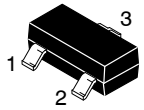
Small Signal Diode

BAV23S



SOT−23 (TO−236)
CASE 318

ABSOLUTE MAXIMUM RATINGS

(T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	250	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
I_{FSM}	Non−repetitive Peak Forward Surge Current Pulse Width = 1.0 μs Pulse Width = 100 μs	 9.0 3.0	A
T_{STG}	Storage Temperature Range	−55 to +150	°C
T_J	Operating Junction Temperature	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.

THERMAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

Symbol	Parameter	Value	Unit
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance, Junction−to−Ambient	357	°C/W

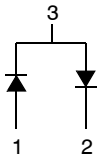
ELECTRICAL CHARACTERISTICS

(T_A = 25°C unless otherwise noted)

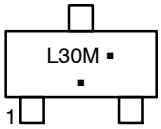
Symbol	Parameter	Test Conditions	Min	Max	Unit
B_V	Breakdown Voltage	I_R = 100 μA	250	–	V
V_F	Forward Voltage	I_F = 100 mA	–	1.0	V
		I_F = 200 mA	–	1.25	V
I_R	Reverse Leakage	V_R = 250 V	–	100	nA
		V_R = 250 V, T_A = 150°C	–	100	μA
t_{rr}	Reverse Recovery Time	I_F = I_R = 30 mA, I_{RR} = 3.0 mA, R_L = 100 Ω	–	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.

CONNECTION DIAGRAM



MARKING DIAGRAM



L30 = Specific Device Code
M = Date Code
▪ = Pb−Free Package
(Note: Microdot may be in either location)

ORDERING INFORMATION

Device	Package	Shipping†
BAV23S	SOT−23 (Pb−Free)	3,000 Units / 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.

