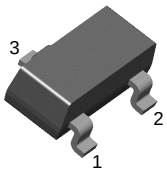
FAIRCHILD SEMICONDUCTOR®

September 2006

BAV23S
Small Signal Diode



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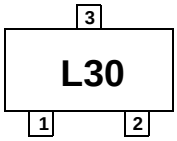
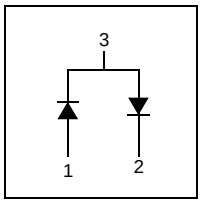


Connection Diagram



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 microsecond Pulse Width = 100 microsecond	 9.0 3.0	 A A
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	150	°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	°C/W

Electrical Characteristics T_C = 25°C unless otherwise noted

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

Typical Performance Characteristics

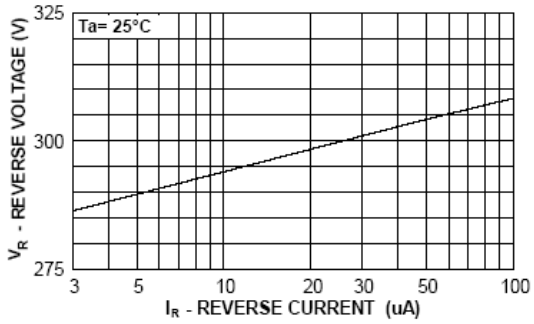


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100μA

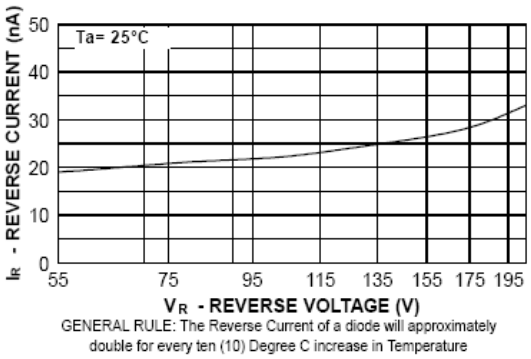


Figure 2. Reverse Current vs Reverse Voltage
IR - 55 to 205V

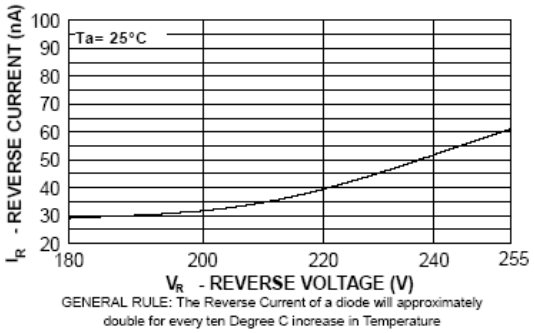


Figure 3. Reverse Current vs Reverse Voltage
IR - 180 to 255V

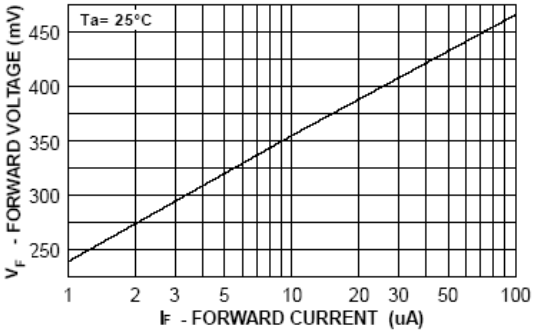


Figure 4. Forward Voltage vs Forward Current
VF - 1.0 to 100μA

VF - 0.1 to 10 mA

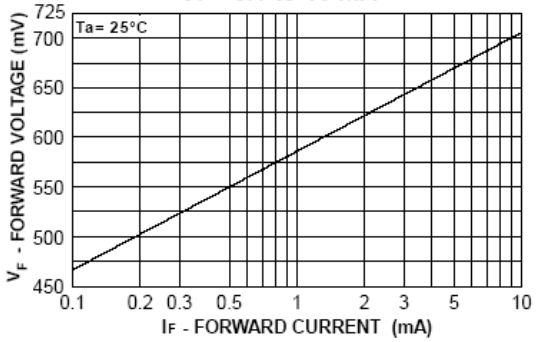


Figure 5. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

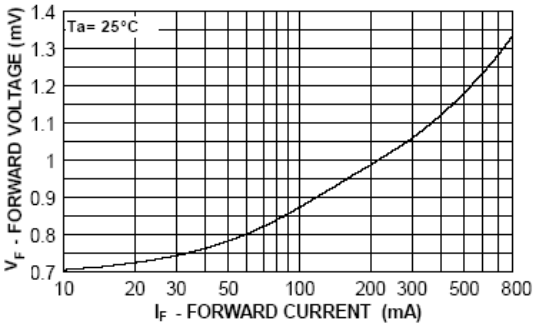


Figure 6. Forward Voltage vs Forward Current
VF - 10 to 800mA

Typical Performance Characteristics (Continued)

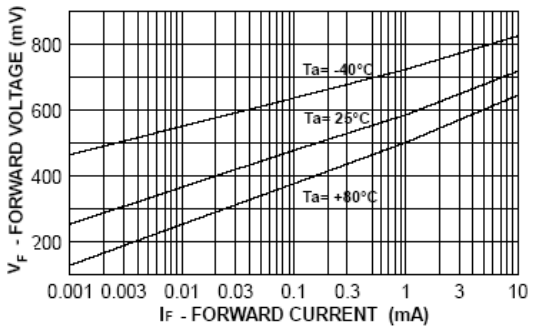


Figure 7. Forward Voltage vs Ambient Temperature
VF - 1.0μA - 10mA (- 40 to +80°C)

