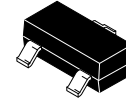


Dual Switching Diode Common Cathode

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

MAXIMUM RATINGS (EACH DIODE)

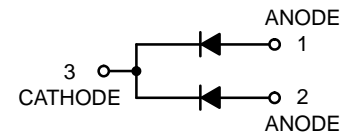
| Rating | Symbol | Value | Unit |
|---|-----------|-------|------|
| Reverse Voltage | V_R | 100 | V |
| Forward Current | I_F | 200 | mA |
| Repetitive Peak Forward Current (Pulse Wave = 1 sec, Duty Cycle = 66%) | I_{FRM} | 1.5 | A |
| Non-Repetitive Peak Forward Current (Square Wave, $T_J = 25^\circ\text{C}$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

THERMAL CHARACTERISTICS

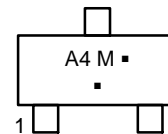
| Characteristic | Symbol | Max | Unit |
|--|-----------------|-------------|---------------------------|
| Total Device Dissipation FR-5 Board (Note 1) $T_A = 25^\circ\text{C}$ Derate above 25°C | P_D | 225 | mW |
| Thermal Resistance, Junction-to-Ambient | $R_{\theta JA}$ | 556 | $^\circ\text{C}/\text{W}$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



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.

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.

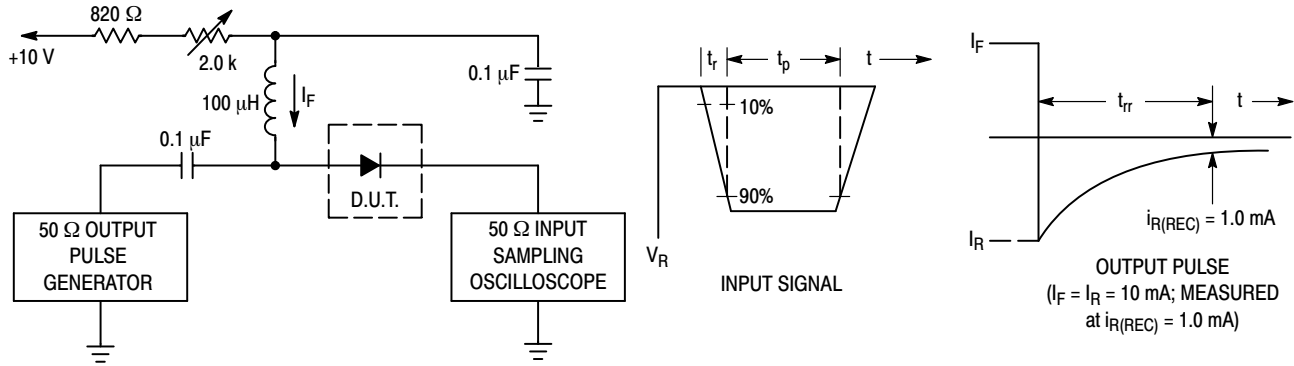
BAV70L, SBAV70L

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

| Characteristic | Symbol | Min | Max | Unit |
|---|------------|-----|----------------------------|---------------|
| Reverse Breakdown Voltage ($I_{(BR)} = 100 \mu\text{A}$) | $V_{(BR)}$ | 100 | – | V |
| Reverse Voltage Leakage Current (Note 3) ($V_R = 25 \text{ V}$, $T_J = 150^\circ\text{C}$) ($V_R = 100 \text{ V}$) ($V_R = 70 \text{ V}$, $T_J = 150^\circ\text{C}$) | I_R | – | 60 1.0 100 | μA |
| Diode Capacitance ($V_R = 0 \text{ V}$, $f = 1.0 \text{ MHz}$) | C_D | – | 1.5 | pF |
| Forward Voltage ($I_F = 1.0 \text{ mA}$) ($I_F = 10 \text{ mA}$) ($I_F = 50 \text{ mA}$) ($I_F = 150 \text{ mA}$) | V_F | – | 715 855 1000 1250 | mV |
| Reverse Recovery Time $R_L = 100 \Omega$ ($I_F = I_R = 10 \text{ mA}$, $I_{R(REC)} = 1.0 \text{ mA}$) (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 $I_{R(\text{peak})}$ is equal to 10 mA.
 3. $t_p \gg t_{rr}$

Figure 1. Recovery Time Equivalent Test Circuit

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Curves Applicable to Each Anode

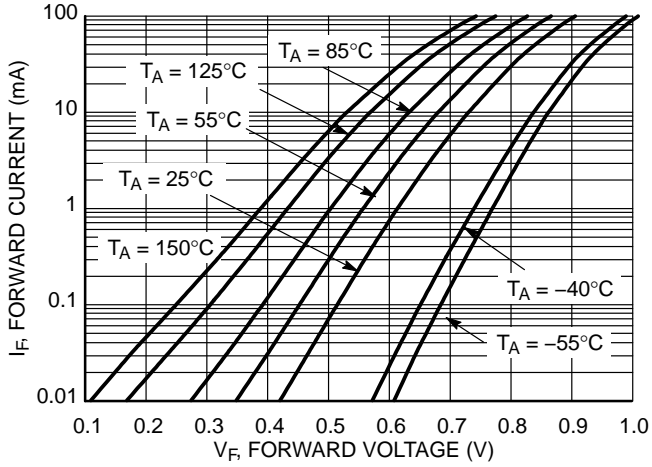


Figure 2. Forward Voltage

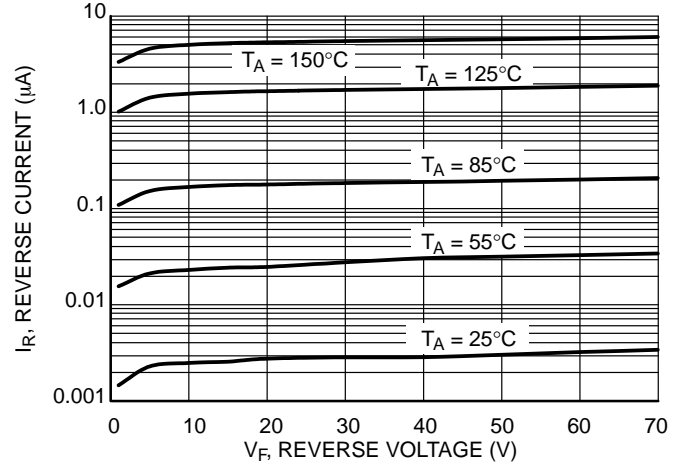


Figure 3. Leakage Current

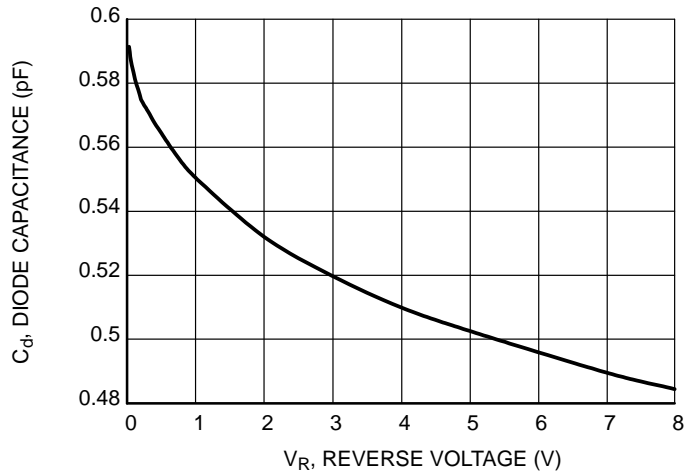


Figure 4. Capacitance

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