

# Small Signal Diode

## BAV19



AXIAL LEAD  
(DO-35)  
CASE 017AG

(Color Band Denotes Cathode)

### ABSOLUTE MAXIMUM RATINGS

( $T_A = 25^\circ\text{C}$  unless otherwise noted) (Notes 1, 2, 3)

Symbol	Parameter	Value	Units
$V_{RRM}$	Maximum Repetitive Reverse Voltage	120	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
$I_{FSM}$	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 s Pulse Width = 1.0 $\mu\text{s}$	1.0 4.0	A
$T_{STG}$	Storage Temperature Range	-65 to +200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	175	$^\circ\text{C}$

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.

- These ratings are limiting values above which the serviceability of the diode may be impaired.
- These ratings are based on a maximum junction temperature of  $200^\circ\text{C}$ .
- These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### THERMAL CHARACTERISTICS

Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	500	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	300	$^\circ\text{C}/\text{W}$

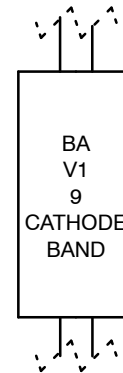
### ELECTRICAL CHARACTERISTICS

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

Symbol	Parameter	Test Conditions	Min	Max	Units
$V_R$	Breakdown Voltage	$I_R = 100 \mu\text{A}$	120	-	V
$V_F$	Forward Voltage	$I_F = 100 \text{ mA}$ $I_F = 200 \text{ mA}$	-	1.0 1.25	V
$I_R$	Reverse Current	$V_R = 100 \text{ V}$ $V_R = 100 \text{ V}, T_A = 150^\circ\text{C}$	-	100 100	nA $\mu\text{A}$
$C_T$	Total Capacitance	$V_R = 0, f = 1.0 \text{ MHz}$	-	5.0	pF
$t_{rr}$	Reverse Recovery Time	$I_F = I_R = 30 \text{ mA}$ , $I_{RR} = 3.0 \text{ mA}$ , $R_L = 100 \Omega$	-	50	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.

### MARKING DIAGRAM



BAV19 = Specific Device Code

### ORDERING INFORMATION

Device	Package	Shipping <sup>†</sup>
BAV19TR	DO-35 (Pb-Free)	10,000 Units / Tape & Reel

<sup>†</sup>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.

TYPICAL CHARACTERISTICS

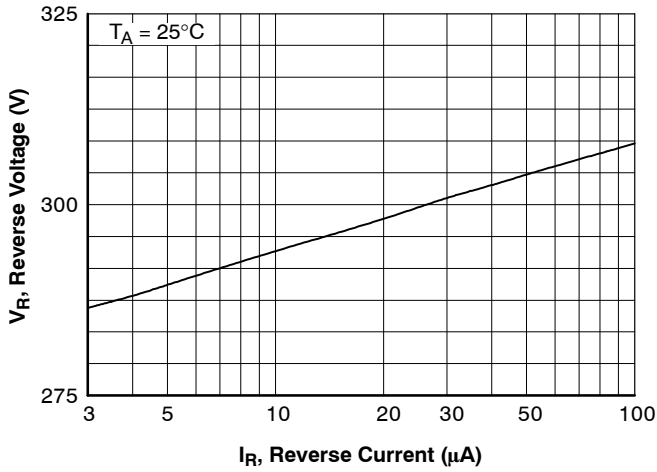


Figure 1. Reverse Voltage vs. Reverse Current  
 $B_V - 1.0$  to  $100 \mu A$   $T_A = 25^\circ C$