TYPICAL PERFORMANCE CHARACTERISTICS

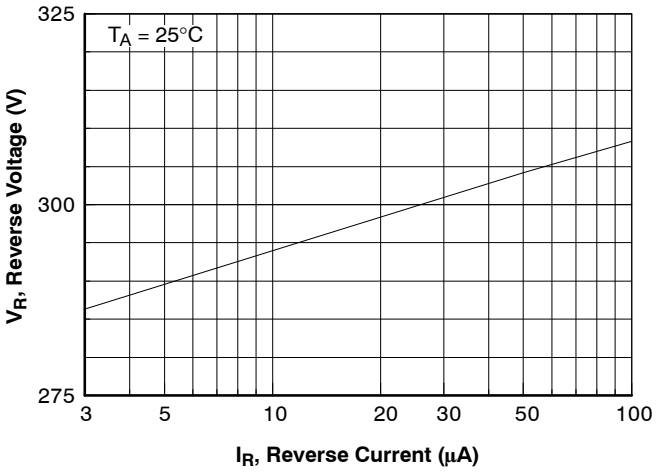


Figure 1. Reverse Voltage vs. Reverse Current
B_V – 1.0 to 100 μA

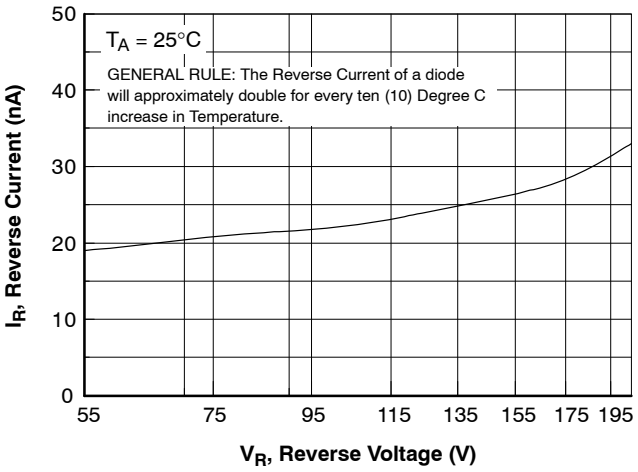


Figure 2. Reverse Current vs. Reverse Voltage
I_R – 55 to 205 V

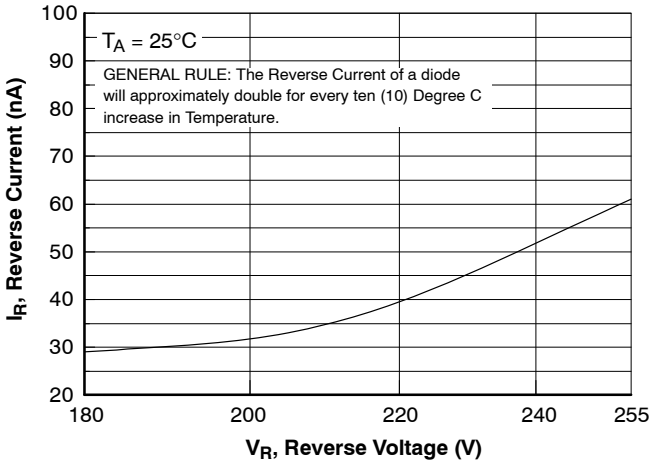


Figure 3. Reverse Current vs. Reverse Voltage
I_R – 180 to 225 V

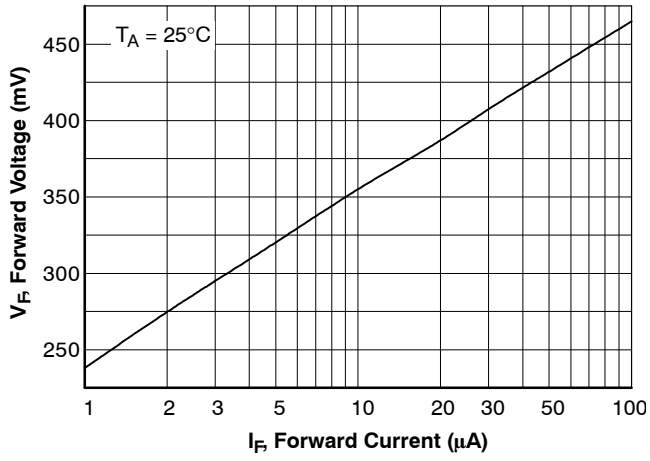


Figure 4. Forward Voltage vs. Forward Current
V_F – 1.0 to 100 μA

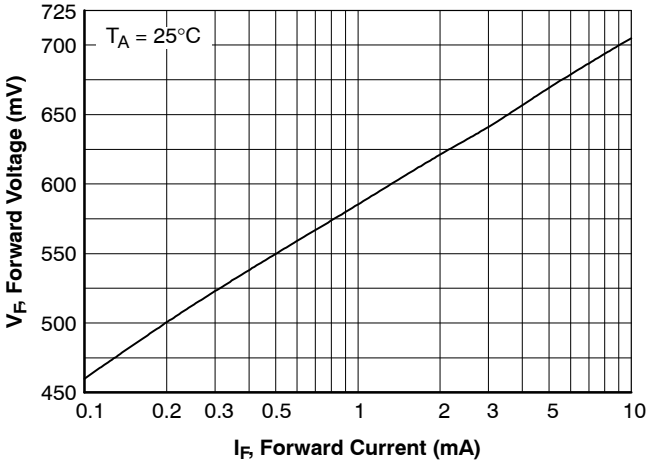


Figure 5. Forward Voltage vs. Forward Current
V_F – 0.1 to 10 mA

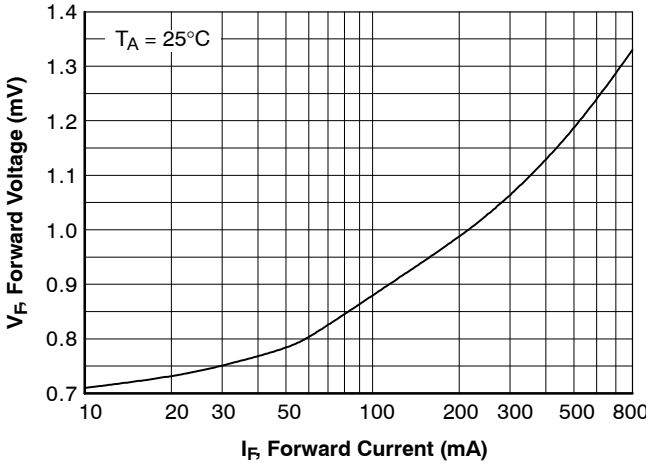


Figure 6. Forward Voltage vs. Forward Current
V_F – 10 to 800 mA

TYPICAL PERFORMANCE CHARACTERISTICS (continued)

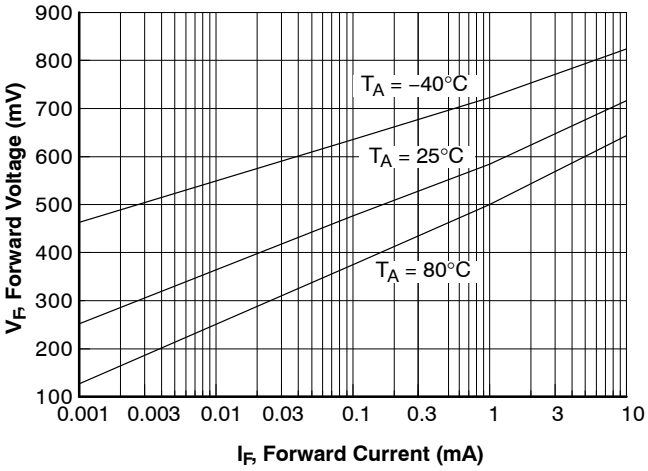


Figure 7. Forward Voltage vs. Ambient Temperature V_F – 1.0 μA – 10 mA (−40 to +80°C)

