



Micro Commercial Components

Micro Commercial Components  
 20736 Marilla Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

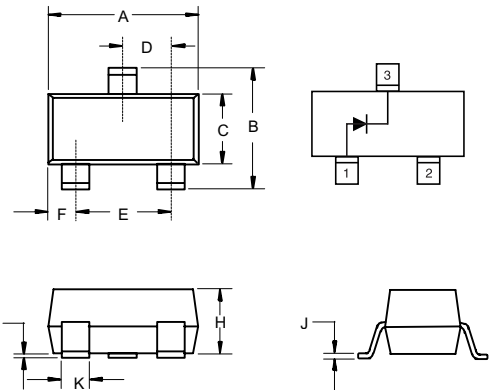
# MMBD6050

## Features

- Silicon Epitaxial Planar Diode
- Fast Switching Diode in Case SOT-23
- Suited for Automatic Insertion
- Marking Code:5A
- Case Material: Molded Plastic. UL Flammability Classification Rating 94V-0 and MSL Rating 1

## Small-Signal Switching Diode

### SOT-23



### Maximum Ratings @ T<sub>c</sub>=25°C Unless Otherwise Specified

- Operating Temperature: -55°C to +150°C
- Storage Temperature: -55°C to +150°C

Ratings	Symbol	Value	Unit	
Continuous Reverse Voltage	V <sub>R</sub>	70	V	
Forward Current	I <sub>F</sub>	200	mA	
Peak Forward Surge Current	I <sub>FSM</sub>	500	mA	
Max. Power Dissipation on FR-5 Board <sup>(1)</sup>	P <sub>tot</sub>	T <sub>A</sub> =25°C Derate Above 25°C	225 1.8	mW mW/°C
Max. Power Dissipation on Alumina Substrate <sup>(2)</sup>		T <sub>A</sub> =25°C Derate Above 25°C	300 2.4	mW mW/°C
Thermal Resistance Junction to Ambient	R <sub>θJA</sub>	FR-5 Alumina	556 417	°C/W

DIM	DIMENSIONS				NOTE
	INCHES		MM		
A	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	

### Electrical Characteristics @ 25°C Unless Otherwise Specified

Rating	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage I <sub>R</sub> =100μA	V <sub>(BR)R</sub>	70	---	V
Forward Voltage Drop I <sub>F</sub> =1mA I <sub>F</sub> =100mA	V <sub>F</sub>	0.55 0.85	0.7 1.1	V
Reverse Leakage Current V <sub>R</sub> =50V	I <sub>R</sub>	---	0.1	μA
Reverse Recovery Time I <sub>rr</sub> =1mA, I <sub>F</sub> =I <sub>R</sub> =10mA	t <sub>rr</sub>	---	4	ns
Capacitance V <sub>R</sub> =0	C <sub>tot</sub>	---	2.5	pF

Notes: (1) FR-5=1.0×0.75×0.062 in.  
 (2) Alumina=0.4×0.3×0.024 in. 99.5% alumina

