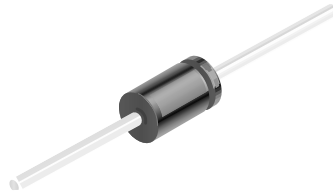


BAV19 / 20 / 21



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	V _R = 100 V		100	nA
		V _R = 100 V, T _A = 150°C		100	μA
		V _R = 150 V		100	nA
		V _R = 150 V, T _A = 150°C		100	μA
		V _R = 200 V		100	nA
		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

Small Signal Diode
(continued)

Typical Characteristics

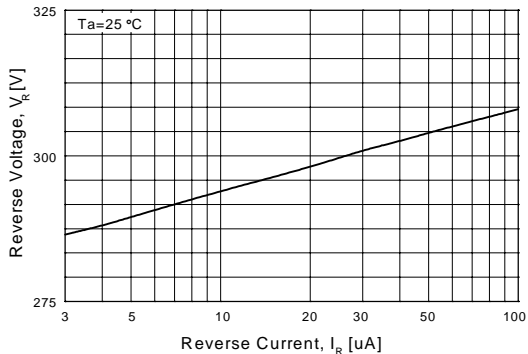


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100uA

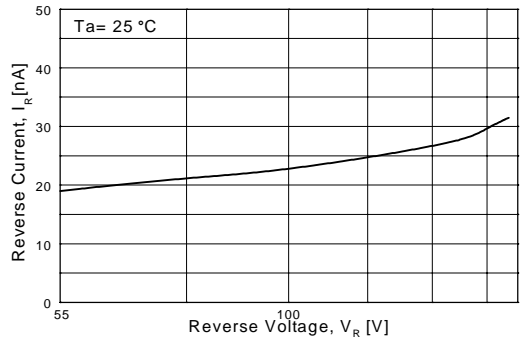


Figure 2. Reverse Current vs Reverse Voltage
IR - 55 to 205 V

GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

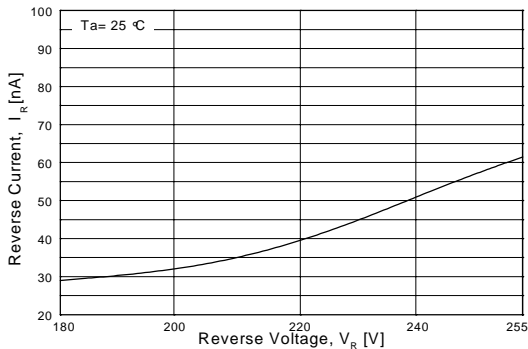


Figure 3. Reverse Current vs Reverse Voltage
IR - 180 to 225 V

GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature

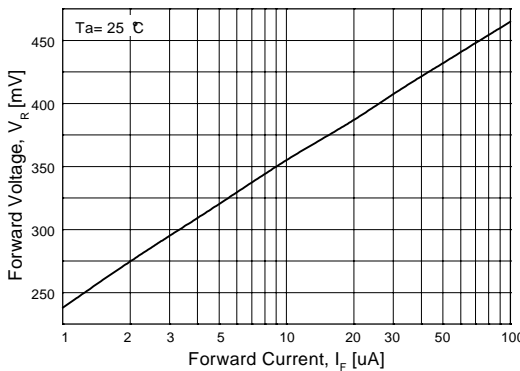


Figure 4. Forward Voltage vs Forward Current
VF - 1.0 to 100uA

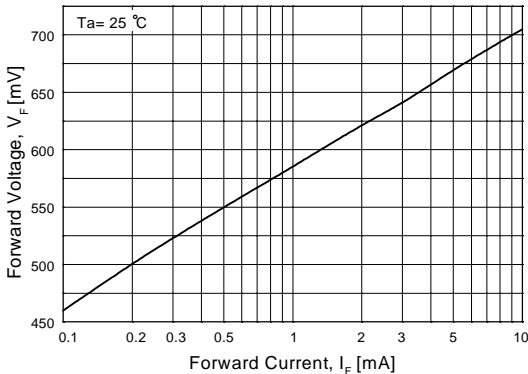


Figure 5. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

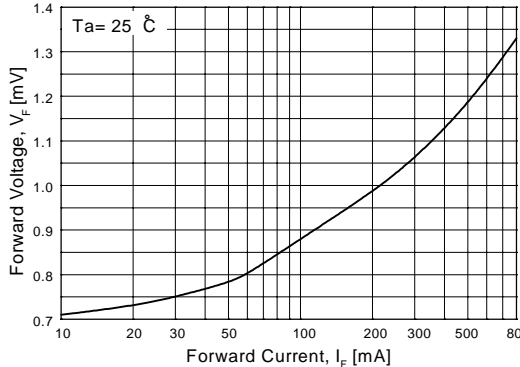


Figure 6. Forward Voltage vs Forward Current
VF - 10 to 800mA

Small Signal Diode

(continued)

