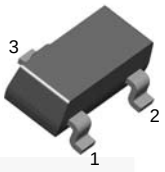
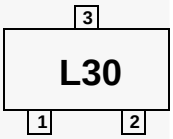
February 2015

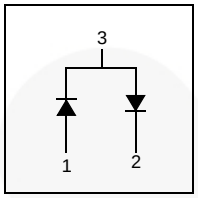
BAV23S
Small Signal Diode



SOT-23



Connection Diagram



Ordering Information

Part Number	Top Mark	Package	Packing Method
BAV23S	L30	SOT-23 3L	Tape and Reel

Absolute Maximum Ratings

Stresses exceeding the absolute maximum ratings may damage the device. The device may not function or be operable above the recommended operating conditions and stressing the parts to these levels is not recommended. In addition, extended exposure to stresses above the recommended operating conditions may affect device reliability. The absolute maximum ratings are stress ratings only. Values are at 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 microsecond	9.0	A
		Pulse Width = 100 microsecond	3.0	
T_{STG}	Storage Temperature Range		-55 to +150	°C
T_J	Operating Junction Temperature		150	°C

Thermal Characteristics

Values are at T_A = 25°C unless otherwise noted.

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

Electrical Characteristics

Values are at T_A = 25°C unless otherwise noted.

Symbol	Parameter	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

