

# BAX16

## High Voltage General Purpose Diode



**DO-35 Glass case**  
COLOR BAND DENOTES CATHODE

### Absolute Maximum Ratings \* $T_a = 25^\circ\text{C}$ 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 $\mu\text{s}$	1	A
		4	A
$T_{STG}$	Storage Temperature Range	-65 to 200	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	175	$^\circ\text{C}$

\* These ratings are limiting values above which the serviceability of the diode may be impaired.

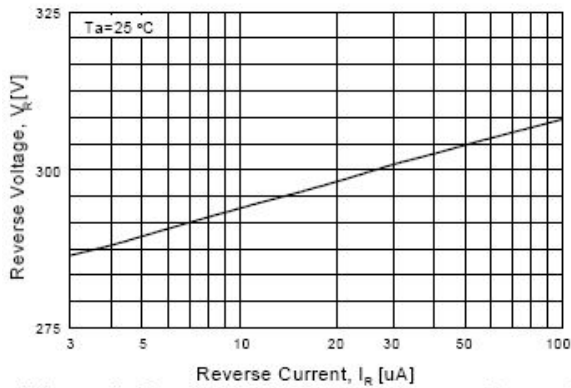
**Notes:**

- 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.

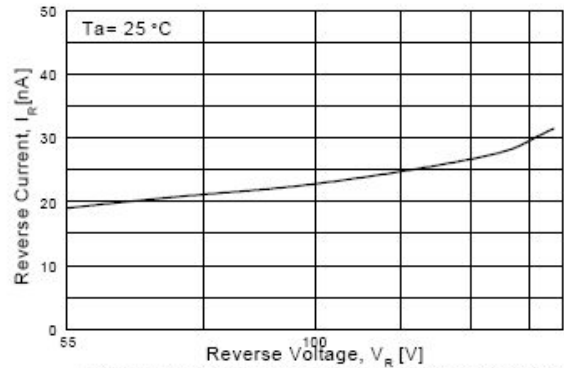
### Electrical Characteristics \* $T_a = 25^\circ\text{C}$ unless otherwise noted

Symbol	Parameter	Conditions	Min.	Max.	Units
$V_R$	Breakdown Voltage	$I_R = 100\mu\text{A}$	180		V
$V_F$	Forward Voltage	$I_F = 1.0\text{mA}$		0.65	V
$V_{FP}$	Forward Voltage Pulse Width = 300 $\mu\text{s}$	$I_F = 100\text{mA}$		1.3	
		$I_F = 200\text{mA}$		1.5	
$I_R$	Reverse Leakage	$V_R = 50\text{V}$		25	nA
		$V_R = 50\text{V}, T_A = 150^\circ\text{C}$		25	$\mu\text{A}$
		$V_R = 150\text{V}$		100	nA
		$V_R = 150\text{V}, T_A = 150^\circ\text{C}$		100	$\mu\text{A}$
$t_{rr}$	Reverse Recovery Time	$I_F = 30\text{mA}, I_R = 30\text{mA},$ $I_{rr} = 1.0\text{mA}, R_L = 100\Omega$		120	ns

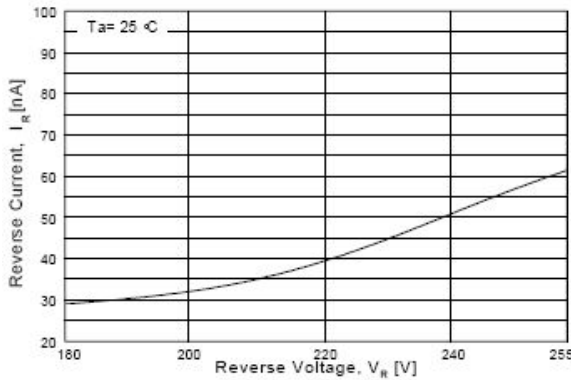
### Typical Performance Characteristics



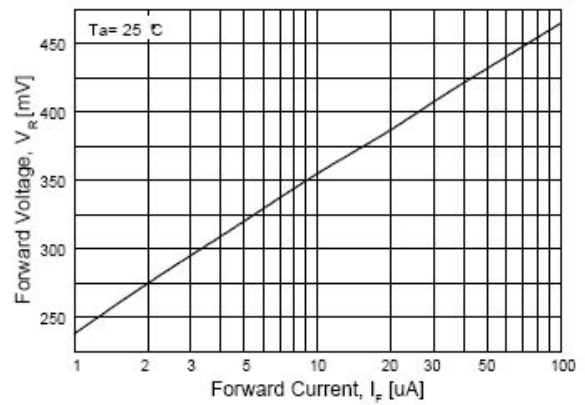
**Figure 1. Reverse Voltage vs Reverse Current**  
BV - 1.0 to 100uA



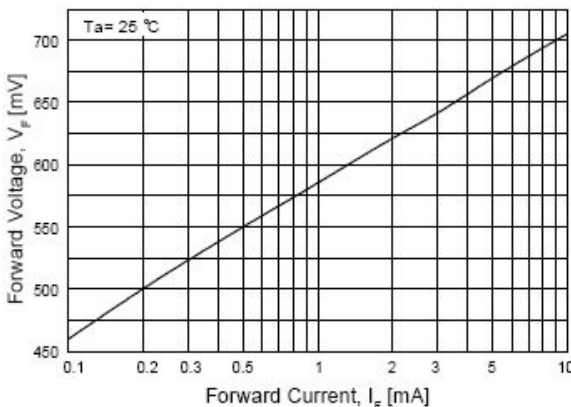
**Figure 2. Reverse Current vs Reverse Voltage**  
IR - 55 to 205 V  
GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature



