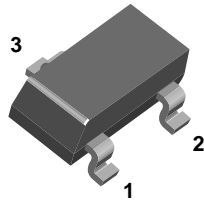
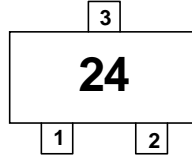


# MMBD1201 / 1203 / 1204 / 1205



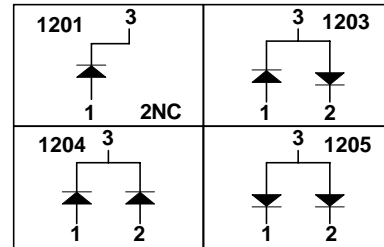
SOT-23



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	1.0	A
	Pulse Width = 1.0 microsecond	2.0	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	$I_F = 1.0 \text{ mA}$	550	600	mV
		$I_F = 10 \text{ mA}$	660	740	mV
		$I_F = 100 \text{ mA}$	820	920	mV
		$I_F = 200 \text{ mA}$	0.87	1.0	V
		$I_F = 300 \text{ mA}$	-	1.1	V
$I_R$	Reverse Current	$V_R = 20 \text{ V}$		25	nA
		$V_R = 50 \text{ V}$		50	nA
		$V_R = 50 \text{ V}, T_A = 150^\circ\text{C}$		5.0	$\mu\text{A}$
$C_T$	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

