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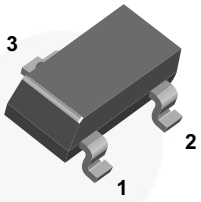
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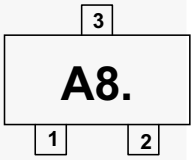
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February 2015

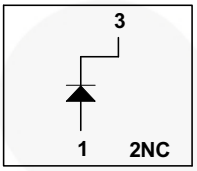
BAS19
Small Signal Diode



SOT-23



Connection Diagram



Ordering Information

Part Number	Top Mark	Package	Packing Method
BAS19	A8.	SOT-23 3L	Tape and Reel

Absolute Maximum Ratings[1], [2]

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		120	V
$I_{F(AV)}$	Average Rectified Forward Current		200	mA
I_{FSM}	Non-Repetitive Peak Forward Surge Current	Pulse Width = 1.0 second	1.0	A
		Pulse Width = 1.0 microsecond	2.0	
T_{STG}	Storage Temperature Range		-55 to +150	°C
T_J	Operating Junction Temperature		-55 to +150	°C

Notes:

1. These ratings are based on a maximum junction temperature of 150°C.
2. These are steady-state limits. Fairchild Semiconductor should be consulted on applications involving pulsed or low-duty-cycle operations.

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Thermal Characteristics

Values are at 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

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

Symbol	Parameter	Conditions	Min.	Max.	Unit
V_R	Breakdown Voltage	I_R = 100 µA	120		V
V_F	Forward Voltage	I_F = 100 mA		1.00	V
		I_F = 200 mA		1.25	
I_R	Reverse Current	V_R = 100 V		0.1	µA
		V_R = 100 V, T_A = 150°C		100	
C_T	Total Capacitance	V_R = 0, f = 1.0 MHz		5.0	pF
t_{rr}	Reverse Recovery Time	$I_F = I_R$ = 30 mA, I_{RR} = 3.0 mA, R_L = 100 Ω		50	ns

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Typical Performance Characteristics

