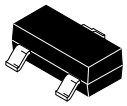
Dual Switching Diode Common Cathode

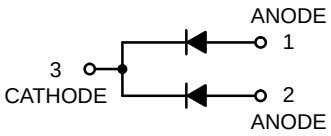
BAV70L, SBAV70L



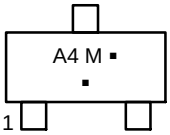
SOT−23 (TO−236)
CASE 318
STYLE 9

Features

- S 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



MARKING DIAGRAM



A4 = Device Code
M = Date Code*
▪ = Pb−Free Package

(Note: Microdot may be in either location)
*Date Code orientation and/or overbar may vary depending upon manufacturing location.

MAXIMUM RATINGS (EACH DIODE)

Rating	Symbol	Value	Unit
Reverse Voltage	V_R	100	V
Forward Current	I_F	200	mA
Repetitive Peak Forward Current (Pulse Wave = 1 sec, Duty Cycle = 66%)	I_{FRM}	1.5	A
Non−Repetitive Peak Forward Current (Square Wave, T_J = 25°C prior to surge) t = 1 μs t = 10 μs t = 100 μs t = 1 ms t = 10 ms t = 100 ms t = 1 s	I_{FSM}	 31 16 10 4.5 2.5 1.0 0.5	A

THERMAL CHARACTERISTICS

Characteristic	Symbol	Max	Unit
Total Device Dissipation FR−5 Board (Note 1) T_A = 25°C Derate above 25°C	P_D	225 1.8	mW mW/°C
Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	556	°C/W
Total Device Dissipation Alumina Substrate, (Note 2) T_A = 25°C Derate above 25°C	P_D	300 2.4	mW mW/°C
Thermal Resistance, Junction−to−Ambient	$R_{\theta JA}$	417	°C/W
Junction and Storage Temperature	T_J, T_{stg}	−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−5 = 1.0 × 0.75 × 0.062 in.
2. Alumina = 0.4 × 0.3 × 0.024 in. 99.5% alumina.

ORDERING INFORMATION

Device	Package	Shipping†
BAV70LT1G	SOT−23 (Pb−Free)	3,000 / Tape & Reel
SBAV70LT1G	SOT−23 (Pb−Free)	3,000 / Tape & Reel
BAV70LT3G	SOT−23 (Pb−Free)	10,000 / Tape & Reel
SBAV70LT3G	SOT−23 (Pb−Free)	10,000 / 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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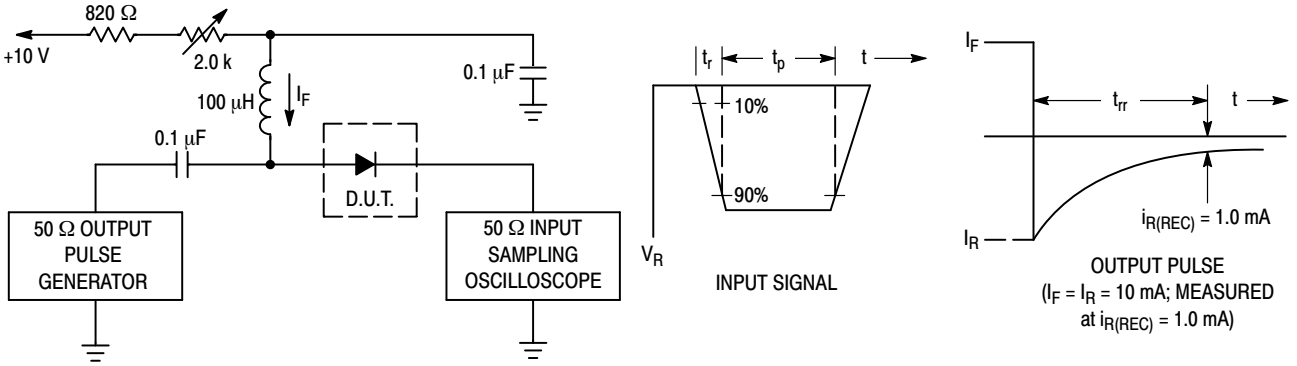
ELECTRICAL CHARACTERISTICS (T_A = 25°C unless otherwise noted) (Each Diode)

