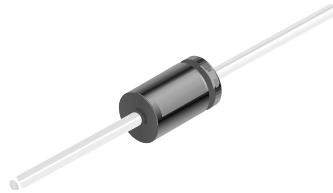


BAV19 / 20 / 21



DO-35

Color Band Denotes Cathode

Small Signal Diode

Absolute Maximum Ratings*

T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V _{RRM}	Maximum Repetitive Reverse Voltage	BAV19	120 V
		BAV20	200 V
		BAV21	250 V
I _{F(AV)}	Average Rectified Forward Current	200	mA
I _{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 second Pulse Width = 1.0 microsecond	1.0	A
		4.0	A
T _{stg}	Storage Temperature Range	-65 to +200	°C
T _J	Operating Junction Temperature	175	°C

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

NOTES:

1) These ratings are based on a maximum junction temperature of 200 degrees C.

2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Thermal Characteristics

Symbol	Parameter	Value	Units
P _D	Power Dissipation	500	mW
R _{θJA}	Thermal Resistance, Junction to Ambient	300	°C/W

Electrical Characteristics

T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min	Max	Units
V _R	Breakdown Voltage	BAV19	I _R = 100 μA	120	V
		BAV20	I _R = 100 μA	200	V
		BAV21	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 Current	BAV19	V _R = 100 V	100	nA
			V _R = 100 V, T _A = 150°C	100	μA
			V _R = 150 V	100	nA
		BAV20	V _R = 150 V, T _A = 150°C	100	μA
			V _R = 200 V	100	nA
		BAV21	V _R = 200 V, T _A = 150°C	100	μA
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 = 100Ω		50	ns

Typical Characteristics

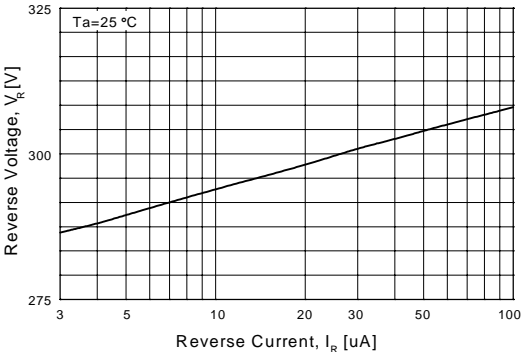


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100uA

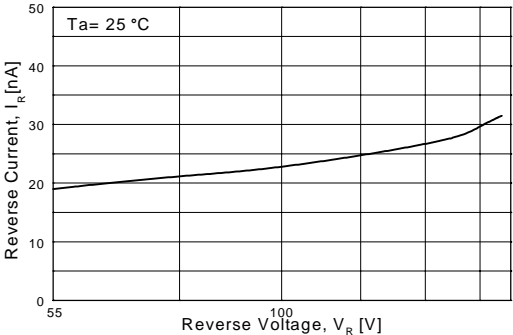


Figure 2. Reverse Current vs Reverse Voltage
IR - 55 to 205 V
GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

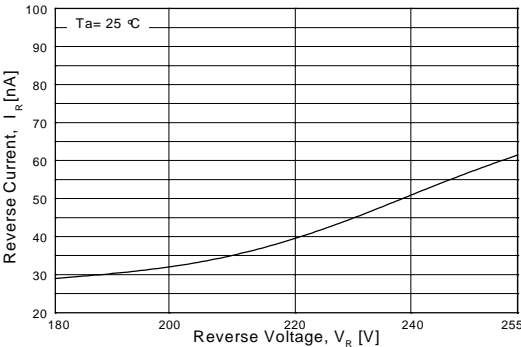


Figure 3. Reverse Current vs Reverse Voltage
IR - 180 to 225 V
GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