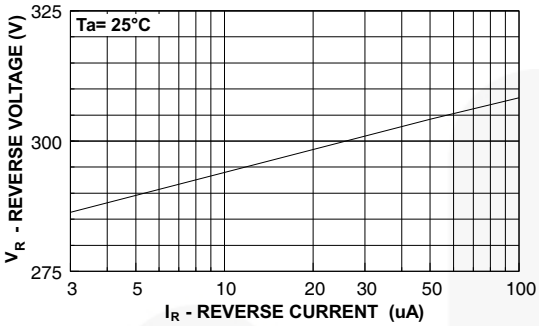


Figure 1. Reverse Voltage vs. Reverse Current
BV - 1.0 to 100 μA

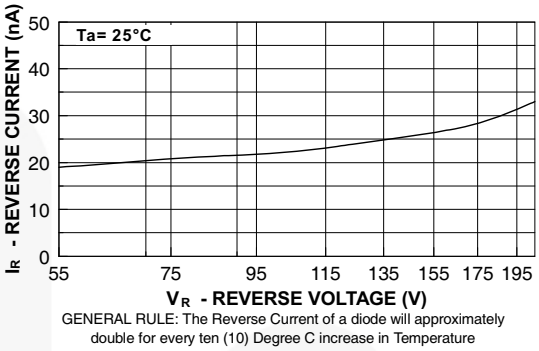


Figure 2. Reverse Current vs. Reverse Voltage
I_R - 55 to 205 V

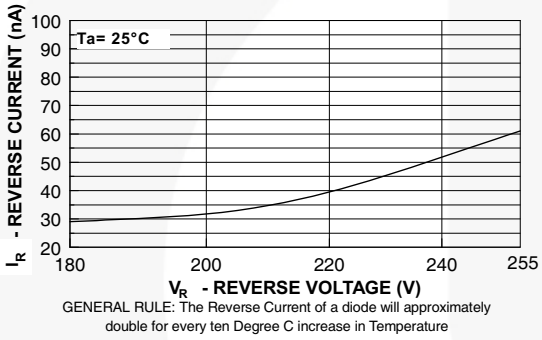


Figure 3. Reverse Current vs. Reverse Voltage
I_R - 180 to 255 V

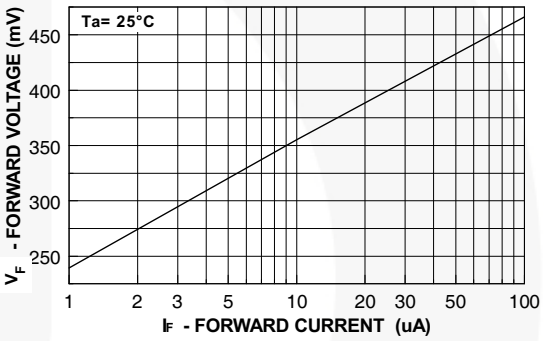


Figure 4. Forward Voltage vs. Forward Current
V_F - 1.0 to 100 μA

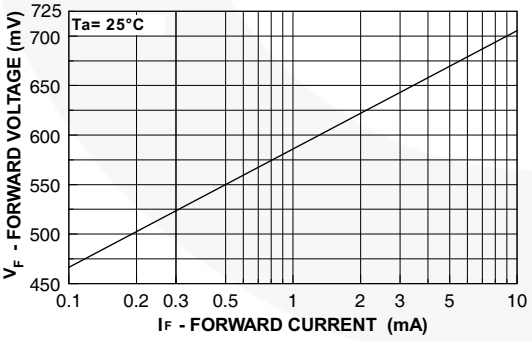


Figure 5. Forward Voltage vs. Forward Current
V_F - 0.1 to 10 mA

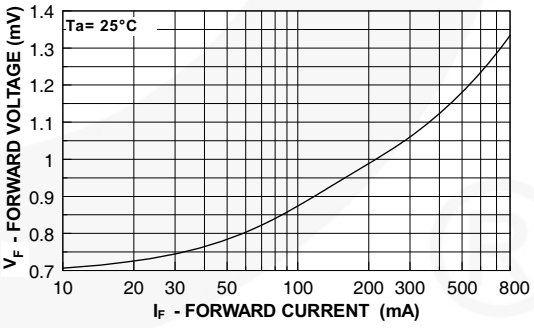


Figure 6. Forward Voltage vs. Forward Current
V_F - 10 to 800 mA

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Typical Performance Characteristics (Continued)

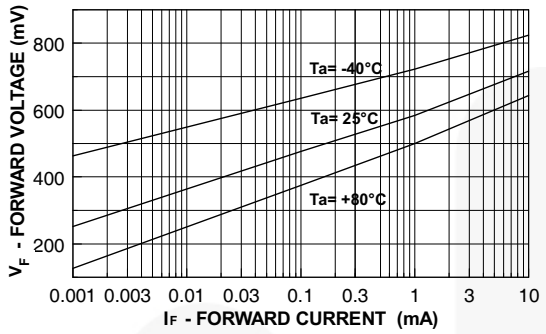


Figure 7. Forward Voltage vs. Ambient Temperature V_F - 1.0 μA - 10 mA (- 40 to +80°C)

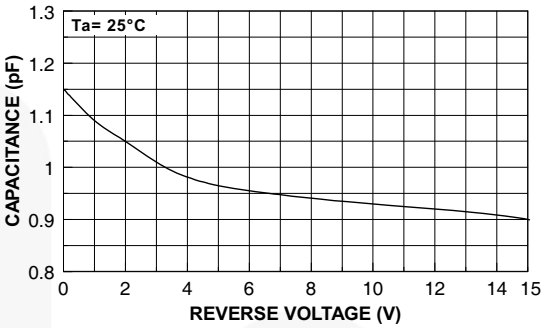


Figure 8. Capacitance vs. Reverse Voltage

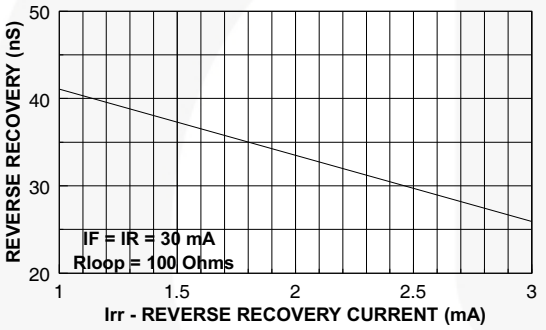


Figure 9. Reverse Recovery Time vs. Reverse Recovery Current (Irr)

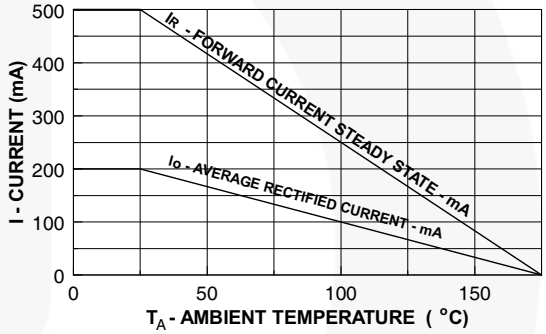


Figure 10. Average Rectified Current(I_O) and Forward Current (I_F) vs. Ambient Temperature(T_A)

