



Micro Commercial Components  
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# MMBD1501(A) THRU MMBD1505(A)

## Features

- Low Leakage
- Surface Mount Package Ideally Suited for Automatic Insertion
- 150°C Junction Temperature
- High Conductance

## Mechanical Data

- Case: SOT-23, Molded Plastic
- Terminals: Solderable per MIL-STD-202, Method 208
- Polarity: See Diagram
- Weight: 0.008 grams ( approx.)

## Maximum Ratings @ 25°C Unless Otherwise Specified

Characteristic	Symbol	Value	Unit
Working Inverse Voltage	$V_{IV}$	180	V
DC Forward Current	$I_F$	600	mA
Average Rectified Current	$I_o$	200	mA
Recurrent Peak Forward Current	$i_f$	700	mA
Peak Forward Surge Current @ $t=1.0s$ @ $t=1.0ms$	$i_{f(surge)}$	1.0 2.0	A
Power Dissipation	$P_d$	350	mW
Thermal Resistance	R	357	°C/W
Operation & Storage Temp. Range	$T_j, T_{STG}$	-55 to +150	°C

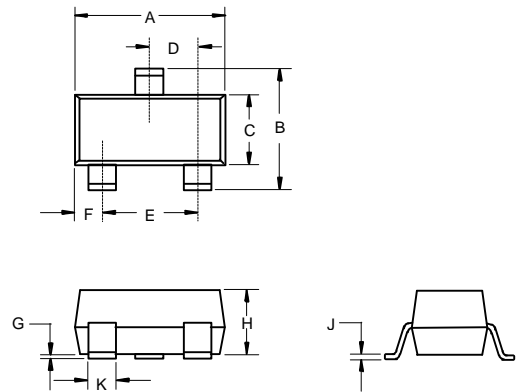
**Note:** 1) These ratings are based on a max. junction temperature of 150 degrees C  
 2) These are steady state limits. The factory should be consulted on applications involving pulsed or low duty cycle operation

## Electrical Characteristics @ 25°C Unless Otherwise Specified

Charateristic	Symbol	Min	Max	Unit	Test Cond.
Breakdown Voltage	$B_V$	200		V	$I_R=5.0uA$
Forward Voltage Drop	$V_F$	620	750	mV	$I_F=1.0mA$
		720	850	mV	$I_F=10mA$
		800	950	mV	$I_F=50mA$
		0.83	1.1	V	$I_F=100mA$
		0.87	1.3	V	$I_F=200mA$
		0.9	1.5	V	$I_F=300mA$
Reverse Current	$I_R$		1.0	nA	$V_R=125V$
			3.0	uA	$V_R=125V T_A=150°C$
			10	nA	$V_R=180V$
			5.0	uA	$V_R=180V T_A=150°C$
Junction Capacitance	$C_j$		4	pF	$V_R=0V, f=1.0MHz$

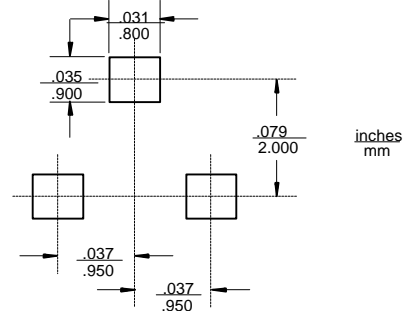
**High Conductance  
 Low Leakage Diode  
 350mW**

## SOT-23



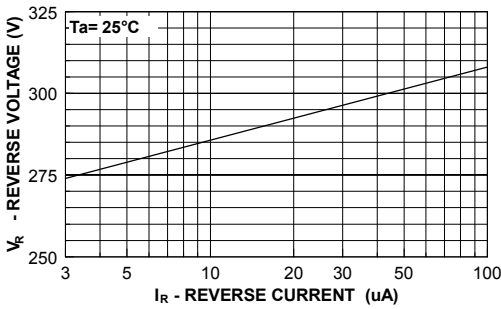
DIM	INCHES		MM		NOTE
	MIN	MAX	MIN	MAX	
A	.110	.120	2.80	3.04	
B	.083	.098	2.10	2.64	
C	.047	.055	1.20	1.40	
D	.035	.041	.89	1.03	
E	.070	.081	1.78	2.05	
F	.018	.024	.45	.60	
G	.0005	.0039	.013	.100	
H	.035	.044	.89	1.12	
J	.003	.007	.085	.180	
K	.015	.020	.37	.51	

