_R$	– –	1.0 100	$\mu\text{Adc}$ 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.

# BAV70T, NSVBAV70T

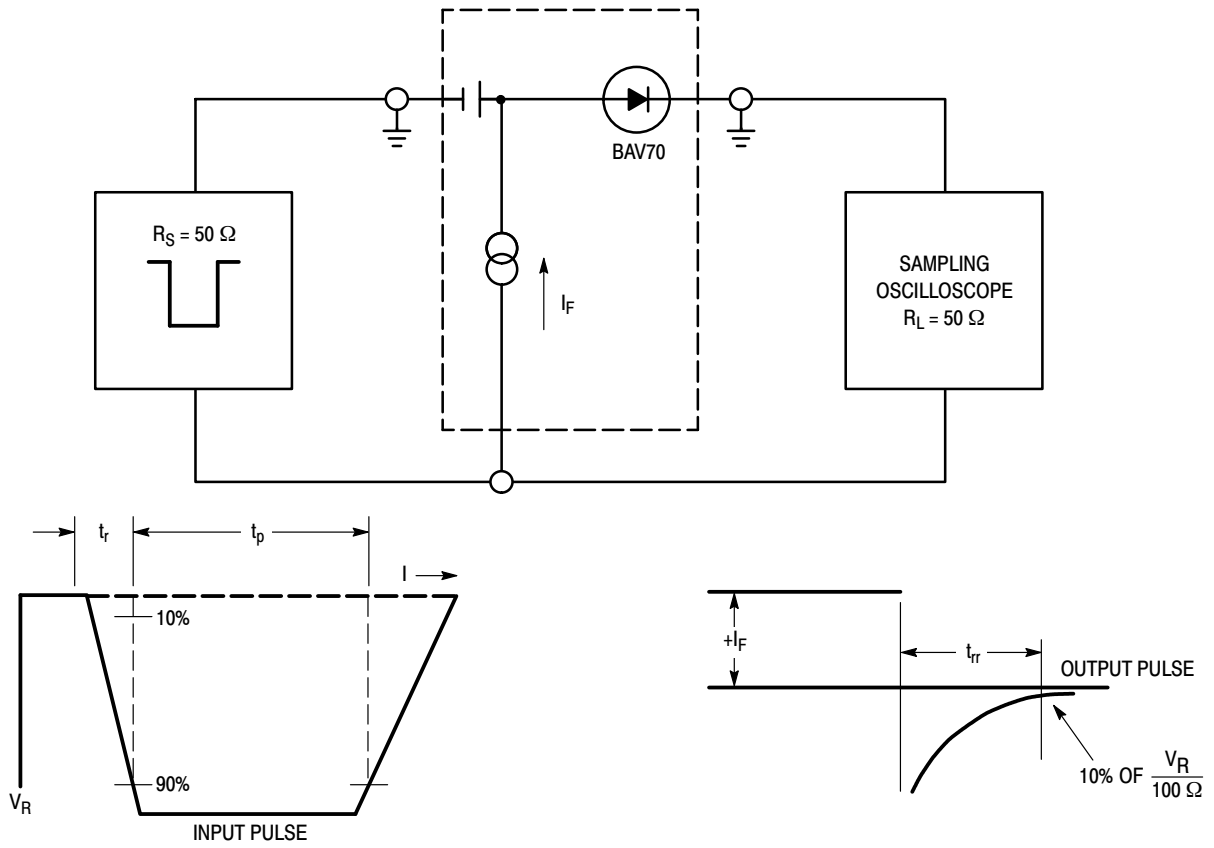


Figure 1. Recovery Time Equivalent Test Circuit

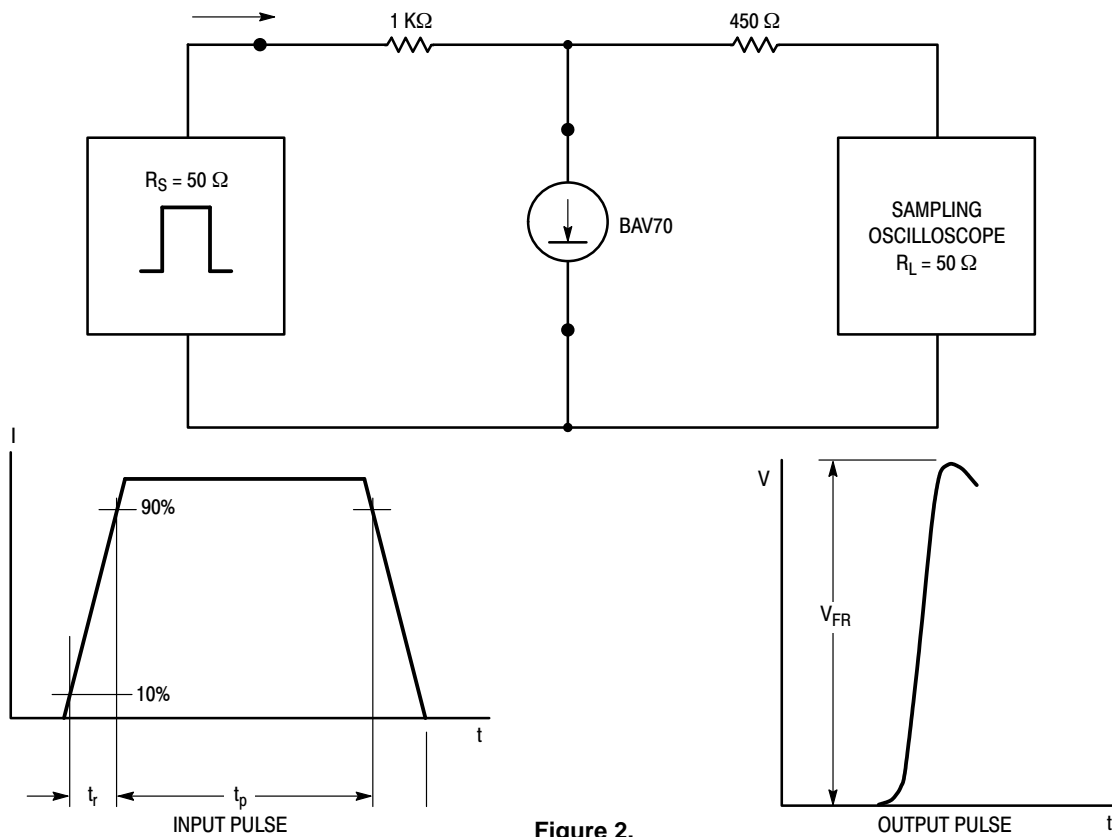


Figure 2.