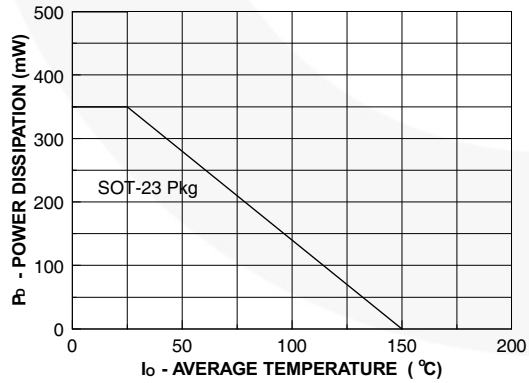


Figure 11. Power Derating Curve

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Physical Dimensions

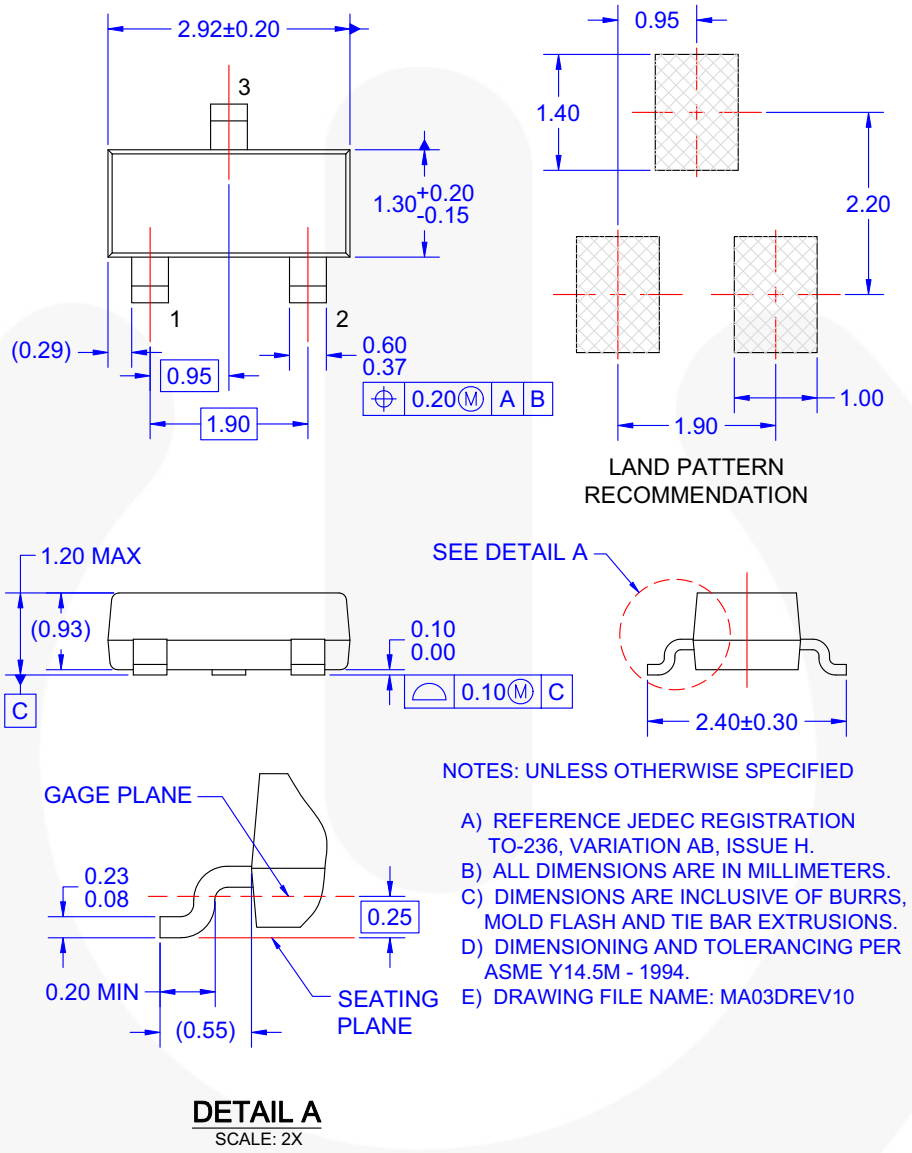


Figure 12. 3-LEAD, SOT23, JEDEC TO-236, LOW PROFILE

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