Typical Performance Characteristics

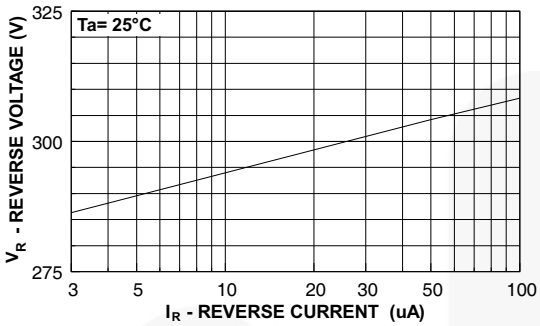


Figure 1. Reverse Voltage vs. Reverse Current
BV - 1.0 to 100 μA

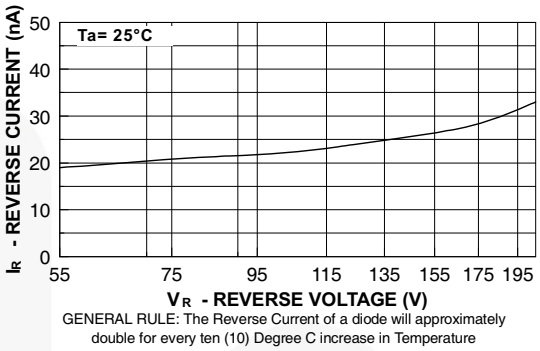


Figure 2. Reverse Current vs. Reverse Voltage
I_R - 55 to 205 V

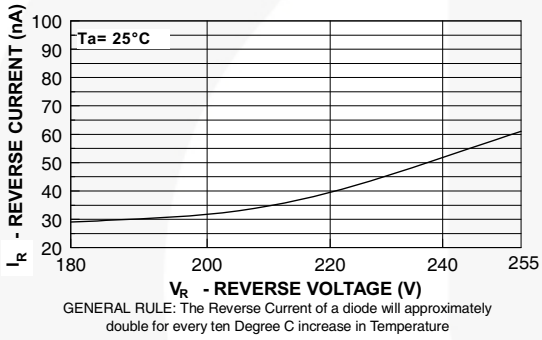


Figure 3. Reverse Current vs. Reverse Voltage
I_R - 180 to 255 V

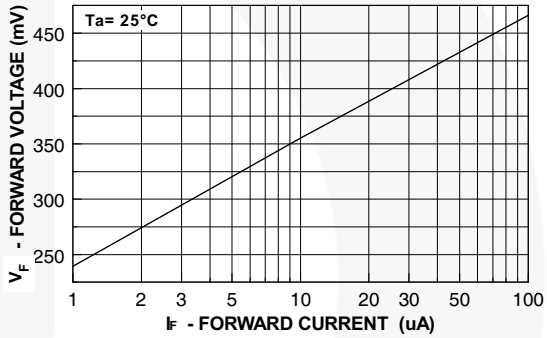


Figure 4. Forward Voltage vs. Forward Current
V_F - 1.0 to 100 μA

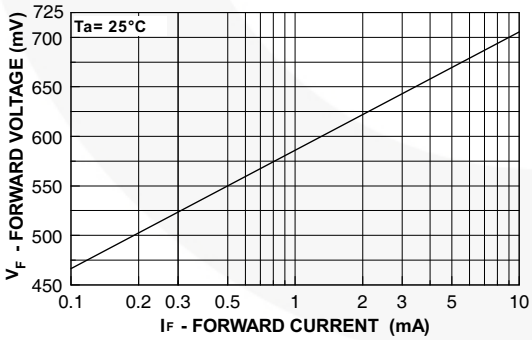


Figure 5. Forward Voltage vs. Forward Current
V_F - 0.1 to 10 mA

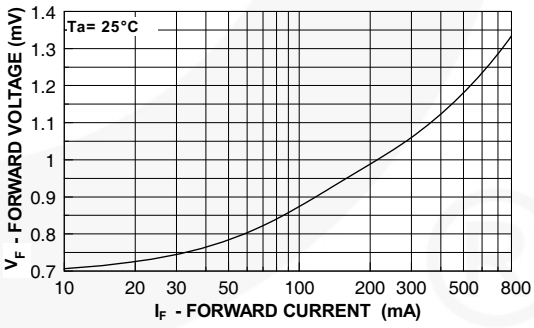


Figure 6. Forward Voltage vs. Forward Current
V_F - 10 to 800 mA

Typical Performance Characteristics (Continued)

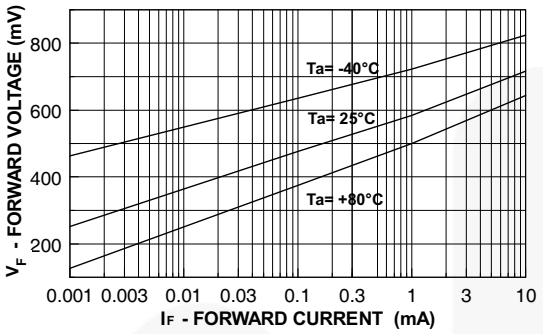


Figure 7. Forward Voltage vs. Ambient Temperature
V_F - 1.0 µA - 10 mA (- 40 to +80°C)

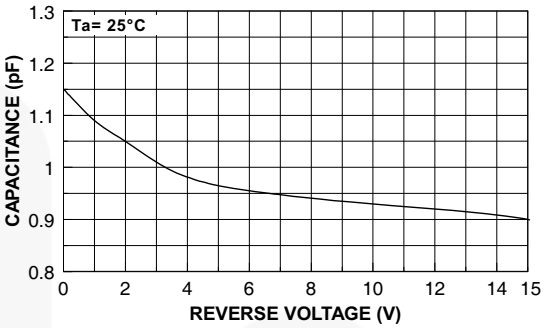


Figure 8. Capacitance vs. Reverse Voltage

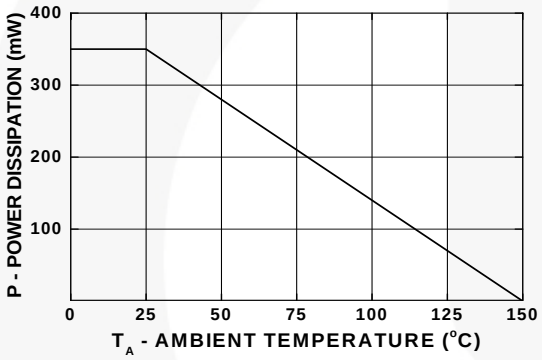


Figure 9. Power Derating Curve

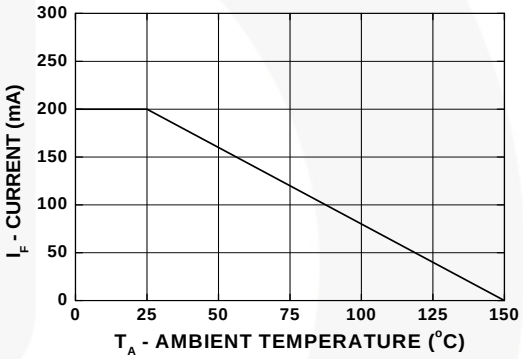


Figure 10. Average Rectified Current(I_O) vs. Ambient Temperature(T_A)