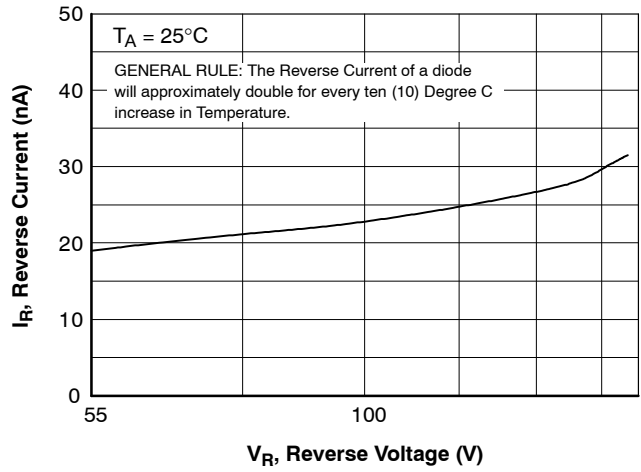


Figure 2. Reverse Current vs. Reverse Voltage  
 $I_R - 55$  to  $205 V$

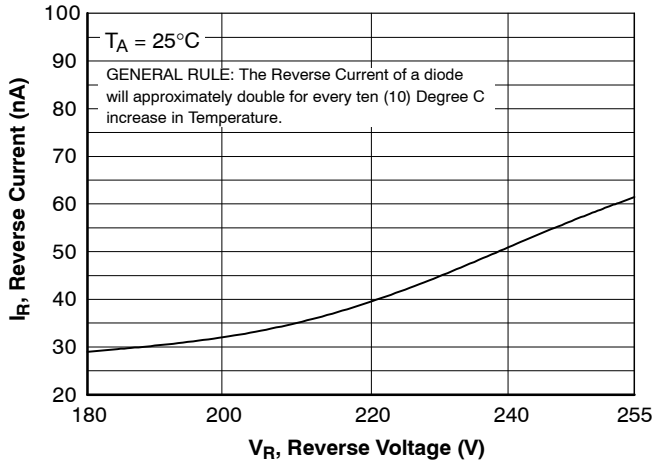


Figure 3. Reverse Current vs. Reverse Voltage  
 $I_R - 180$  to  $225 V$

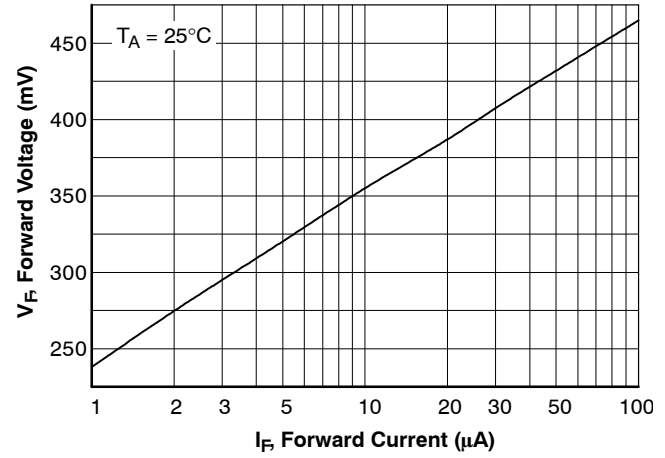


Figure 4. Forward Voltage vs. Forward Current  
 $V_F - 1.0$  to  $100 \mu A$

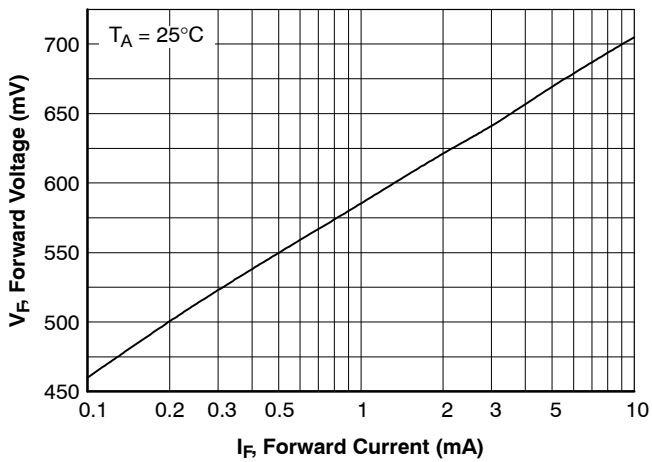


Figure 5. Forward Voltage vs. Forward Current  
 $V_F - 0.1$  to  $10 mA$

