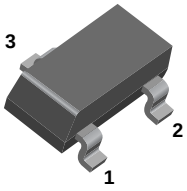
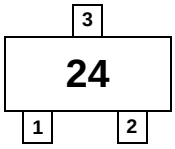
FAIRCHILD SEMICONDUCTOR®

August 2011

MMBD1201 / 1202 / 1203 / 1204 / 1205
Small Signal Diodes



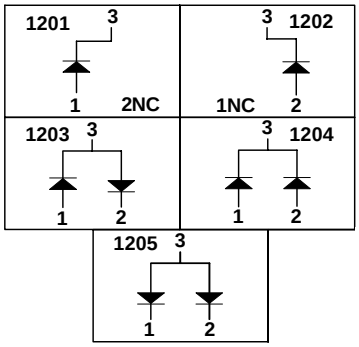
SOT-23



MARKING

MMBD1201 24 MMBD1202 25
MMBD1203 26 MMBD1204 27
MMBD1205 28

Connection Diagram



Absolute Maximum Ratings* T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
V_{RRM}	Maximum Repetitive Reverse Voltage	100	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 2.0	 A A
T_{STG}	Storage Temperature Range	-55 to +150	°C
T_J	Operating Junction Temperature	150	°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 150 degrees C.

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

Thermal Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Value	Units
P_D	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

Electrical Characteristics T_A = 25°C unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
V_R	Breakdown Voltage	I_R = 100μA	100		V
V_F	Forward Voltage	I_F = 1.0mA I_F = 10mA I_F = 100mA I_F = 200mA I_F = 300mA	550 660 820 0.87 -	600 740 920 1.0 1.1	mV mV mV V V
I_R	Reverse Leakage	V_R = 20V V_R = 50V V_R = 50V, T_A = 150°C		25 50 5.0	nA nA μA
C_T	Total Capacitance	V_R = 0, f = 1.0MHz		2.0	pF
t_{rr}	Reverse Recovery Time	I_F = I_R = 10mA, I_{RR} = 1.0mA R_L = 100Ω		4.0	ns

Typical Performance Characteristics

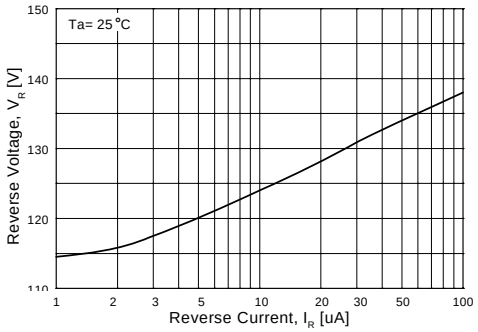


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100uA

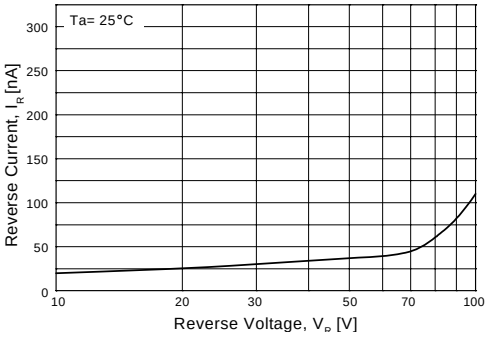


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

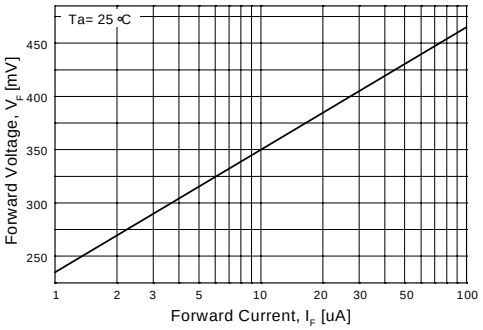


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 uA

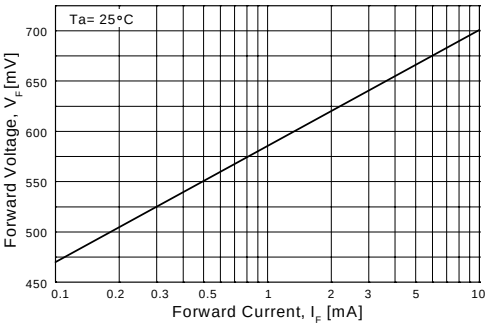


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

Typical Performance Characteristics (Continued)

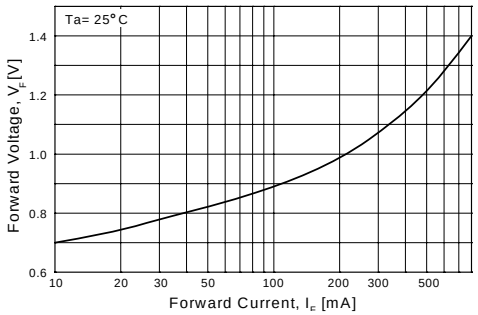


Figure 5. Forward Voltage vs Forward Current VF - 10 - 800 mA

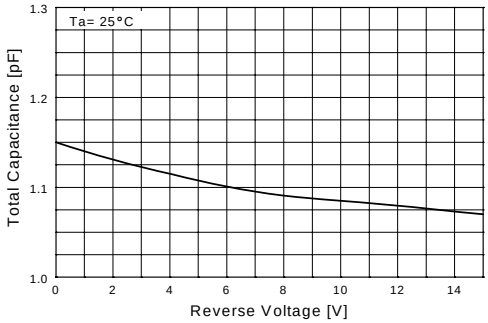


Figure 6. Total Capacitance vs Reverse Voltage

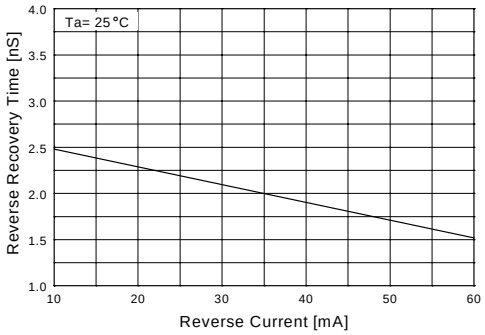


Figure 7. Reverse Recovery Time vs Reverse Current TRR - IR 10 mA vs 60 mA

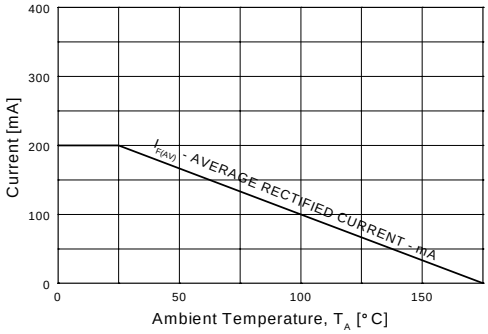


Figure 8. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

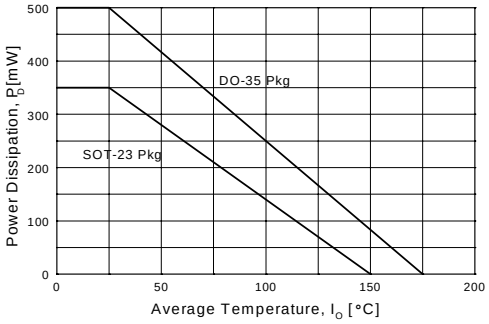


Figure 9. Power Derating Curve

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