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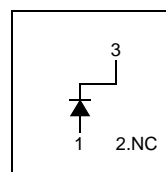
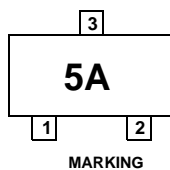
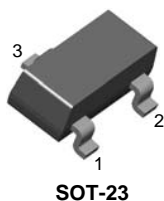


April 2007

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	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	-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	$I_F = 1\text{mA}$	0.55	0.7	V
		$I_F = 100\text{mA}$	0.85	1.1	
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

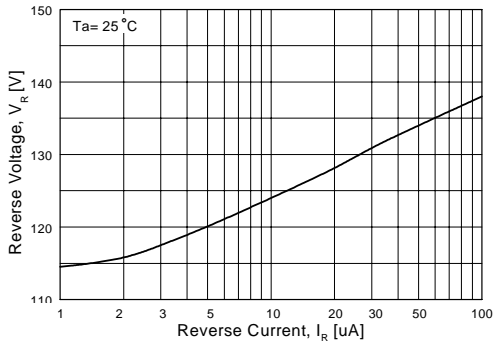


Figure 1. Reverse Voltage vs Reverse Current
BV - 1.0 to 100 μ A

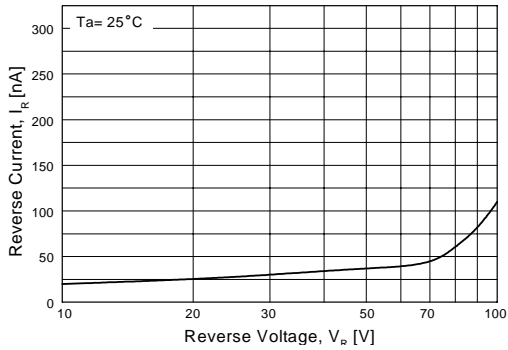


Figure 2. Reverse Current vs Reverse Voltage
IR - 10 to 100 V

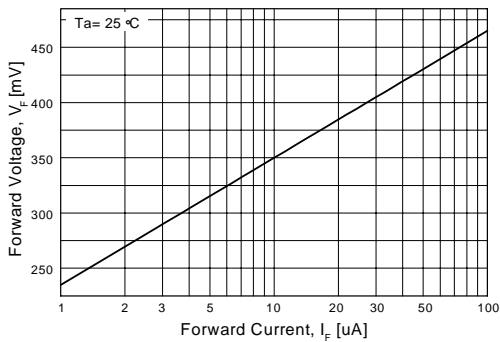


Figure 3. Forward Voltage vs Forward Current
VF - 1.0 to 100 μ A

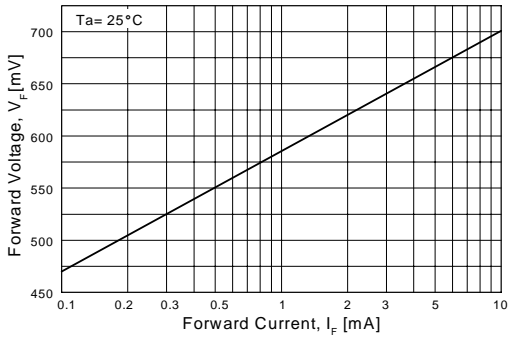


Figure 4. Forward Voltage vs Forward Current
VF - 0.1 to 10 mA

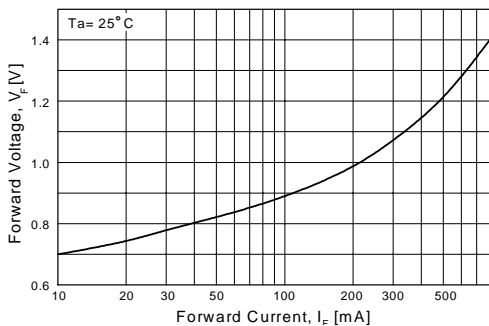


Figure 5. Forward Voltage vs Forward Current
VF - 10 - 800 mA

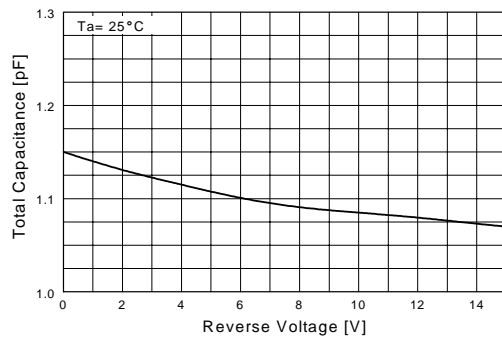


Figure 6. Total Capacitance vs Reverse Voltage

Typical Performance Characteristics (Continued)

