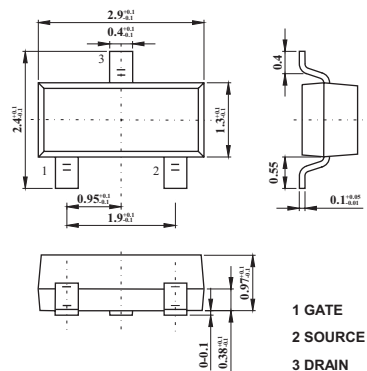




BAV23S

Small Signal Diode

SOT-23



Dimensions in inches and (millimeters)

Absolute Maximum Ratings * $T_a = 25^\circ\text{C}$ 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 microsecond Pulse Width = 100 microsecond	9.0	A
		3.0	A
T_{STG}	Storage Temperature Range	-55 to +150	$^\circ\text{C}$
T_J	Operating Junction Temperature	150	$^\circ\text{C}$

*These ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

Thermal Characteristics

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

Electrical Characteristics $T_C = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max	Units
V_R	Breakdown Voltage	$I_R = 100\mu\text{A}$	250		V
V_F	Forward Voltage	$I_F = 100\text{mA}$		1.0	V
		$I_F = 200\text{mA}$		1.25	V
I_R	Reverse Leakage	$V_R = 250\text{V}$		100	nA
		$V_R = 250\text{V}, T_A = 150^\circ\text{C}$		100	μA
t_{rr}	Reverse Recovery Time	$I_F = I_R = 30\text{mA}, I_{RR} = 3.0\text{mA}, R_L = 100\Omega$		50	ns