## Suggested Solder Pad Layout

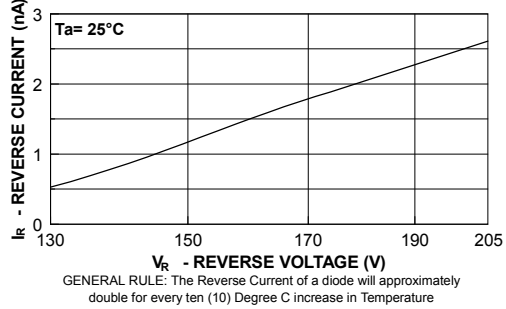


# MMBD1501(A) thru MMBD1505(A)

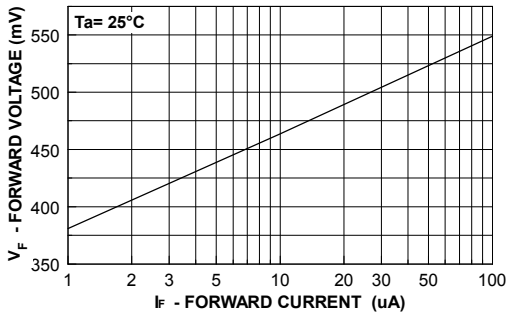
**REVERSE VOLTAGE vs REVERSE CURRENT**  
BV - 3.0 to 100  $\mu$ A



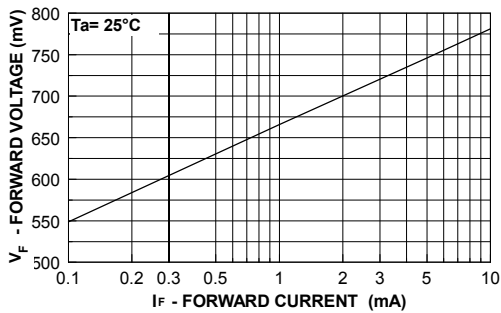
**REVERSE CURRENT vs REVERSE VOLTAGE**  
IR - 130 - 205 Volts



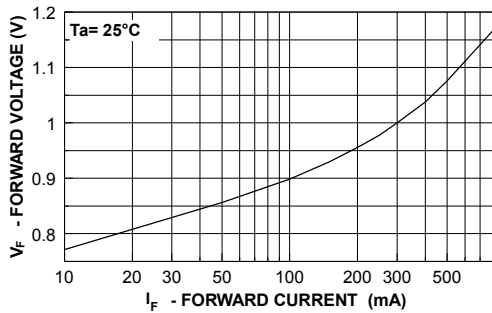
**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 1 to 100  $\mu$ A



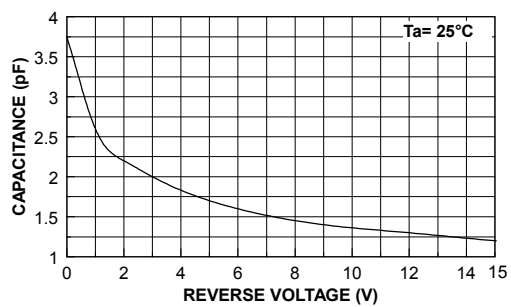
**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 0.1 to 10 mA



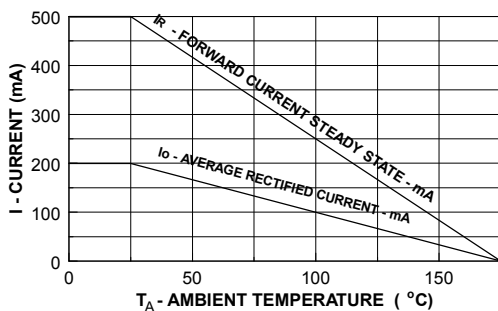
**FORWARD VOLTAGE vs FORWARD CURRENT**  
VF - 10 to 800 mA



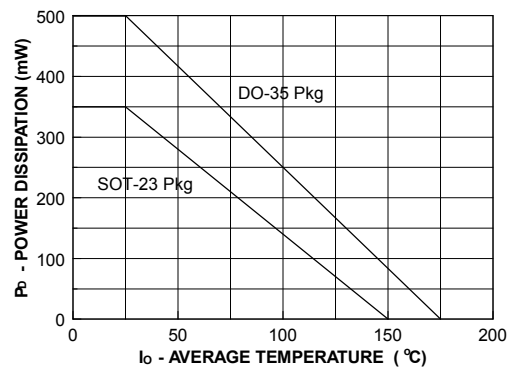
**CAPACITANCE vs REVERSE VOLTAGE**  
VR - 0 to 15 V



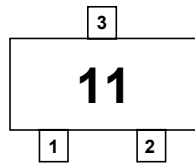
**Average Rectified Current ( $I_o$ ) & Forward Current ( $I_F$ ) versus Ambient Temperature ( $T_A$ )**



**POWER DERATING CURVE**



# MMBD1501(A) thru MMBD1505(A)



**MARKING**

MMBD1501	11	MMBD1501A	A11
MMBD1503	13	MMBD1503A	A13
MMBD1504	14	MMBD1504A	A14
MMBD1505	15	MMBD1505A	A15

