FAIRCHILD SEMICONDUCTOR®

April 2008

BAX16

High Voltage General Purpose Diode

DO-35 Glass case

COLOR BAND DENOTES CATHODE

Absolute Maximum Ratings

* T_a = 25°C unless otherwise noted

Symbol	Parameter	Value	Unit
V_{RRM}	Maximum Repetitive Reverse Voltage	150	V
$I_{F(AV)}$	Average Rectified Forward Current	200	mA
i_f	Recurrent Peak Forward Current	600	mA
I_{FSM}	Non-repetitive Peak Forward Surge Current Pulse Width = 1.0 s Pulse Width = 1.0 μs	 1 4	 A 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 the diode may be impaired.

Notes:
1) These ratings are based on a maximum junction temperature of 200degrees C.
2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics

* T_a = 25°C unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	I_R = 100μA	180		V
V_F	Forward Voltage	I_F = 1.0mA		0.65	V
V_{FP}	Forward Voltage Pulse Width = 300μs	I_F = 100mA I_F = 200mA		1.3 1.5	
I_R	Reverse Leakage	V_R = 50V V_R = 50V, T_A = 150°C V_R = 150V V_R = 150V, T_A = 150°C		25 25 100 100	nA μA nA μA
t_{rr}	Reverse Recovery Time	I_F = 30mA, I_R = 30mA, I_{rr} = 1.0mA, R_L = 100Ω		120	ns

Typical Performance Characteristics

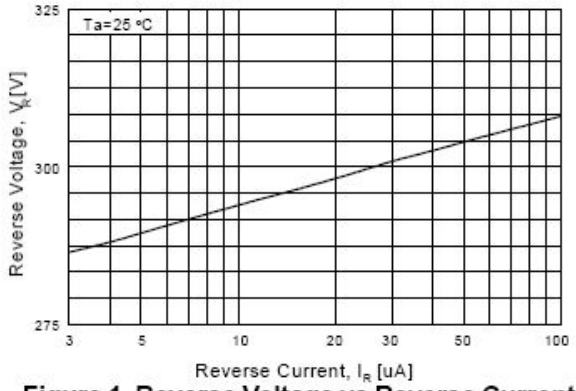
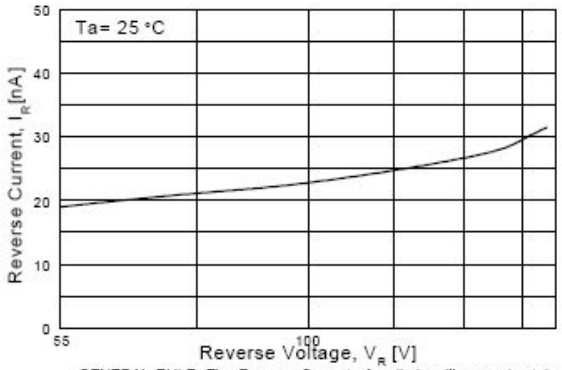
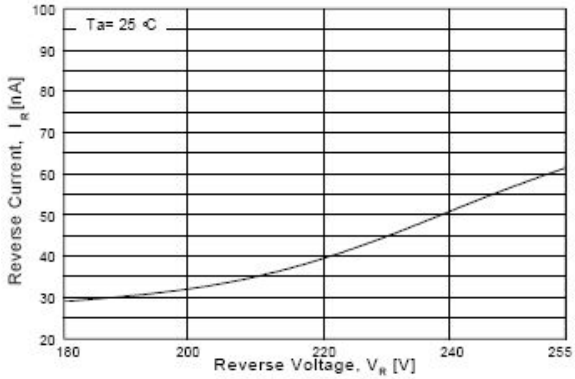