# BAV70T, NSVBAV70T

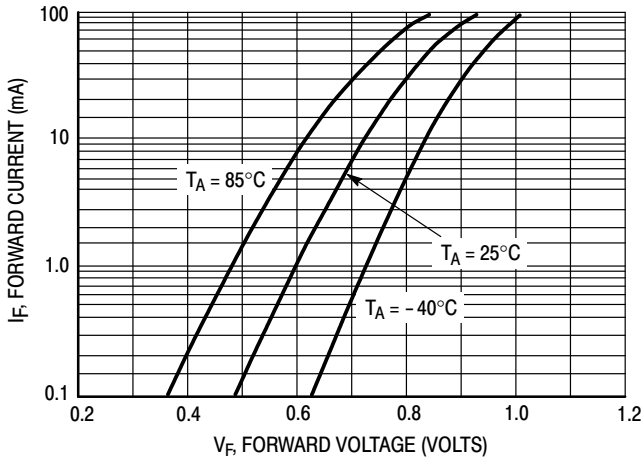


Figure 3. Forward Voltage

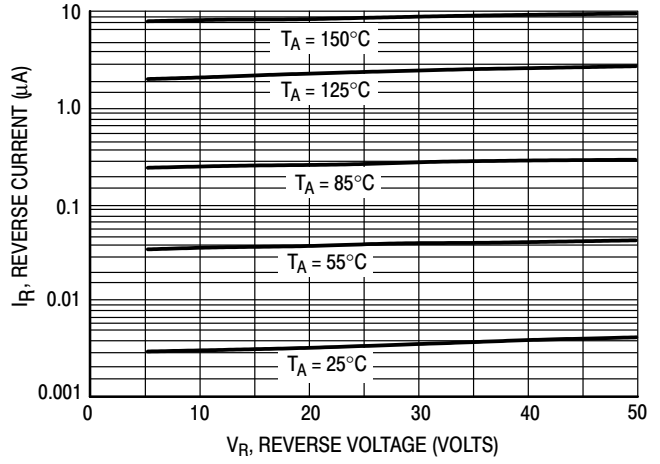


Figure 4. Leakage Current

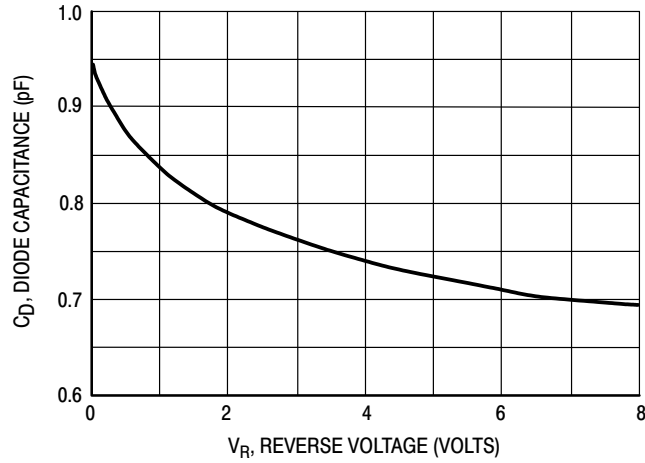


Figure 5. Capacitance

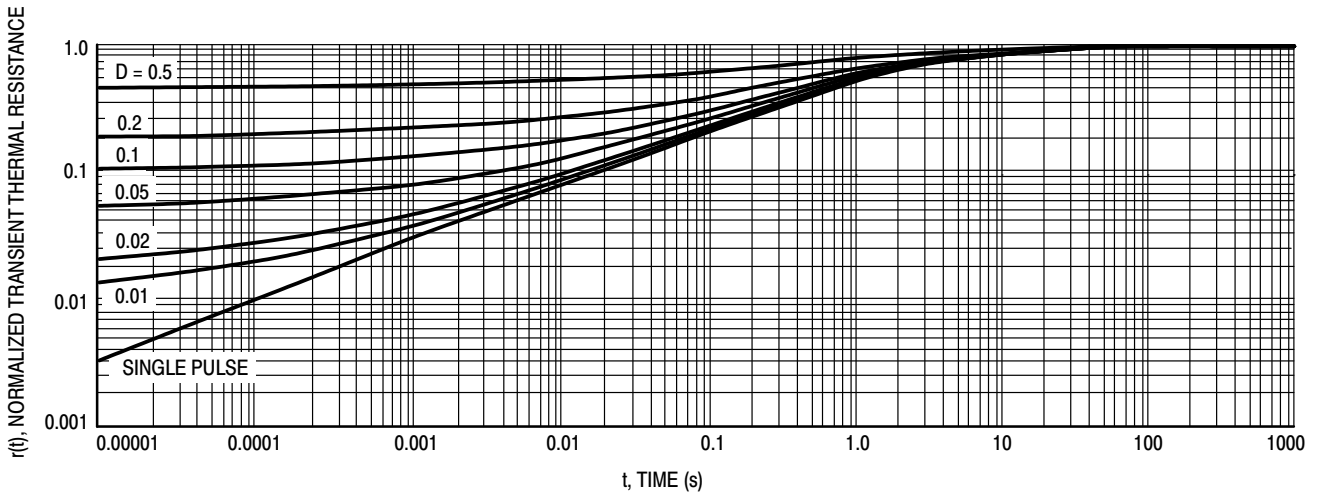


Figure 6. Normalized Thermal Response

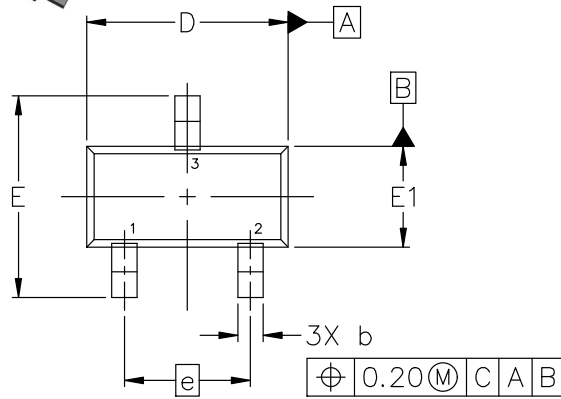
# MECHANICAL CASE OUTLINE

## PACKAGE DIMENSIONS

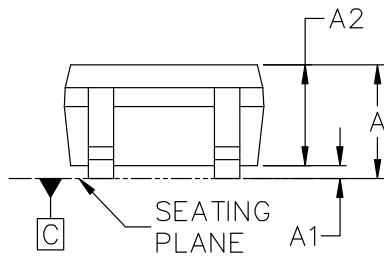


**SC75-3 1.60x0.80x0.80, 1.00P**  
**CASE 463**  
**ISSUE H**

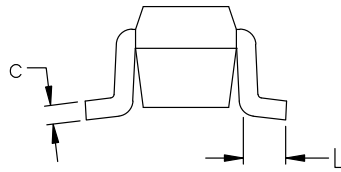
DATE 01 FEB 2024



TOP VIEW

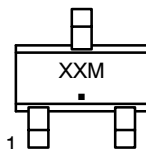


SIDE VIEW



END VIEW

**GENERIC MARKING DIAGRAM\***



- XX = Specific Device Code
- M = Date Code
- = Pb-Free Package

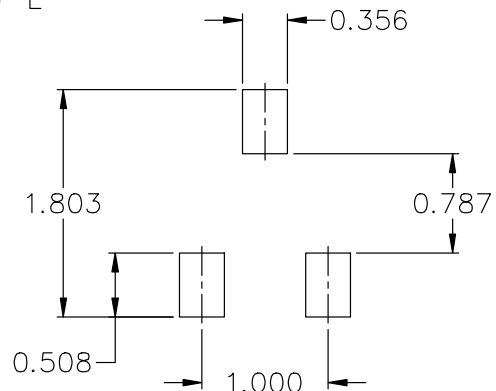
\*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

- STYLE 1:  
PIN 1. BASE  
2. EMITTER  
3. COLLECTOR
- STYLE 2:  
PIN 1. ANODE  
2. N/C  
3. CATHODE
- STYLE 3:  
PIN 1. ANODE  
2. ANODE  
3. CATHODE
- STYLE 4:  
PIN 1. CATHODE  
2. CATHODE  
3. ANODE
- STYLE 5:  
PIN 1. GATE  
2. SOURCE  
3. DRAIN

NOTES:

- DIMENSIONING AND TOLERANCING CONFORM TO ASME Y14.5-2018.
- ALL DIMENSION ARE IN MILLIMETERS.

DIM	MILLIMETERS		
	MIN.	NOM.	MAX.
A	0.70	0.80	0.90
A1	0.00	0.05	0.10
A2	0.80 REF.		
b	0.15	0.20	0.30
c	0.10	0.15	0.25
D	1.55	1.60	1.65
E	1.50	1.60	1.70
E1	0.70	0.80	0.90
e	1.00 BSC		
L	0.10	0.15	0.20



RECOMMENDED MOUNTING 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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