Characteristic	Symbol	Min	Max	Unit
Reverse Breakdown Voltage ($I_{(BR)}$ = 100 μA)	$V_{(BR)}$	100	–	V
Reverse Voltage Leakage Current (Note 3) (V_R = 25 V, T_J = 150°C) (V_R = 100 V) (V_R = 70 V, T_J = 150°C)	I_R	– – –	60 1.0 100	μA
Diode Capacitance (V_R = 0 V, f = 1.0 MHz)	C_D	–	1.5	pF
Forward Voltage (I_F = 1.0 mA) (I_F = 10 mA) (I_F = 50 mA) (I_F = 150 mA)	V_F	– – – –	715 855 1000 1250	mV
Reverse Recovery Time R_L = 100 Ω (I_F = I_R = 10 mA, $I_{R(REC)}$ = 1.0 mA) (Figure 1)	t_{rr}	–	6.0	ns

Product parametric performance is indicated in the Electrical Characteristics for the listed test conditions, unless otherwise noted. Product performance may not be indicated by the Electrical Characteristics if operated under different conditions.

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



Notes: 1. A 2.0 kΩ variable resistor adjusted for a Forward Current (I_F) of 10 mA.
2. Input pulse is adjusted so $I_{R(peak)}$ is equal to 10 mA.
3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

Curves Applicable to Each Anode

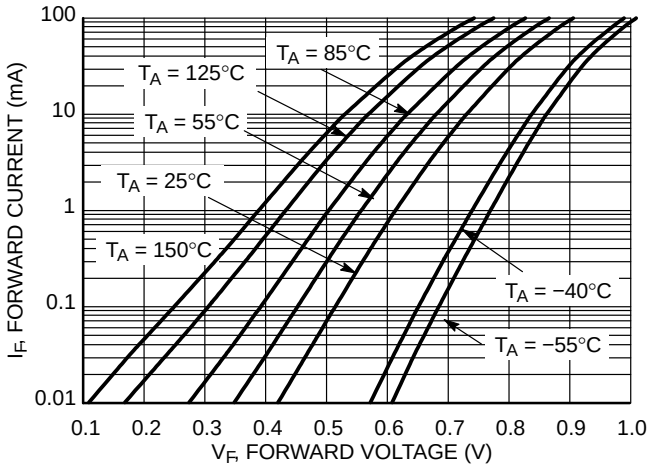


Figure 2. Forward Voltage

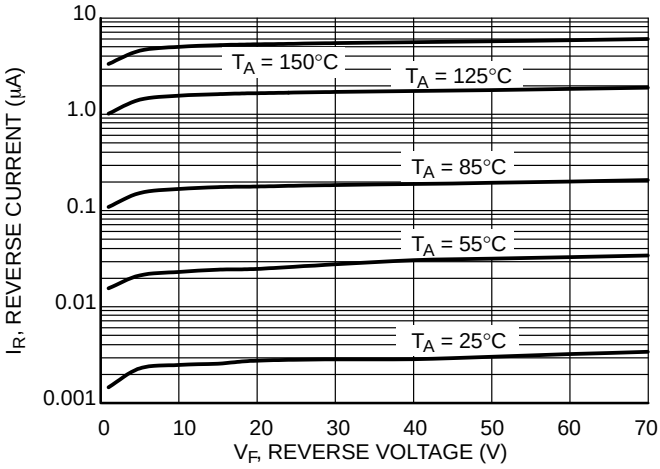


Figure 3. Leakage Current

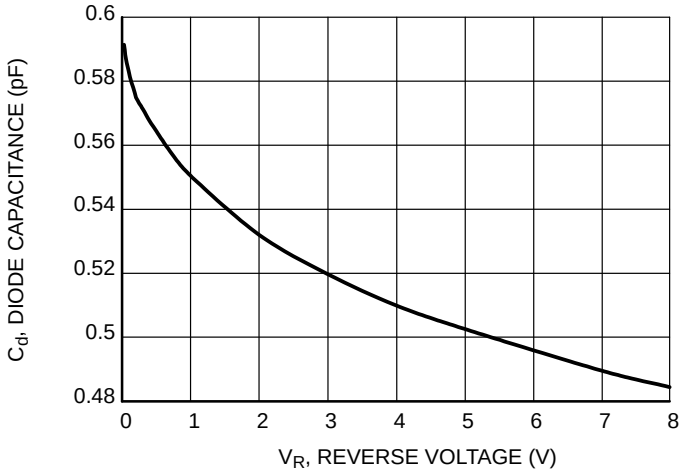


Figure 4. Capacitance

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