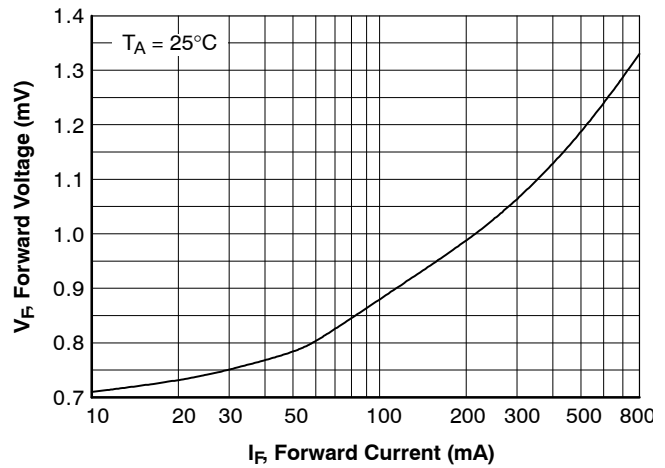
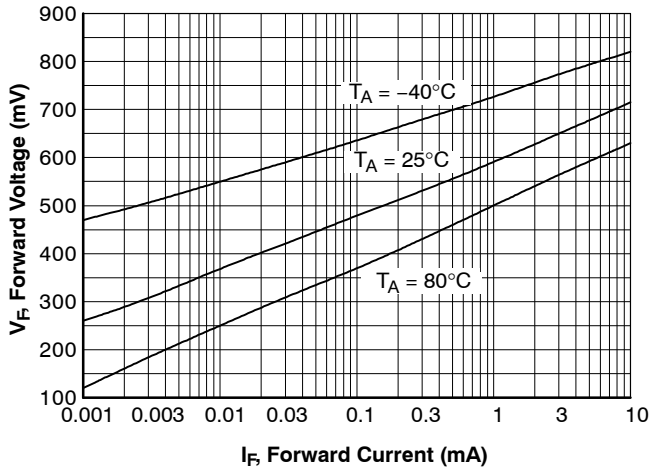


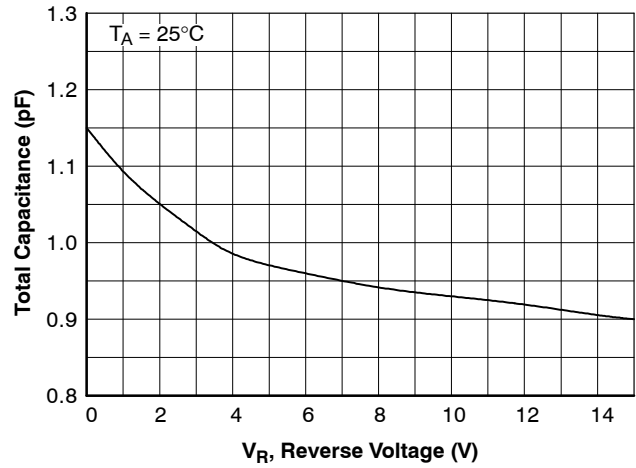
Figure 6. Forward Voltage vs. Forward Current  
 $V_F - 10$  to  $800 mA$

# BAV19

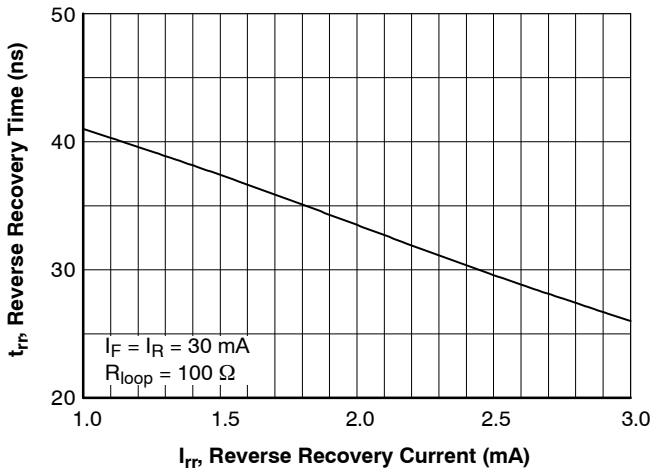
## TYPICAL CHARACTERISTICS (continued)



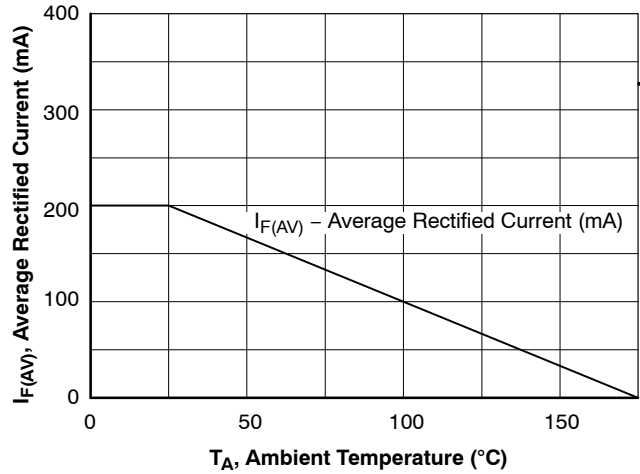
**Figure 7. Forward Voltage vs. Ambient Temperature**  
 $V_F - 0.1 \mu\text{A} - 10 \text{ mA} (-40 \text{ to } +80^\circ\text{C})$