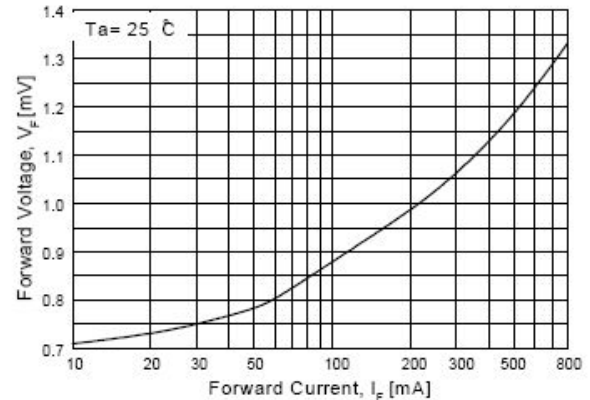
**Figure 3. Reverse Current vs Reverse Voltage**  
IR - 180 to 225 V  
GENERAL RULE: The Reverse Current of a diode will approximately double for every ten (10) Degree C increase in Temperature



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

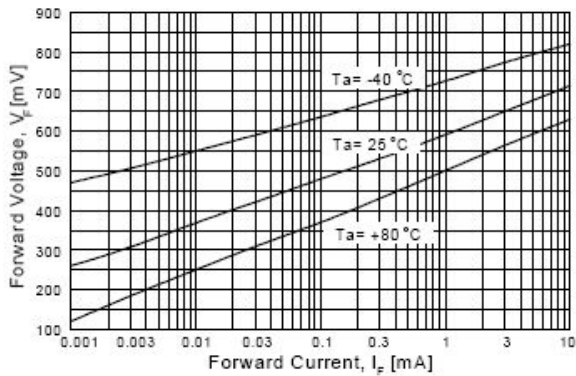


**Figure 5. Forward Voltage vs Forward Current**  
VF - 0.1 to 10mA

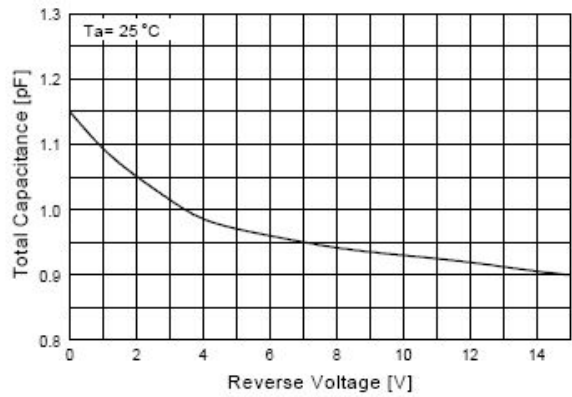


**Figure 6. Forward Voltage vs Forward Current**  
VF - 10 to 800mA

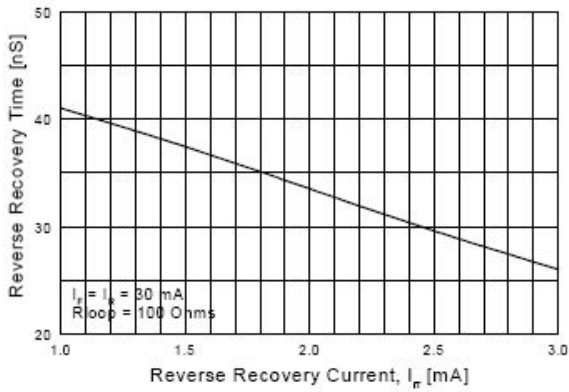
Typical Performance Characteristics



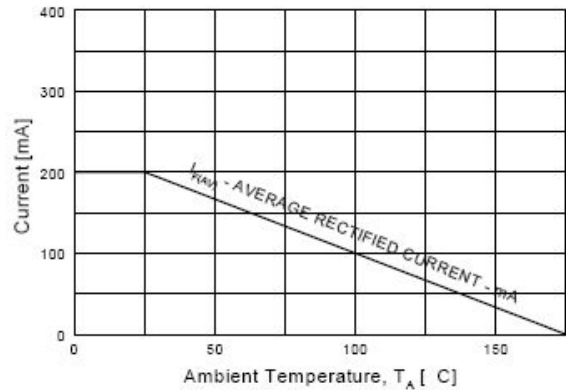
**Figure 7. Forward Voltage vs Ambient Temperature**  
VF - 1.0 uA - 10 mA (-40 to +80 Deg C)



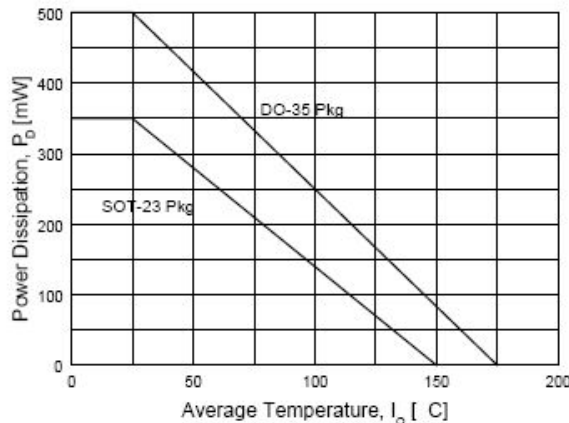
**Figure 8. Total Capacitance**



**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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