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100uA



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

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 Roltage
IR - 180 to 225 V

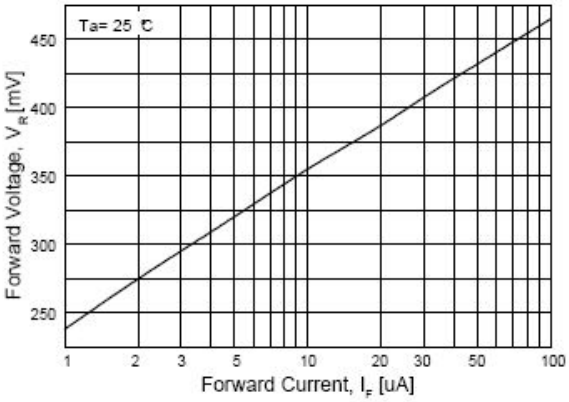


Figure 4. Forward Voltage vs Forward Current
VF - 1.0 to 100uA

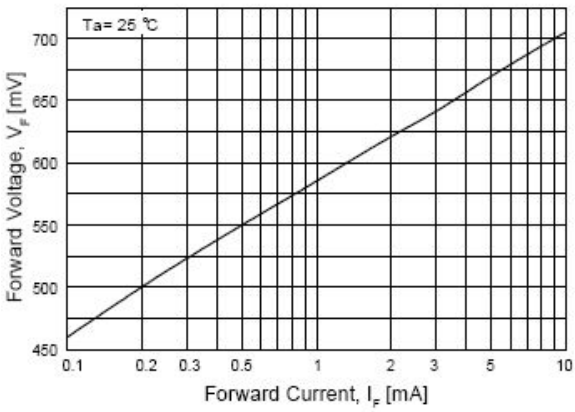


Figure 5. Forward Voltage vs Forward Current
VF - 0.1 to 10mA

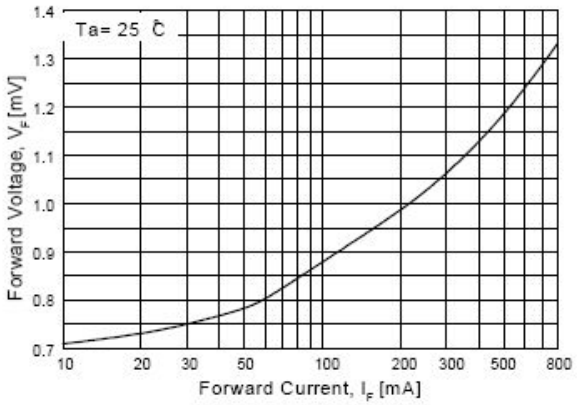


Figure 6. Forward Voltage vs Forward Current
VF - 10 to 800mA

Typical Performance Characteristics

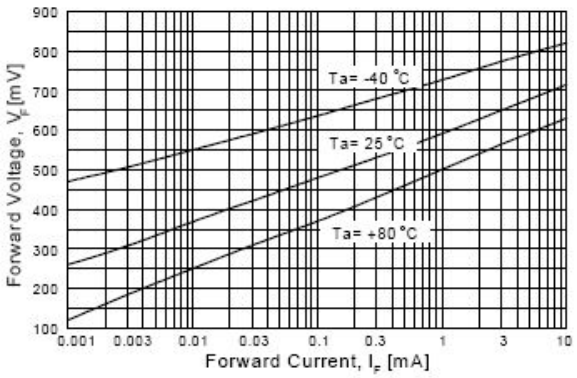


Figure 7. Forward Voltage vs Ambient Temperature VF - 1.0 uA - 10 mA (-40 to +80 Deg C)

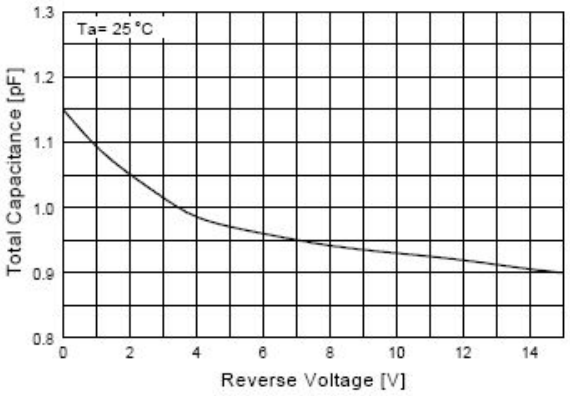


Figure 8. Total Capacitance

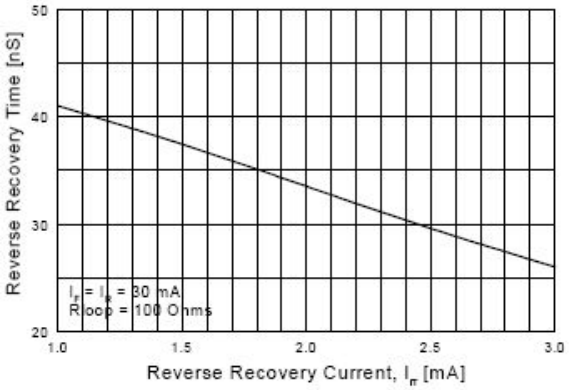


Figure 9. Reverse Recovery Time vs Reverse Recovery Current

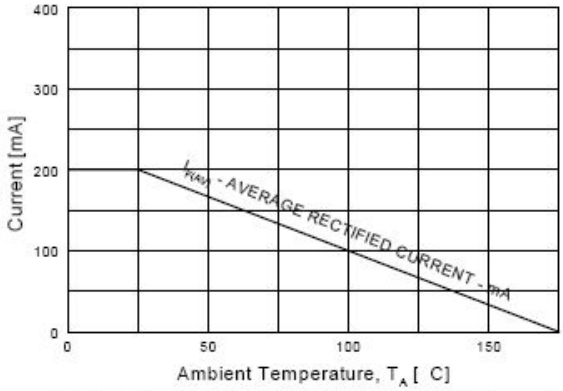


Figure 10. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

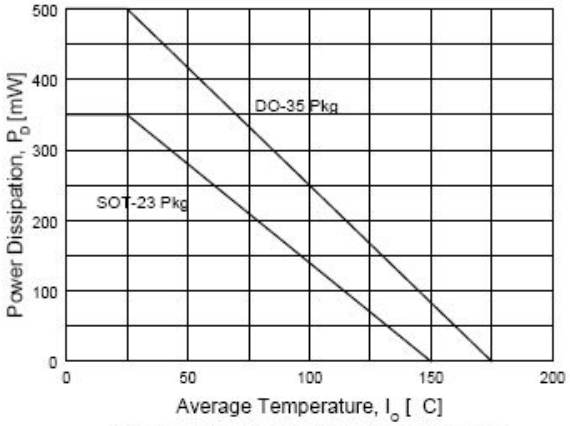


Figure 11. Power Derating Curve

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