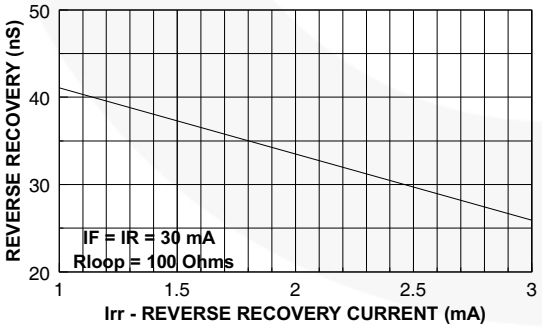


Figure 11. Reverse Recovery Time vs. Reverse Recovery Current (Irr)

Physical Dimensions

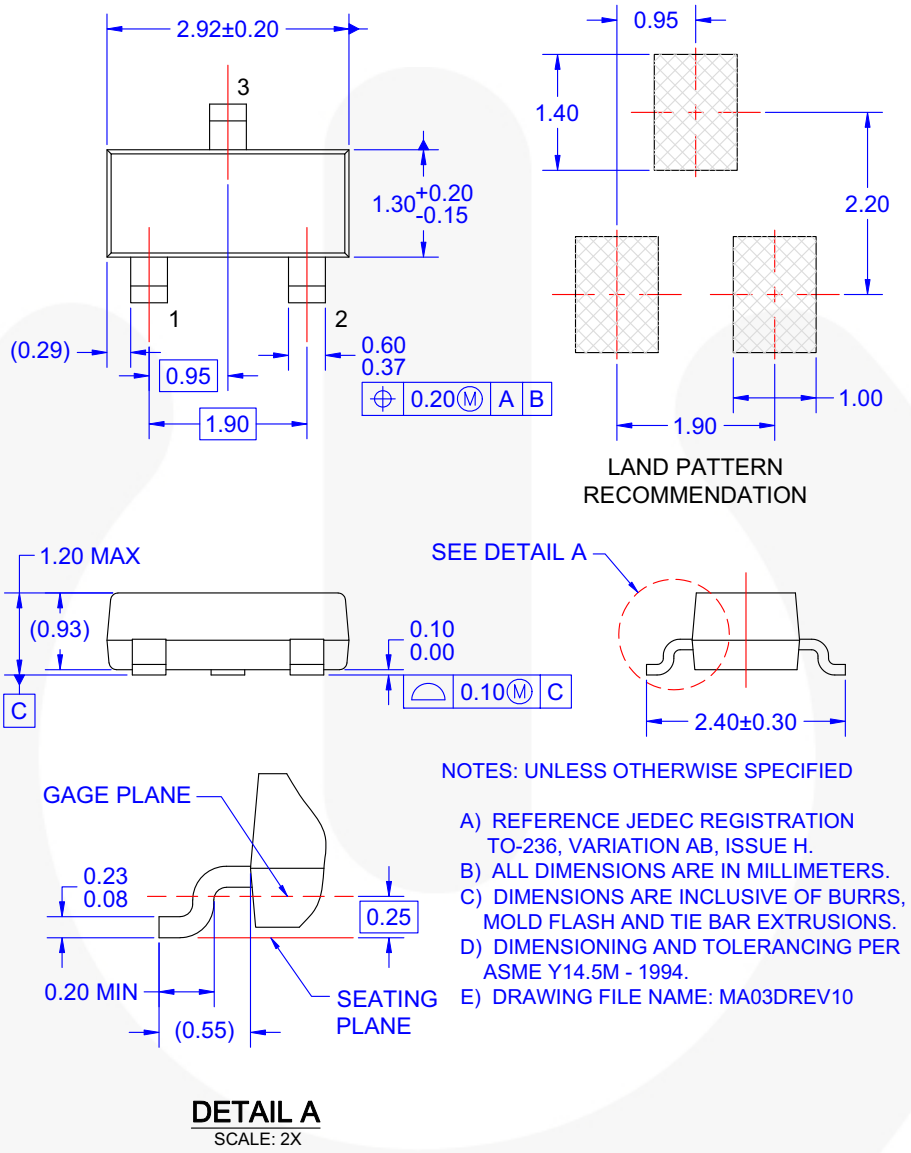


Figure 12. 3-LEAD, SOT23, JEDEC TO-236, LOW PROFILE

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