

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 ($T_A = 25^\circ\text{C}$)

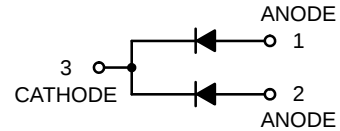
Rating	Symbol	Max	Unit
Reverse Voltage	V_R	100	Vdc
Forward Current	I_F	200	mAdc
Peak Forward Surge Current	$I_{FM(surge)}$	500	mAdc

THERMAL CHARACTERISTICS

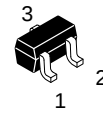
Characteristic	Symbol	Max	Unit
Total Device Dissipation, FR-4 Board (Note 1) $T_A = 25^\circ\text{C}$ Derated above 25°C	P_D	225	mW
		1.8	mW/ $^\circ\text{C}$
Thermal Resistance, Junction to Ambient (Note 1)	$R_{\theta JA}$	555	$^\circ\text{C}/\text{W}$
Total Device Dissipation, FR-4 Board (Note 2) $T_A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

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.

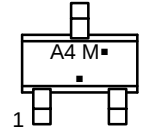
1. FR-4 @ Minimum Pad
2. FR-4 @ 1.0×1.0 Inch Pad



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.

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

Characteristic	Symbol	Min	Max	Unit
OFF CHARACTERISTICS				
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	μAdc 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.

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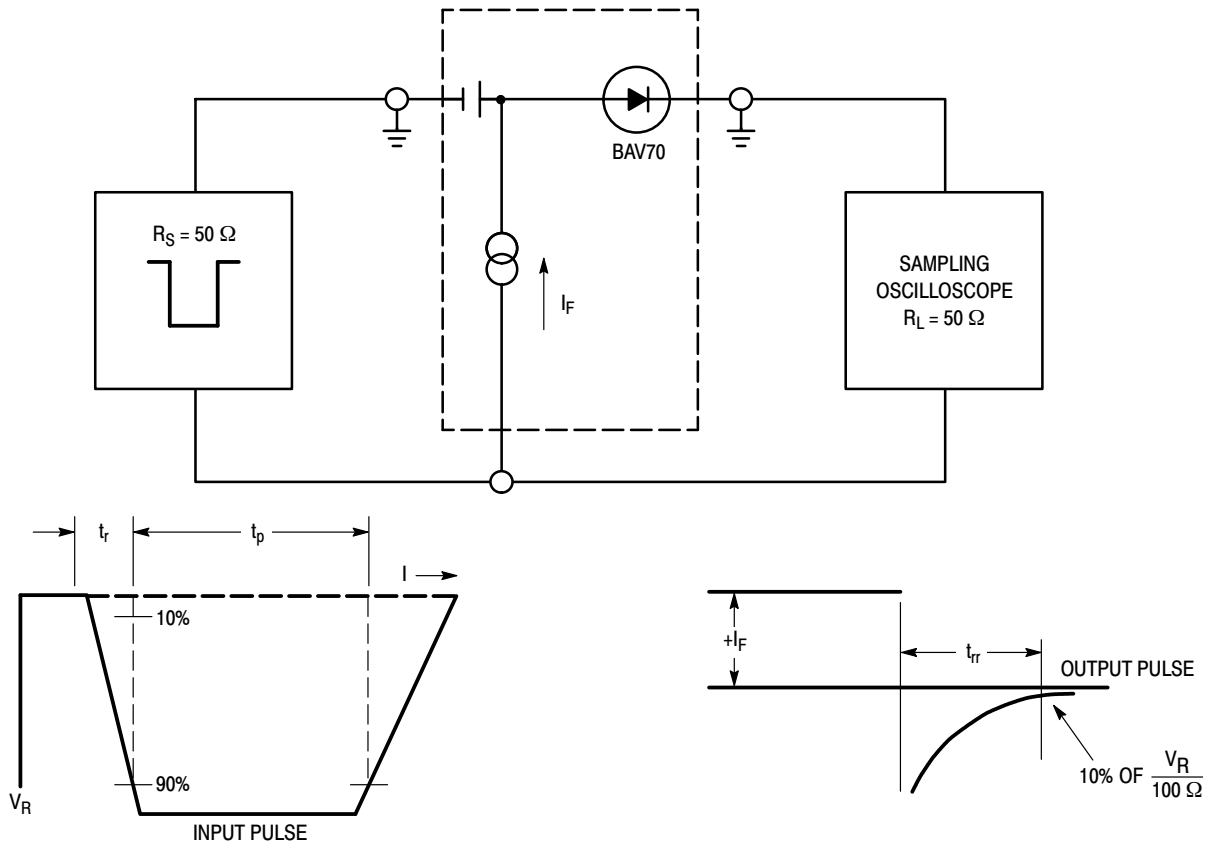