Typical Characteristics (continued)

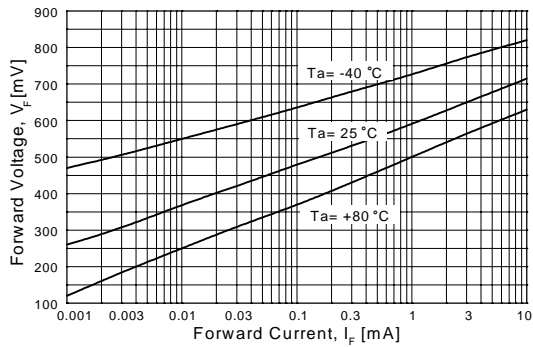


Figure 7. Forward Voltage vs Ambient Temperature
VF - 1.0 μ A - 10 mA (-40 to +80 Deg C)

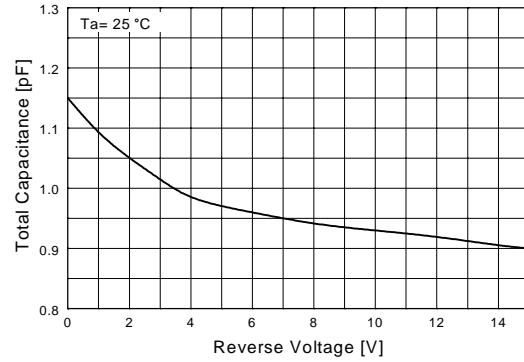


Figure 8. Total Capacitance

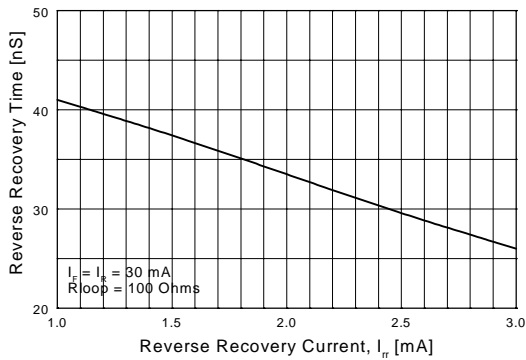


Figure 9. Reverse Recovery Time vs Reverse Recovery Current

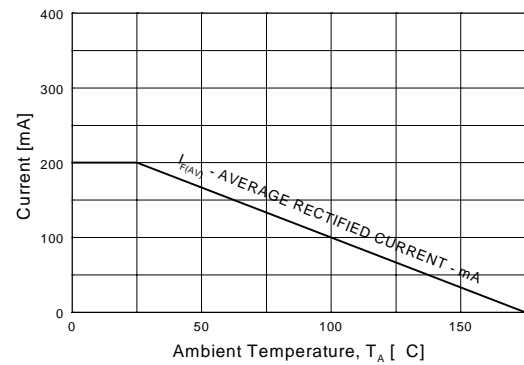


Figure 10. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

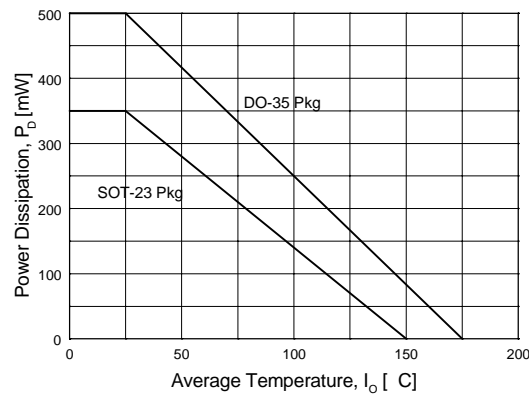


Figure 11. Power Derating Curve

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