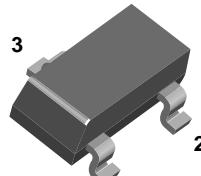




## MMBD1201 / 1203 / 1204 / 1205

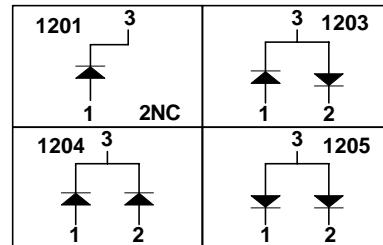


SOT-23



MARKING  
MMBD1201 24 MMBD1203 26  
MMBD1204 27 MMBD1205 28

### Connection Diagrams



## Small Signal Diodes

### Absolute Maximum Ratings\*

$T_A = 25^\circ\text{C}$  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	$^\circ\text{C}$
$T_J$	Operating Junction Temperature	150	$^\circ\text{C}$

\*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

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

### Electrical Characteristics

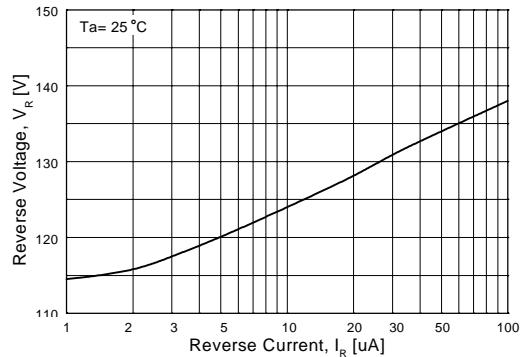
$T_A = 25^\circ\text{C}$  unless otherwise noted

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

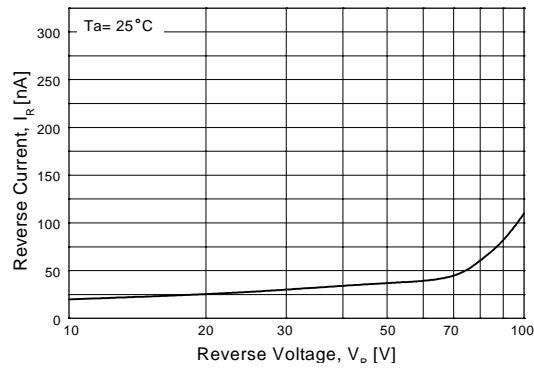
## Small Signal Diode

(continued)

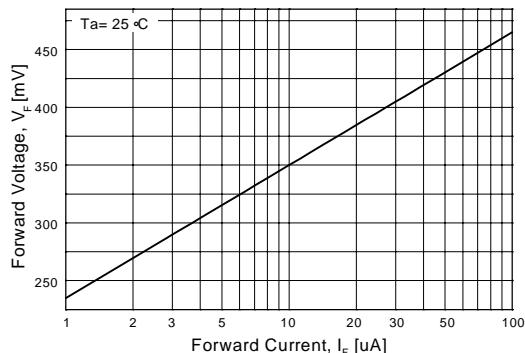
### Typical Characteristics



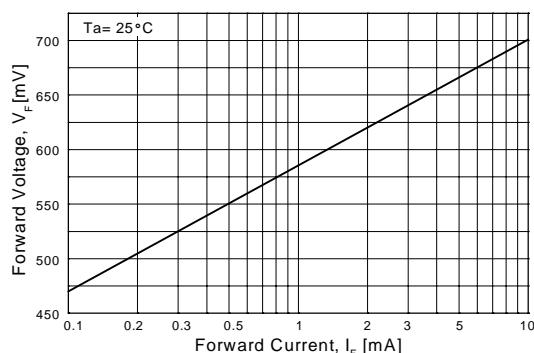
**Figure 1. Reverse Voltage vs Reverse Current**  
BV - 1.0 to 100uA



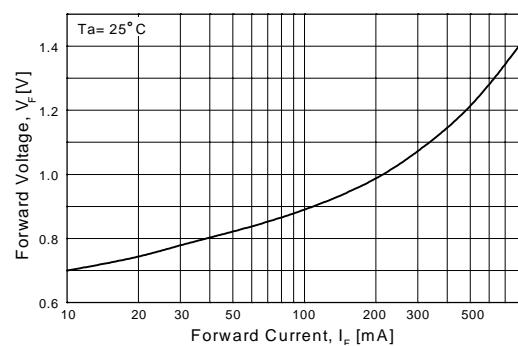
**Figure 2. Reverse Current vs Reverse Voltage**  
IR - 10 to 100 V



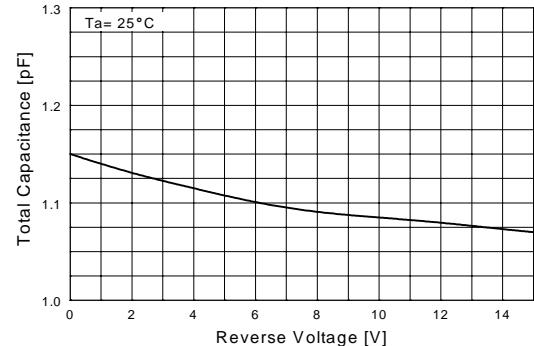
**Figure 3. Forward Voltage vs Forward Current**  
VF - 1.0 to 100 uA



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



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

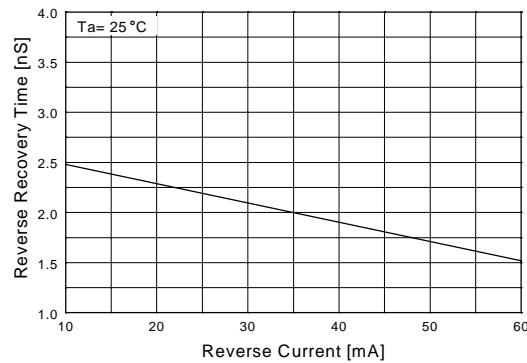


**Figure 6. Total Capacitance vs Reverse Voltage**

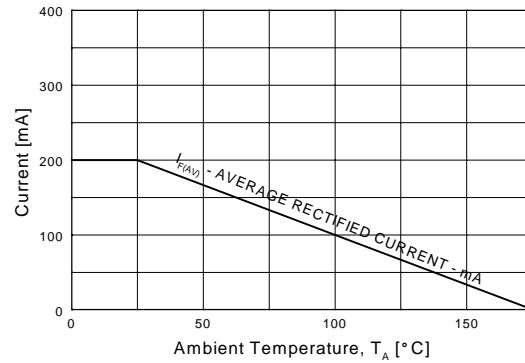
## Small Signal Diode

(continued)

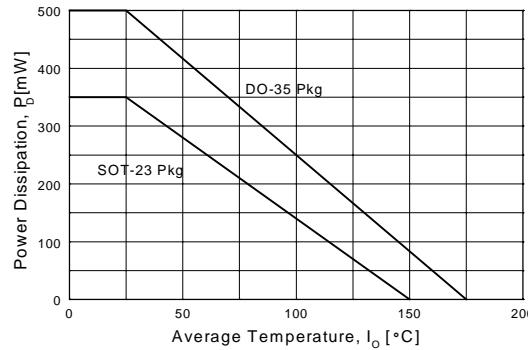
### Typical Characteristics (continued)



**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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