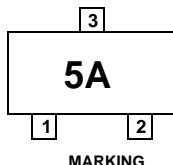
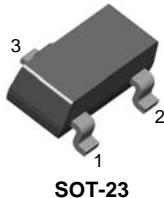
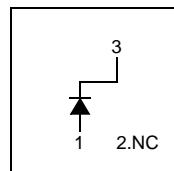


# MMBD6050

## Small Signal Diode



Connection Diagram



### Absolute Maximum Ratings \*

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

Symbol	Parameter	Value	Units
$V_{RRM}$	Maximum Repetitive Reverse Voltage	70	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	-55 to +150	$^\circ\text{C}$

\* 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 150 degrees C.
- 2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

### Thermal Characteristics

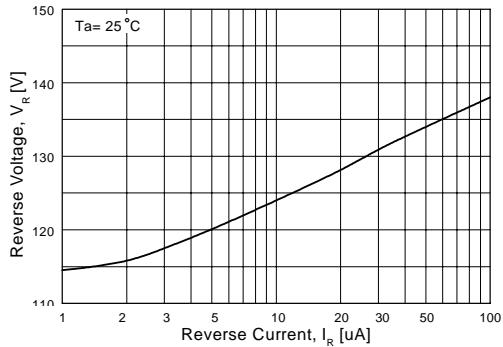
Symbol	Parameter	Value	Units
$P_D$	Power Dissipation	350	mW
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	$^\circ\text{C}/\text{W}$

### Electrical Characteristics

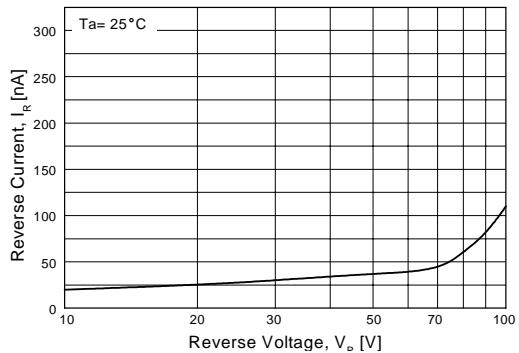
$T_A=25^\circ\text{C}$  unless otherwise noted

Symbol	Parameter	Test Conditions	Min.	Max.	Units
$V_R$	Breakdown Voltage	$I_R = 100\mu\text{A}$	70		V
$V_F$	Forward Voltage	$I_F = 1\text{mA}$ $I_F = 100\text{mA}$	0.55 0.85	0.7 1.1	V
$I_R$	Reverse Leakage	$V_R = 50\text{V}$		100	nA
$C_T$	Total Capacitance	$V_R = 0\text{V}$ , $f = 1.0\text{MHz}$		2.5	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

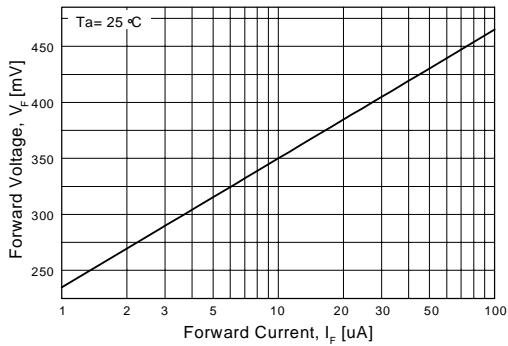
## Typical Performance Characteristics



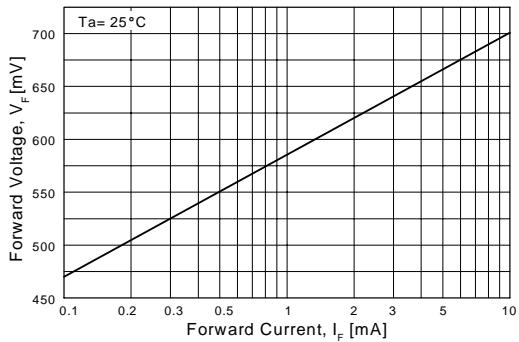
**Figure 1. Reverse Voltage vs Reverse Current**  
**BV - 1.0 to 100uA**



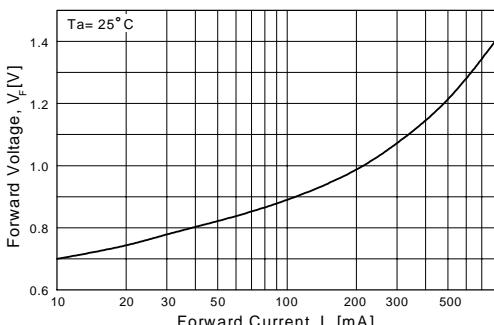
**Figure 2. Reverse Current vs Reverse Voltage**  
**IR - 10 to 100 V**