Figure 1. Recovery Time Equivalent Test Circuit

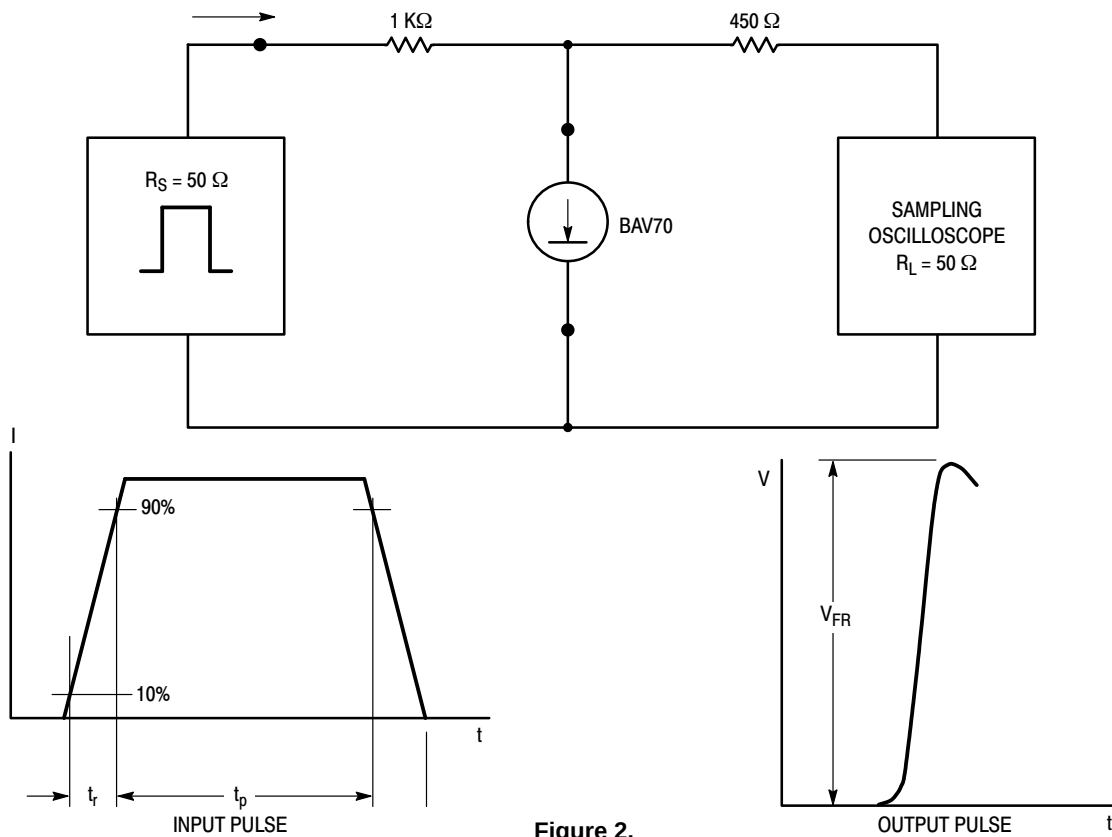


Figure 2.