### Suggested Solder Pad Layout

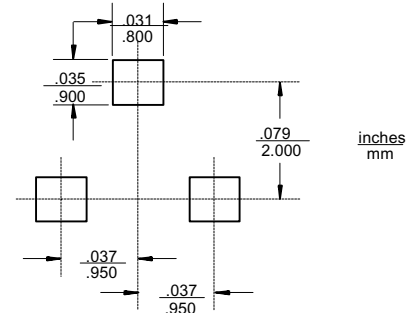


FIG 1  
Forward Characteristics

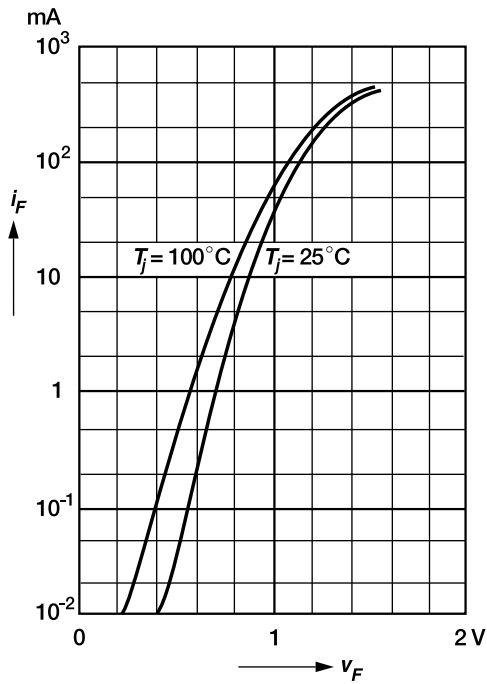


FIG 2  
Dynamic Forward Resistance  
Versus Forward Current

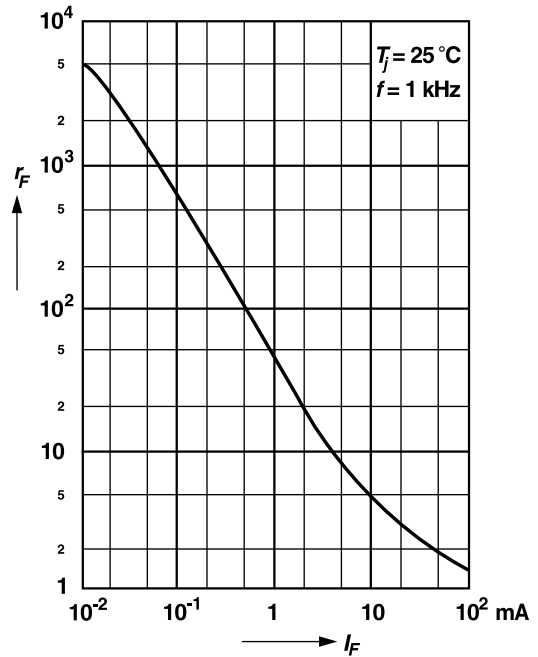


FIG 3  
Admissible Power Dissipation Versus  
Ambient Temperature

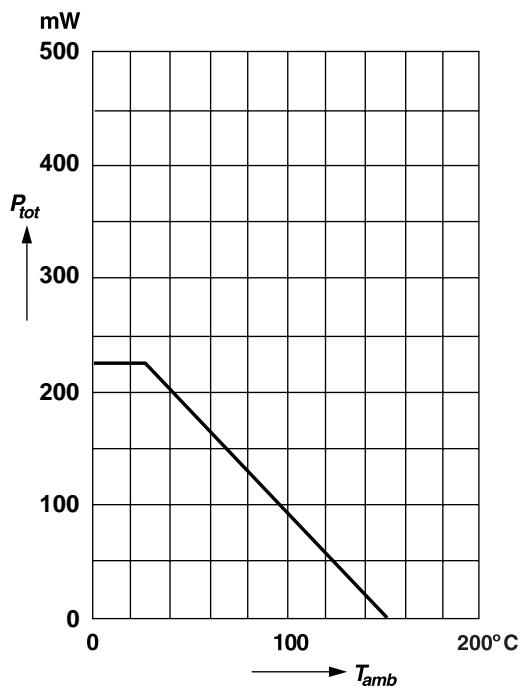


FIG 4  
Relative Capacitance Versus  
Reverse Voltage

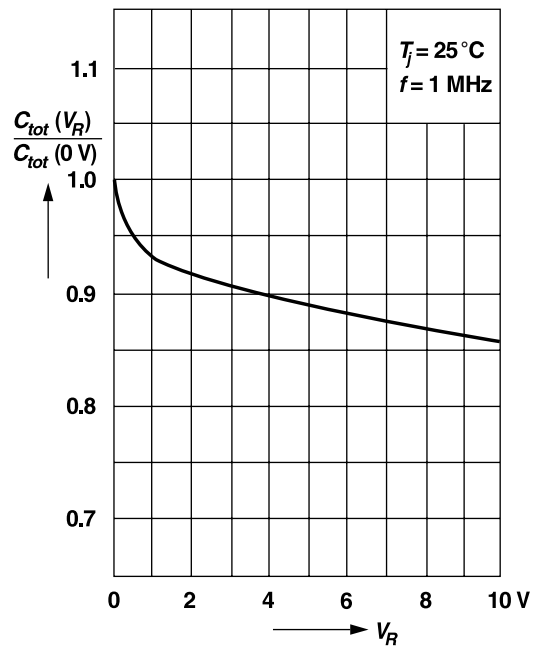


FIG 5  
Leakage Current Versus Junction Temperature

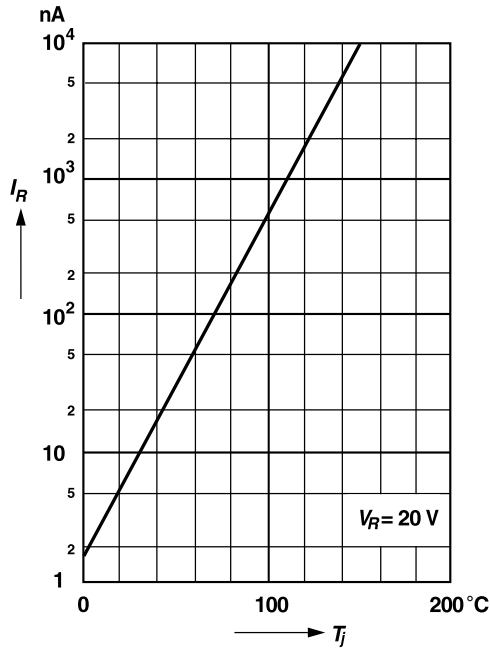
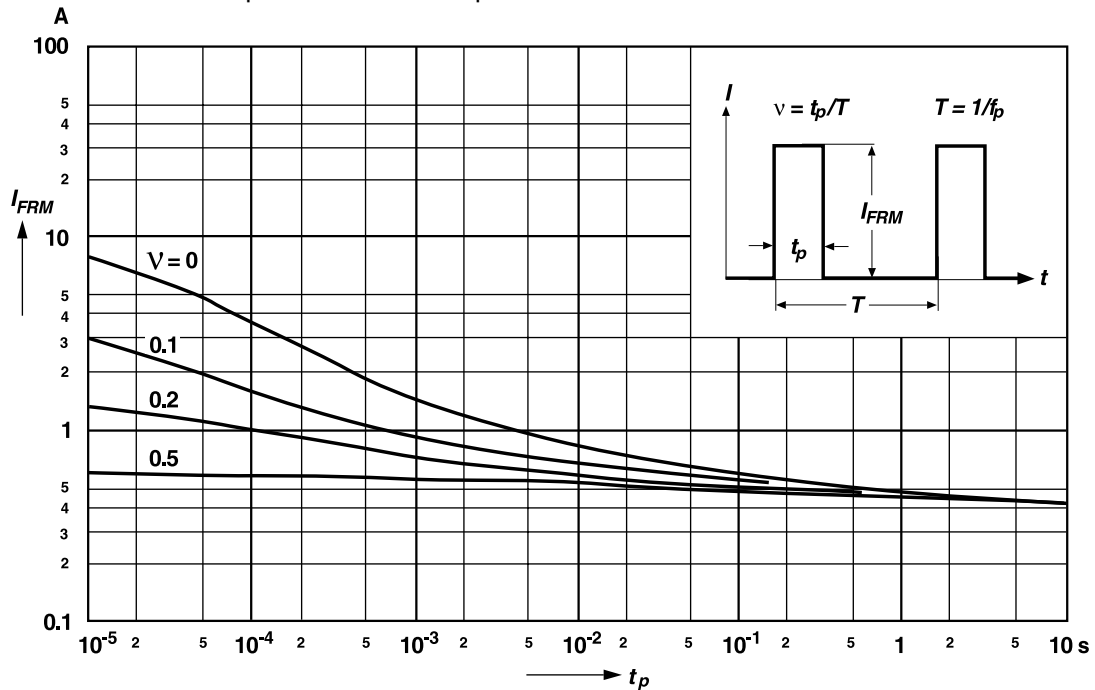


FIG 6  
Admissible Repetitive Peak Forward Current Versus Pulse Duration





Micro Commercial Components

## Ordering Information

Device	Packing
(Part Number)-TP	Tape&Reel;3Kpcs/Reel

### \*\*\*IMPORTANT NOTICE\*\*\*

*Micro Commercial Components Corp.* reserves the right to make changes without further notice to any product herein to make corrections, modifications, enhancements, improvements, or other changes. *Micro Commercial Components Corp.* does not assume any liability arising out of the application or use of any product described herein; neither does it convey any license under its patent rights, nor the rights of others. The user of products in such applications shall assume all risks of such use and will agree to hold *Micro Commercial Components Corp.* and all the companies whose products are represented on our website, harmless against all damages.

### \*\*\*APPLICATIONS DISCLAIMER\*\*\*

Products offer by *Micro Commercial Components Corp.* are not intended for use in Medical, Aerospace or Military Applications.