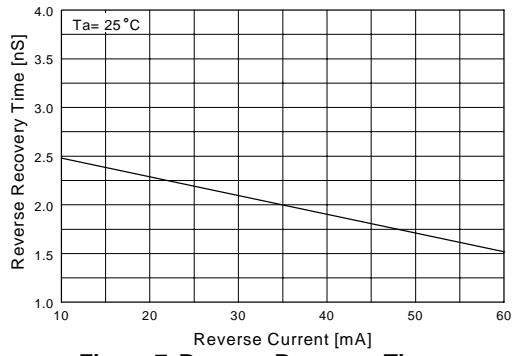


Figure 7. Reverse Recovery Time vs Reverse Current
 TRR - IR 10 mA vs 60 mA

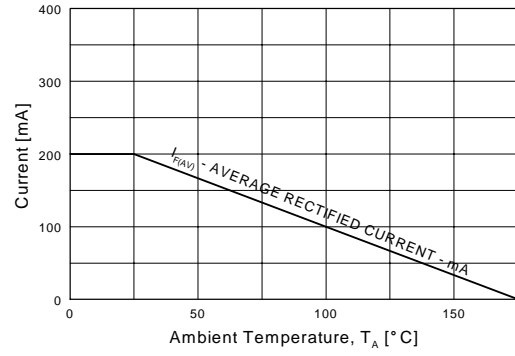
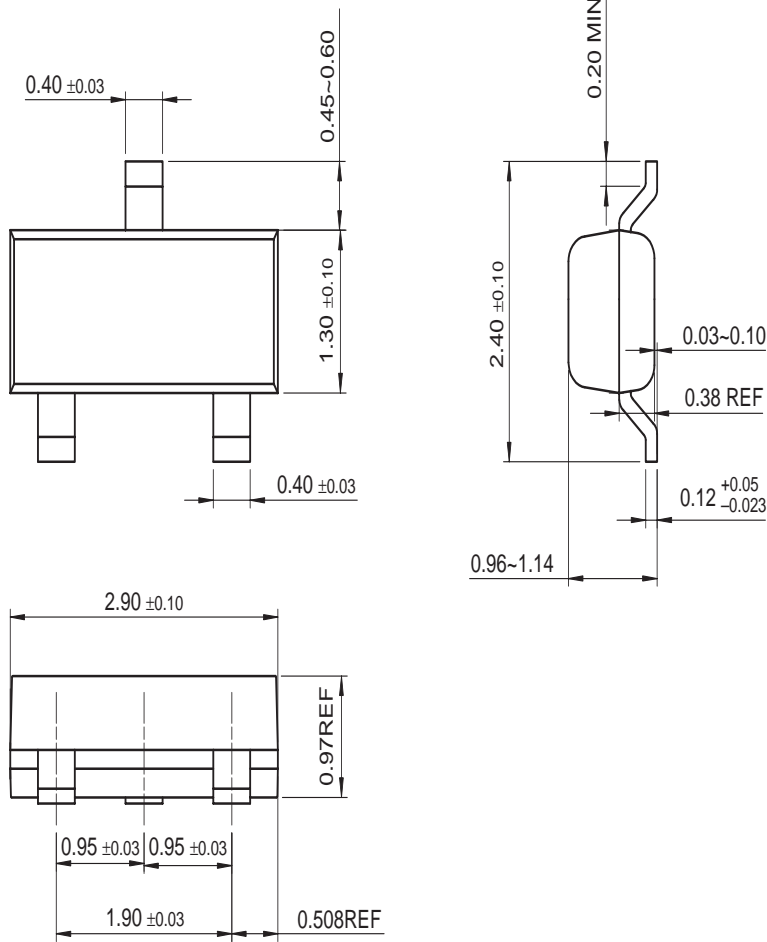


Figure 8. Average Rectified Current ($I_{F(AV)}$) versus Ambient Temperature (T_A)

Mechanical Dimensions

SOT-23





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