BAV70T, NSVB70T

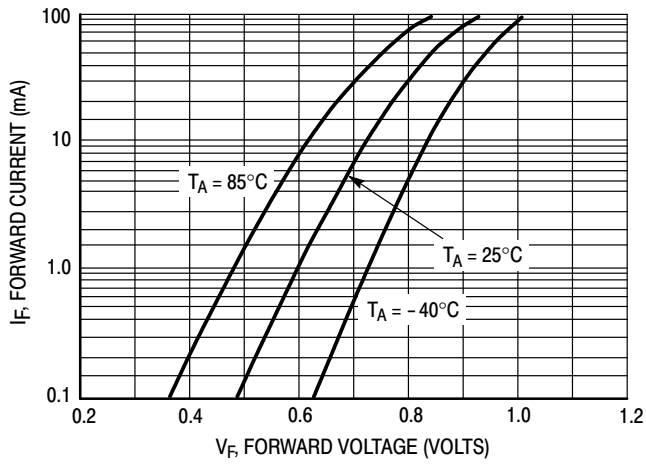


Figure 3. Forward Voltage

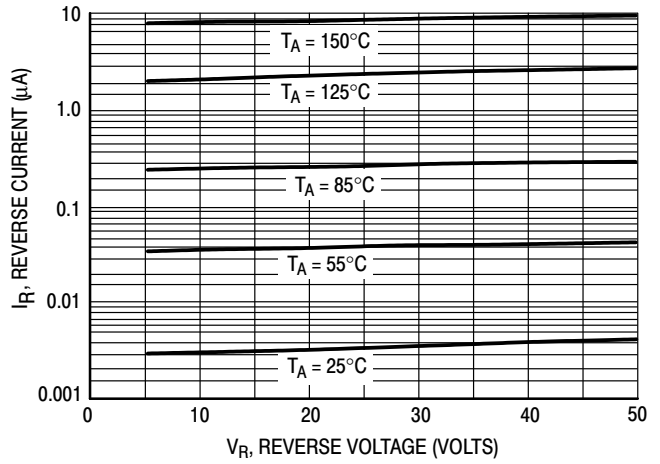


Figure 4. Leakage Current

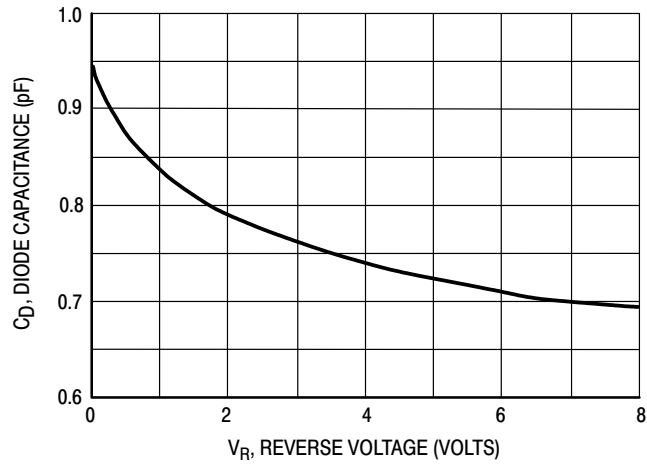


Figure 5. Capacitance

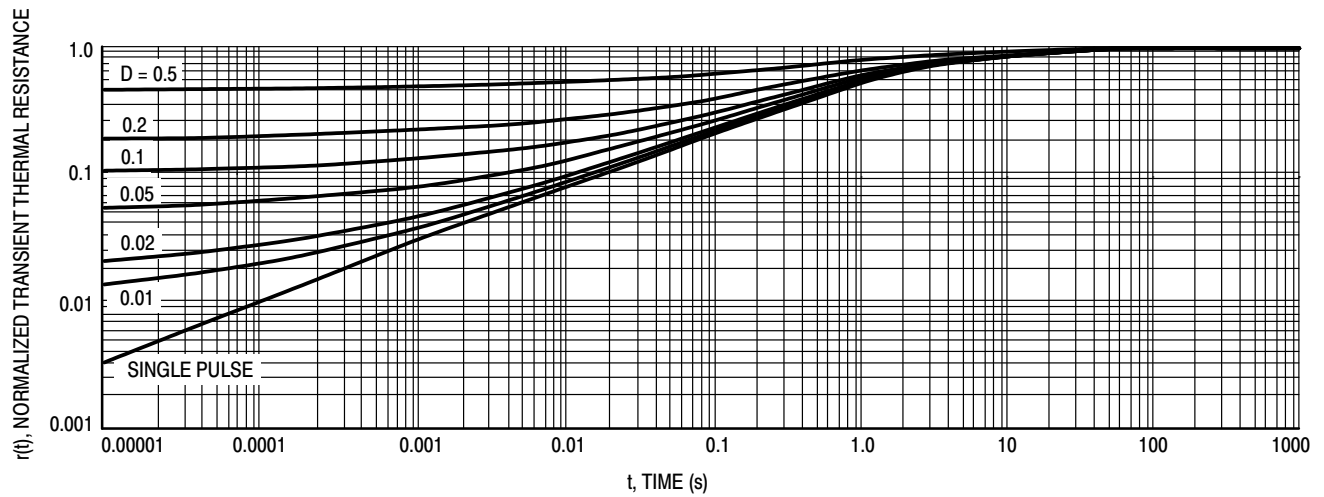


Figure 6. Normalized Thermal Response

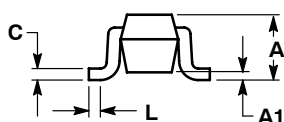
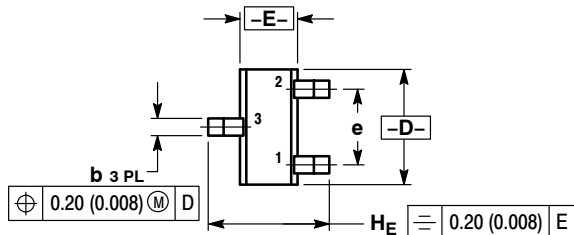
MECHANICAL CASE OUTLINE PACKAGE DIMENSIONS



SCALE 4:1

SC-75/SOT-416 CASE 463 ISSUE G

DATE 07 AUG 2015



STYLE 1:
PIN 1. BASE
2. EMITTER
3. COLLECTOR

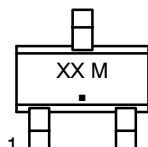
STYLE 2:
PIN 1. ANODE
2. N/C
3. CATHODE

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

GENERIC MARKING DIAGRAM*



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

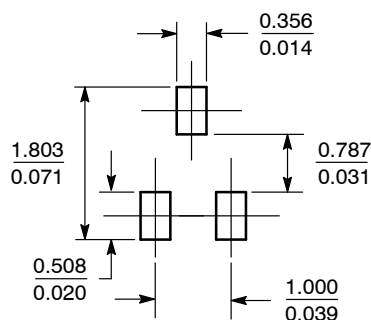
*This information is generic. Please refer to device data sheet for actual part marking. Pb-Free indicator, "G" or microdot "▪", may or may not be present. Some products may not follow the Generic Marking.

NOTES:

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

DIM	MILLIMETERS			INCHES		
	MIN	NOM	MAX	MIN	NOM	MAX
A	0.70	0.80	0.90	0.027	0.031	0.035
A1	0.00	0.05	0.10	0.000	0.002	0.004
b	0.15	0.20	0.30	0.006	0.008	0.012
C	0.10	0.15	0.25	0.004	0.006	0.010
D	1.55	1.60	1.65	0.061	0.063	0.065
E	0.70	0.80	0.90	0.027	0.031	0.035
e	1.00 BSC			0.04 BSC		
L	0.10	0.15	0.20	0.004	0.006	0.008
H _E	1.50	1.60	1.70	0.060	0.063	0.067

RECOMMENDED SOLDERING FOOTPRINT*



SCALE 10:1 (mm/inches)

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

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