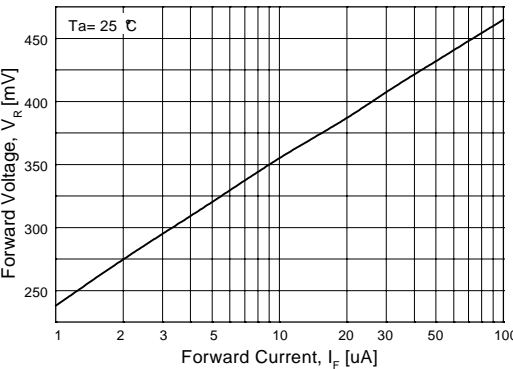


Figure 4. Forward Voltage vs Forward Current
VF - 1.0 to 100uA

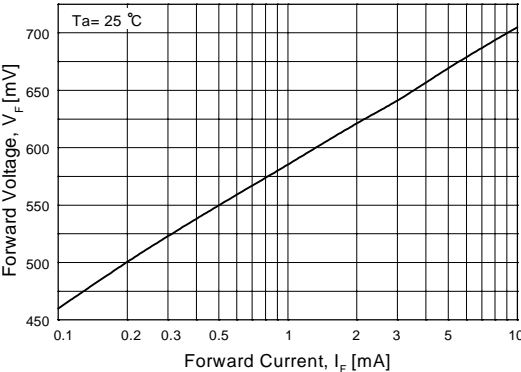


Figure 5. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

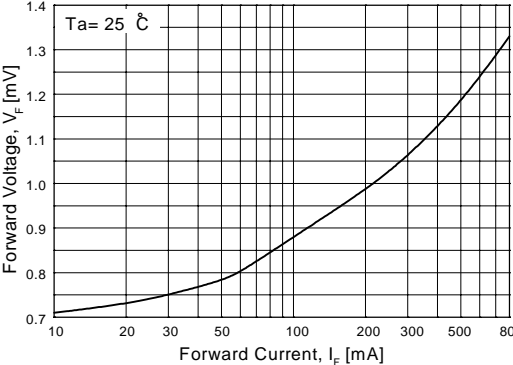


Figure 6. Forward Voltage vs Forward Current
VF - 10 to 800mA

Small Signal Diode

(continued)

Typical Characteristics (continued)

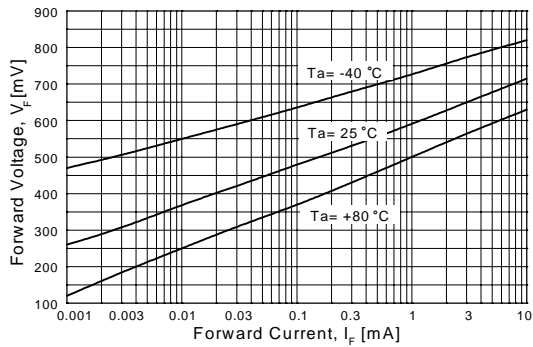


Figure 7. Forward Voltage vs Ambient Temperature
VF - 1.0 μ A - 10 mA (-40 to +80 Deg C)

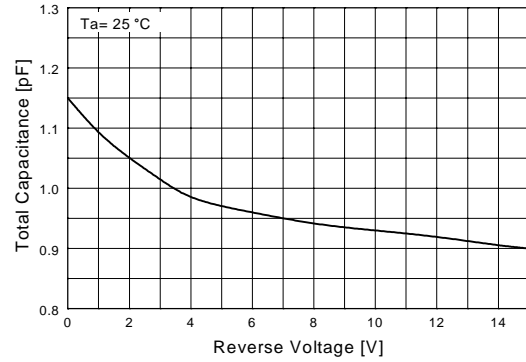


Figure 8. Total Capacitance

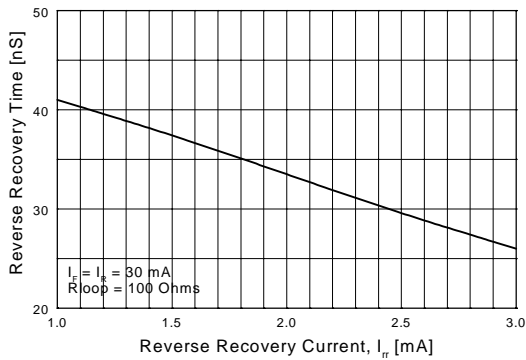


Figure 9. Reverse Recovery Time vs Reverse Recovery Current

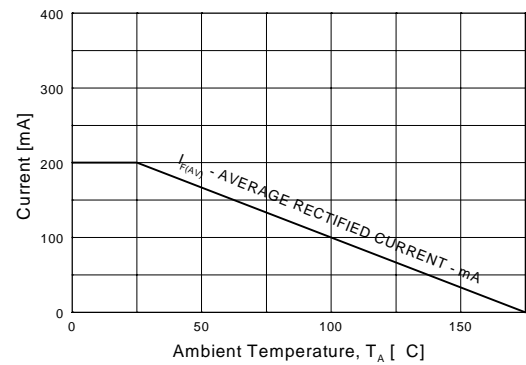


Figure 10. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

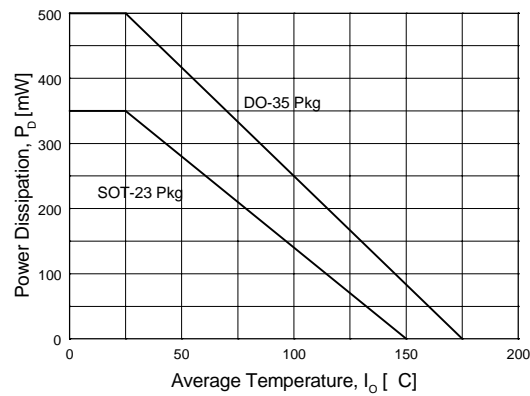


Figure 11. Power Derating Curve

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