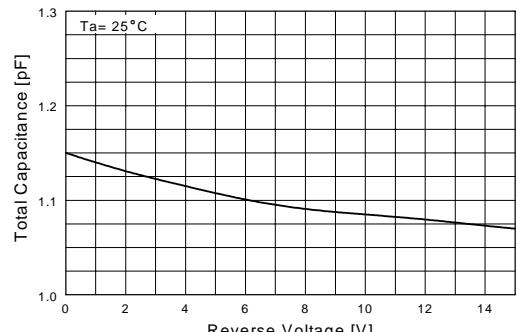
**Figure 3. Forward Voltage vs Forward Current**  
**VF - 1.0 to 100 uA**



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

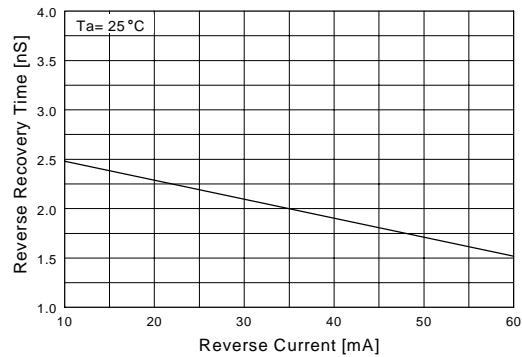


**Figure 5. Forward Voltage vs Forward Current**  
**VF - 10 - 800 mA**

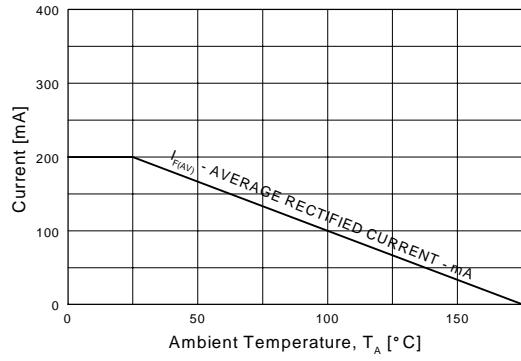


**Figure 6. Total Capacitance vs Reverse Voltage**

## Typical Performance Characteristics (Continued)



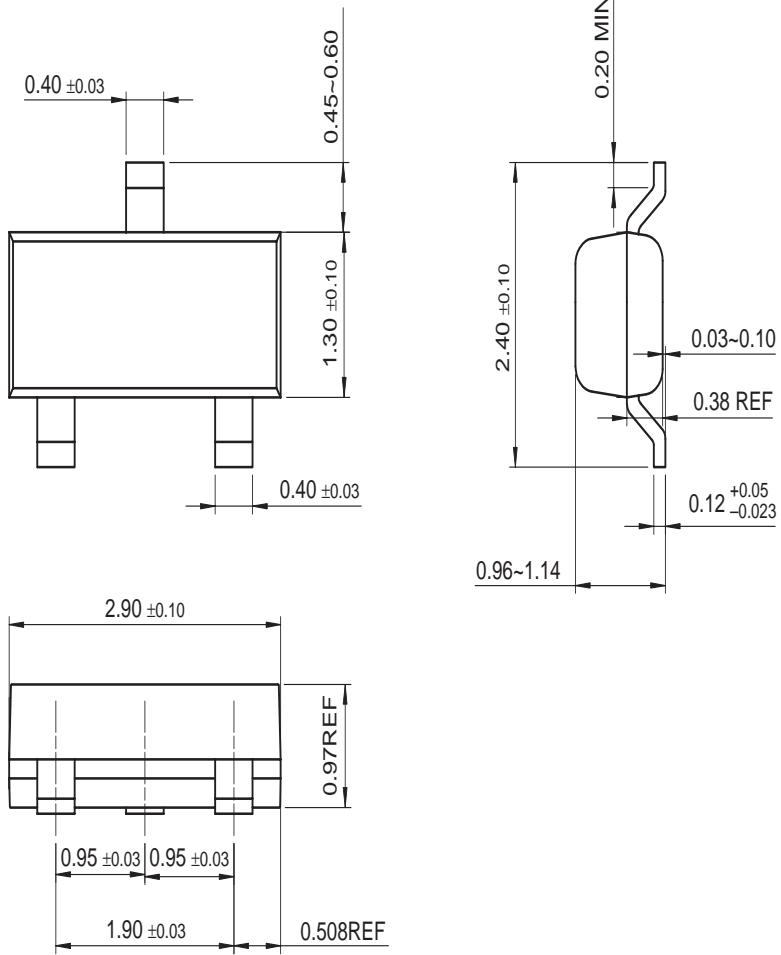
**Figure 7. Reverse Recovery Time vs Reverse Current**  
TRR - IR 10 mA vs 60 mA



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

## Mechanical Dimensions

SOT-23



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FACT®	OPTOPLANAR™®	SuperSOT™-6	
FAST®	PACMAN™	SuperSOT™-8	
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