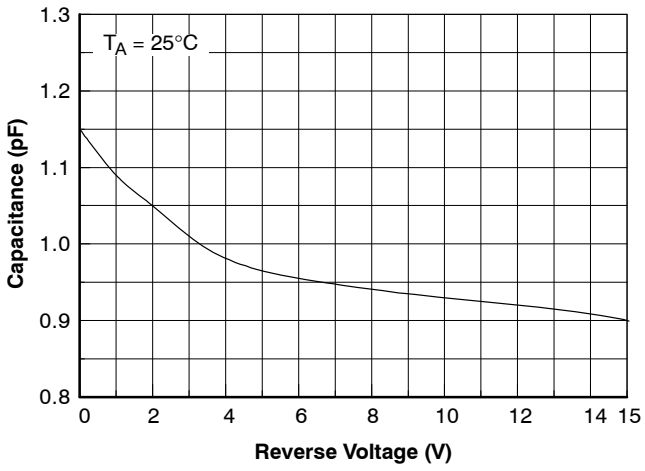


Figure 8. Capacitance vs. Reverse Voltage

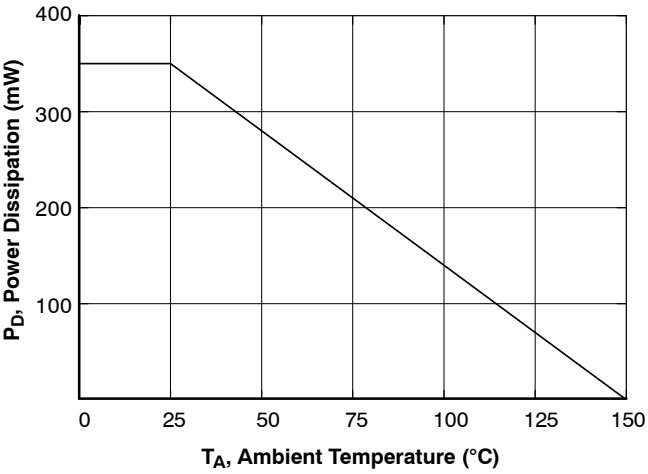


Figure 9. Power Derating Curve

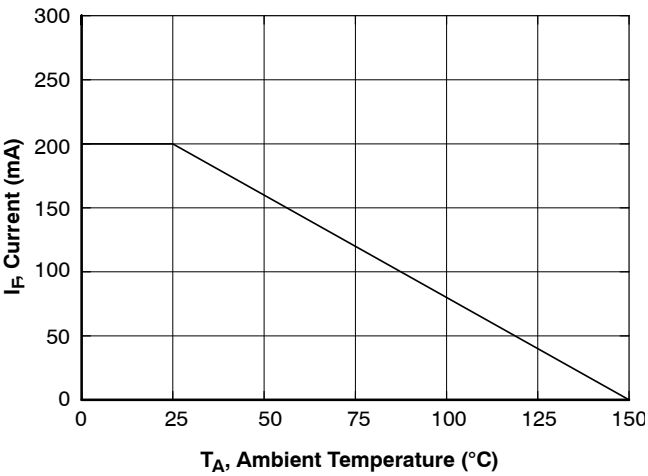


Figure 10. Average Rectified Current (I_O) vs. Ambient Temperature (T_A)

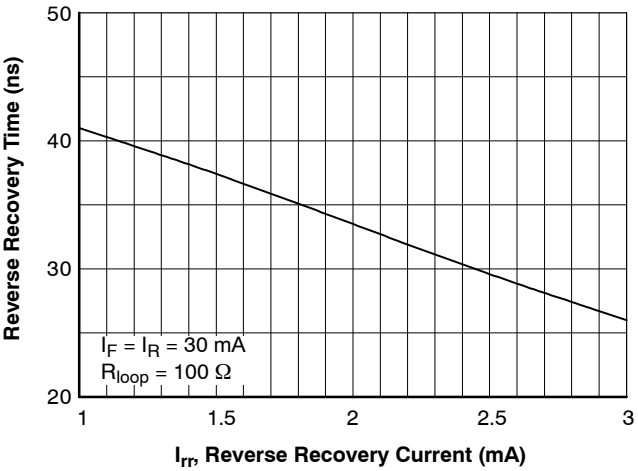


Figure 11. Reverse Recovery Time vs. Reverse Recovery Current (I_{rr})

ADDITIONAL INFORMATION

TECHNICAL PUBLICATIONS:
Technical Library: www.onsemi.com/design/resources/technical−documentation
onsemi Website: www.onsemi.com

ONLINE SUPPORT: www.onsemi.com/support
For additional information, please contact your local Sales Representative at www.onsemi.com/support/sales