Typical Performance Characteristics

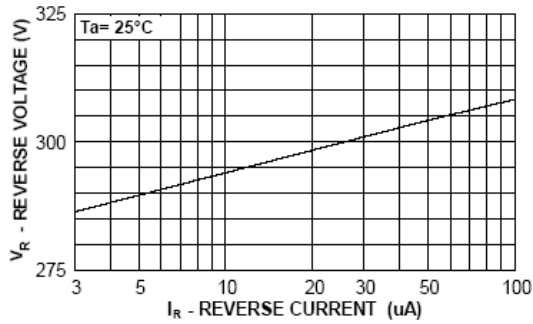


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 μ A

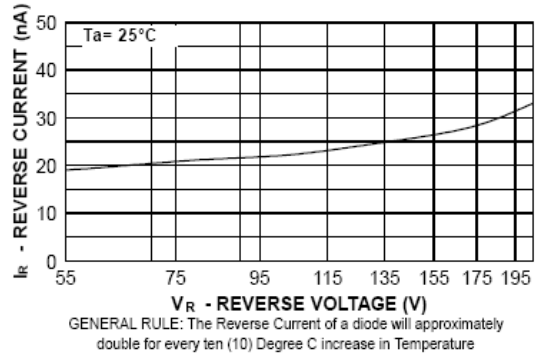


Figure 2. Reverse Current vs Reverse Voltage
IR - 55 to 205V

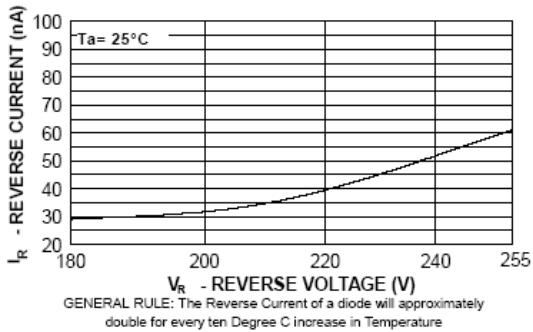


Figure 3. Reverse Current vs Reverse Voltage
IR - 180 to 255V

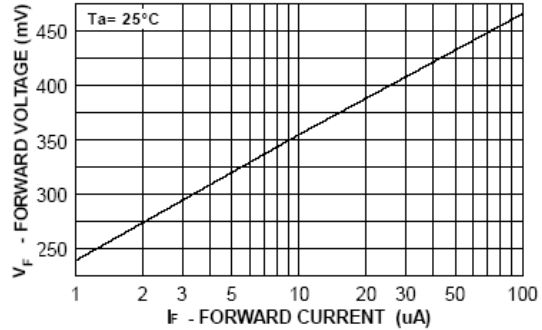


Figure 4. Forward Voltage vs Forward Current
VF - 1.0 to 100 μ A

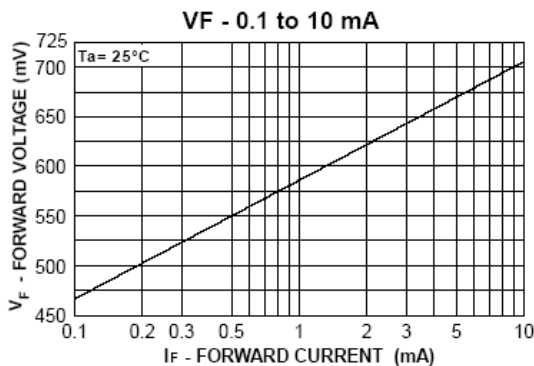


Figure 5. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

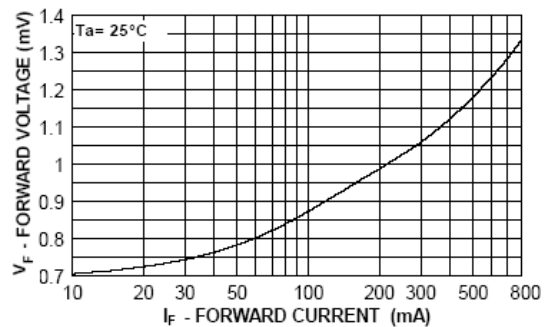


Figure 6. Forward Voltage vs Forward Current
VF - 10 to 800mA



BAV23S Small Signal Diode

Typical Performance Characteristics (Continued)

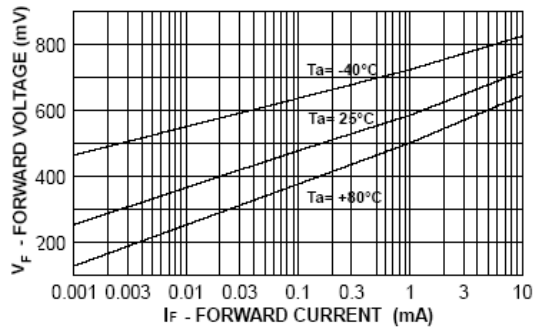


Figure 7. Forward Voltage vs Ambient Temperature
VF - 1.0 μ A - 10mA (- 40 to +80°C)

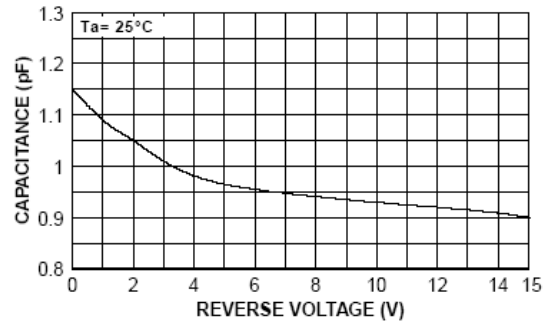


Figure 8. Capacitance vs Reverse Voltage
VR - 0 to 5V

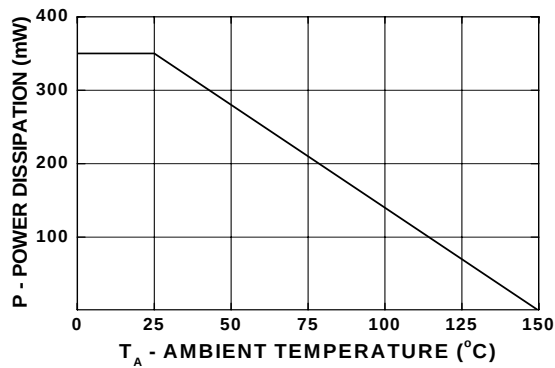


Figure 9. Power Derating Curve

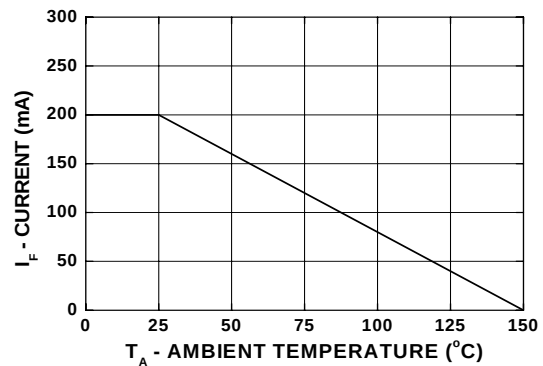


Figure 10. Average Rectified Current(I_O)
vs Ambient Temperature(T_A)

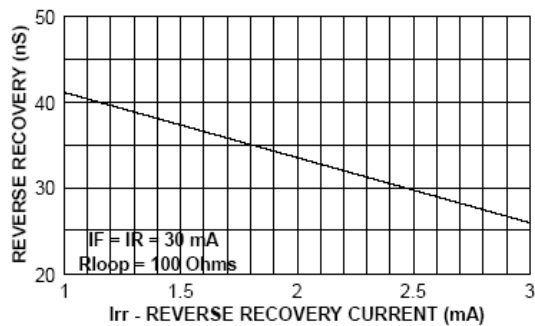


Figure 11. Reverse Recovery Time vs
Reverse Recovery Current (I_{rr})