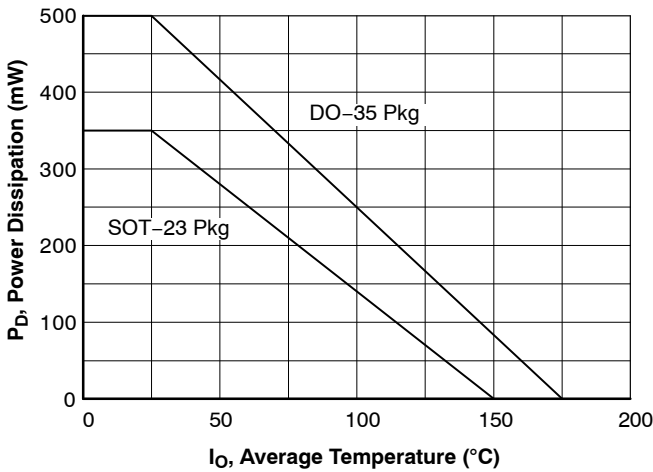
**Figure 8. Total Capacitance**



**Figure 9. Reverse Recovery Time vs. Reverse Recovery Current**



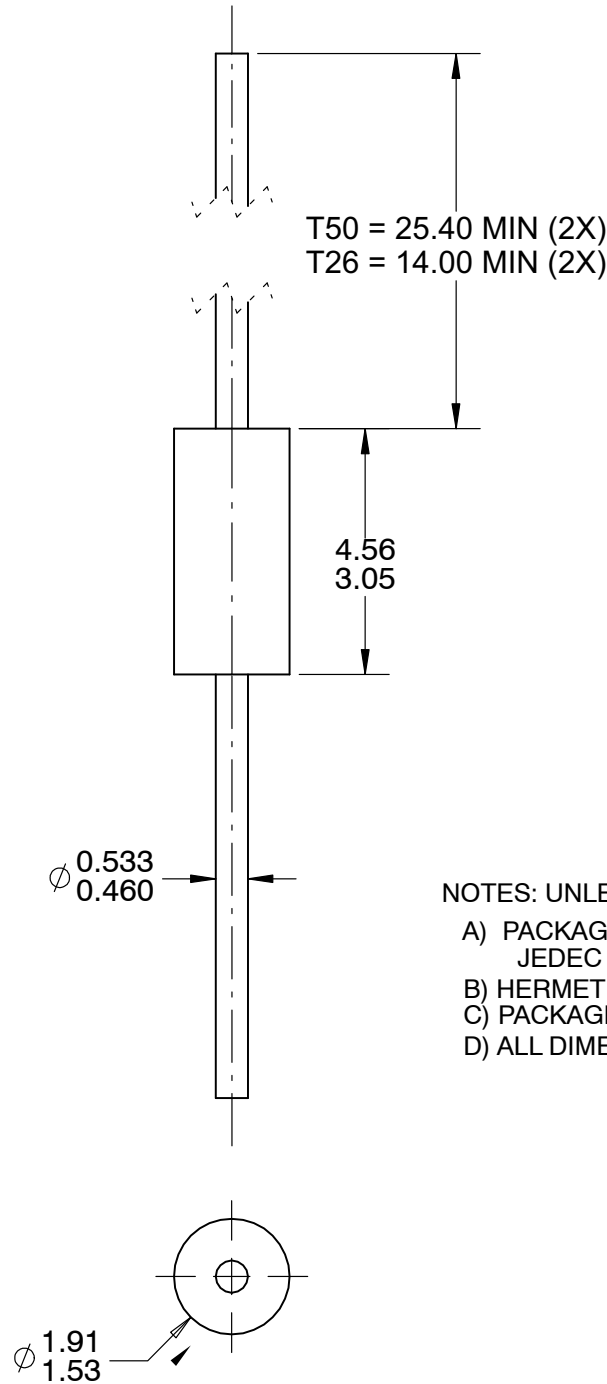
**Figure 10. Average Rectified Current ( $I_{F(AV)}$ ) vs. Ambient Temperature ( $T_A$ )**



**Figure 11. Power Derating Curve**

**AXIAL LEAD**  
CASE 017AG  
ISSUE 0

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- NOTES: UNLESS OTHERWISE SPECIFIED
- A) PACKAGE STANDARD REFERENCE: JEDEC DO-204, VARIATION AH.
  - B) HERMETICALLY SEALED GLASS PACKAGE.
  - C) PACKAGE WEIGHT IS 0.137 GRAM.
  - D) ALL DIMENSIONS ARE IN MILLIMETERS.

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