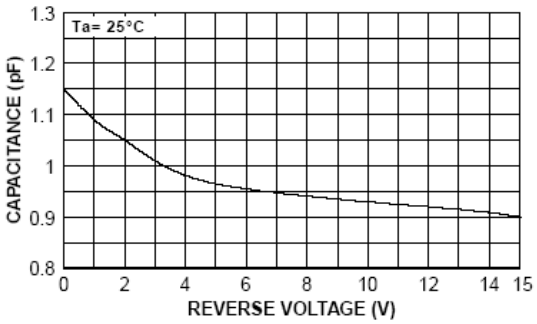


Figure 8. Capacitance vs Reverse Voltage
VR - 0 to 5V

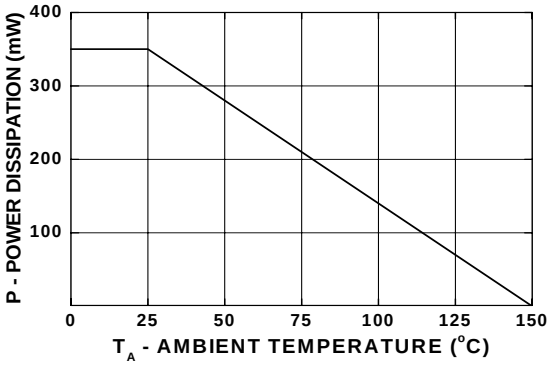


Figure 9. Power Derating Curve

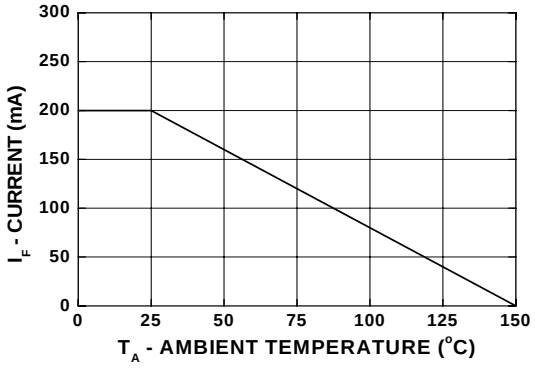


Figure 10. Average Rectified Current(I_O) vs Ambient Temperature(T_A)

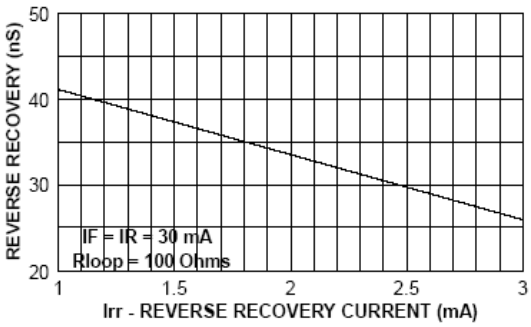


Figure 11. Reverse Recovery Time vs Reverse Recovery Current (Irr)

Mechanical Dimensions

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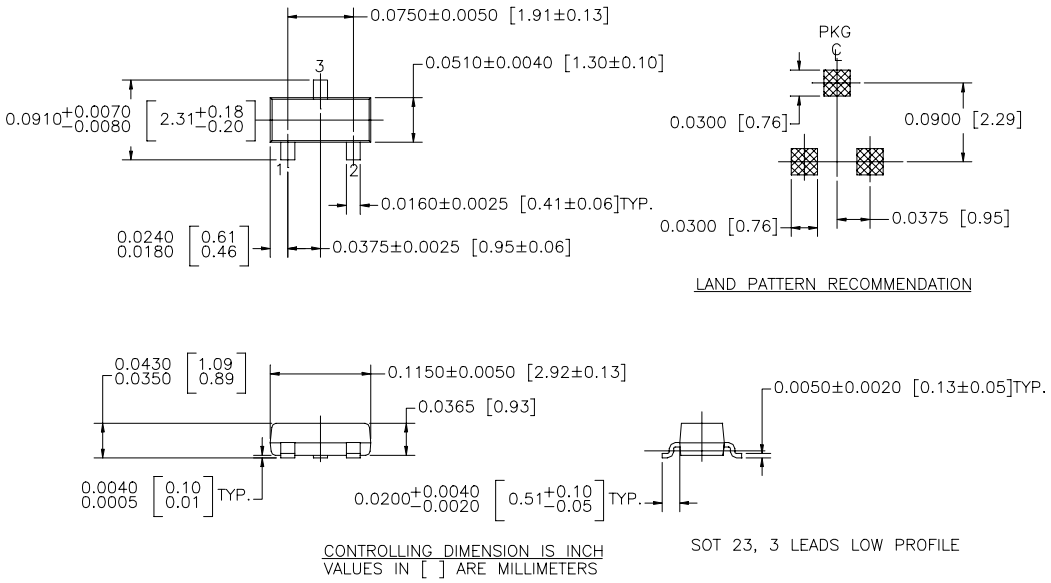

NOTE : UNLESS OTHERWISE SPECIFIED

1. STANDARD LEAD FINISH 150 MICROINCHES / 3.81 MICROMETERS MINIMUM TIN / LEAD (SOLDER) ON ALLOY 42
2. REFERENCE JEDEC REGISTRATION TO−236, VARIATION AB, ISSUE G, DATED JUL 1993

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