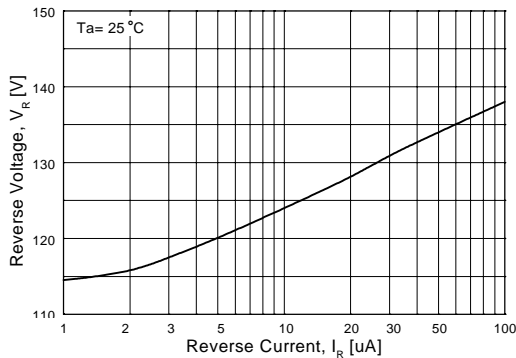


Figure 1. Reverse Voltage vs Reverse Current  
BV - 1.0 to 100 $\mu$ A

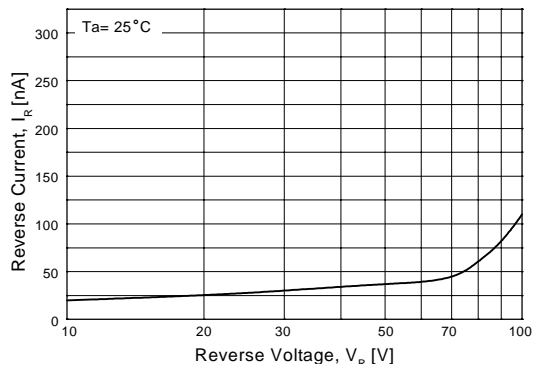


Figure 2. Reverse Current vs Reverse Voltage  
IR - 10 to 100 V

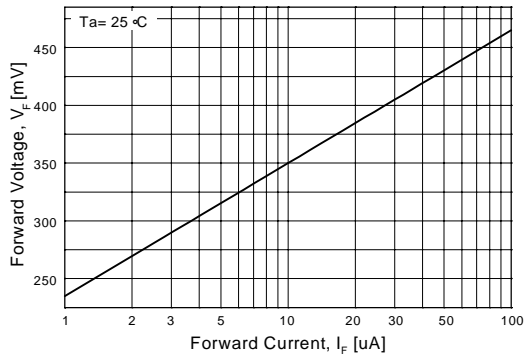


Figure 3. Forward Voltage vs Forward Current  
VF - 1.0 to 100  $\mu$ A

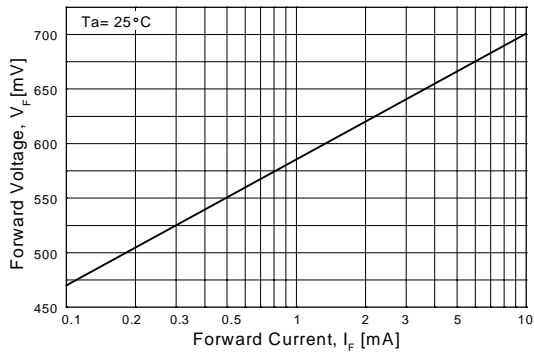


Figure 4. Forward Voltage vs Forward Current  
VF - 0.1 to 10 mA

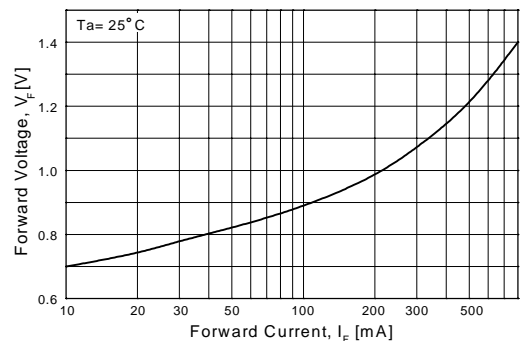


Figure 5. Forward Voltage vs Forward Current  
VF - 10 - 800 mA

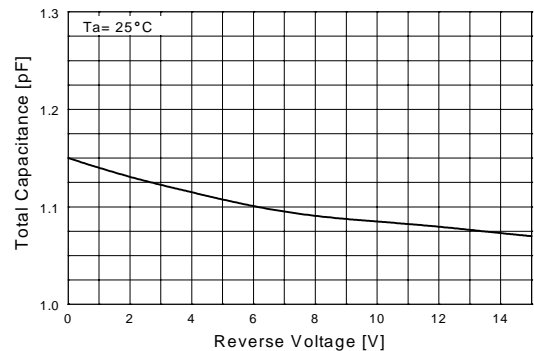


Figure 6. Total Capacitance vs Reverse Voltage

Small Signal Diode  
(continued)

Typical Characteristics (continued)

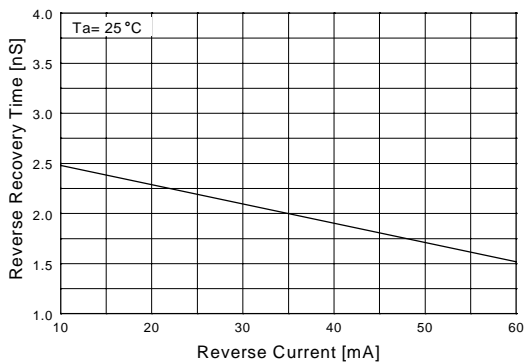


Figure 7. Reverse Recovery Time  
vs Reverse Current  
TRR - IR 10 mA vs 60 mA

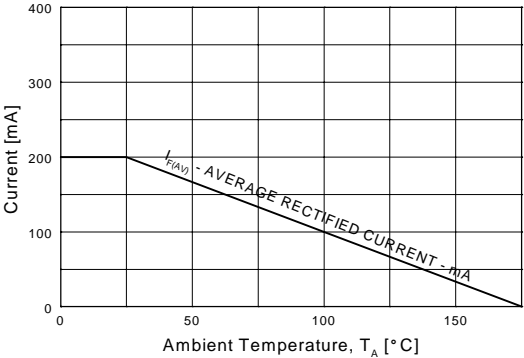


Figure 8. Average Rectified Current ( $I_{F(AV)}$ )  
versus Ambient Temperature ( $T_A$ )

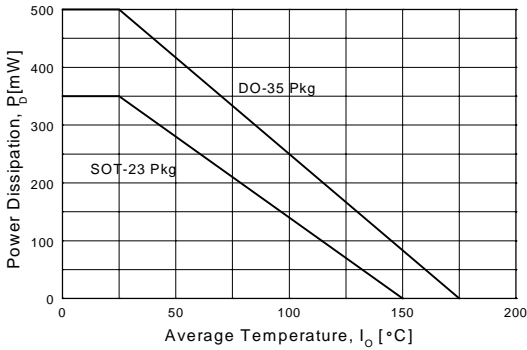


Figure 9. Power Derating Curve

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DenseTrench™	GTO™	Power247™	SuperSOT™-6	
DOMETM	HiSeC™	PowerTrench®	SuperSOT™-8	
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