

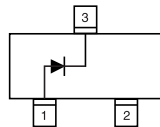


Micro Commercial Components  
 21201 Itasca Street Chatsworth  
 CA 91311  
 Phone: (818) 701-4933  
 Fax: (818) 701-4939

# MMBD6050

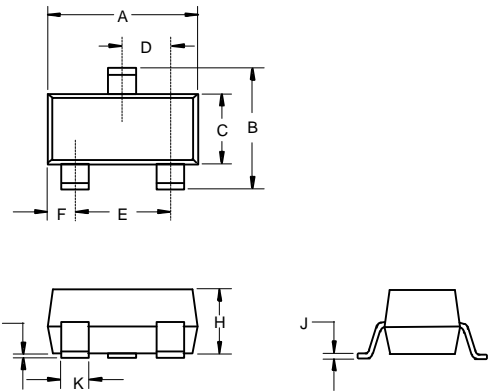
## Features

- Silicon Epitaxial Planar Diode
- Fast Switching Diode in Case SOT-23
- Suited for Automatic Insertion
- Marking Codes:5A



## Small-Signal Switching Diode

### SOT-23



### Maximum Ratings @ $T_c=25^\circ\text{C}$ Unless Otherwise Specified

- Operating Temperature:  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$
- Storage Temperature:  $-55^\circ\text{C}$  to  $+150^\circ\text{C}$

Ratings	Symbol	Value	Unit	
Continuous Reverse Voltage	$V_R$	70	V	
Forward Current	$I_F$	200	mA	
Peak Forward Surge Current	$I_{FSM}$	500	mA	
Max. Power Dissipation on FR-5 Board <sup>(1)</sup>	$P_{tot}$	$T_A=25^\circ\text{C}$ Derate Above $25^\circ\text{C}$	225 1.8	mW mW/ $^\circ\text{C}$
Max. Power Dissipation on Alumina Substrate <sup>(2)</sup>		$T_A=25^\circ\text{C}$ Derate Above $25^\circ\text{C}$	300 2.4	mW mW/ $^\circ\text{C}$
Thermal Resistance Junction to Ambient	$R_{\theta JA}$	FR-5	556	$^\circ\text{C/W}$
		Alumina	417	

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 @ $25^\circ\text{C}$ Unless Otherwise Specified

Rating	Symbol	Min.	Max.	Unit
Reverse Breakdown Voltage $I_R=100\mu\text{A}$	$V_{(BR)R}$	70	---	V
Forward Voltage Drop $I_F=1\text{mA}$ $I_F=100\text{mA}$	$V_F$	0.55 0.85	0.7 1.1	V
Reverse Leakage Current $V_R=50\text{V}$	$I_R$	---	0.1	$\mu\text{A}$
Reverse Recovery Time $I_{rr}=1\text{mA}$ , $I_F=I_R=10\text{mA}$	$t_{rr}$	---	4	ns
Capacitance $V_R=0$	$C_{tot}$	---	2.5	pF

Notes: (1) FR-5=1.0x0.75x0.062 in.  
 (2) Alumina=0.4x0.3x0.024 in. 99.5% alumina

### Suggested Solder Pad Layout

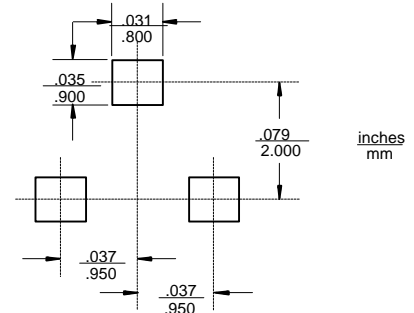


FIG 1  
Forward Characteristics

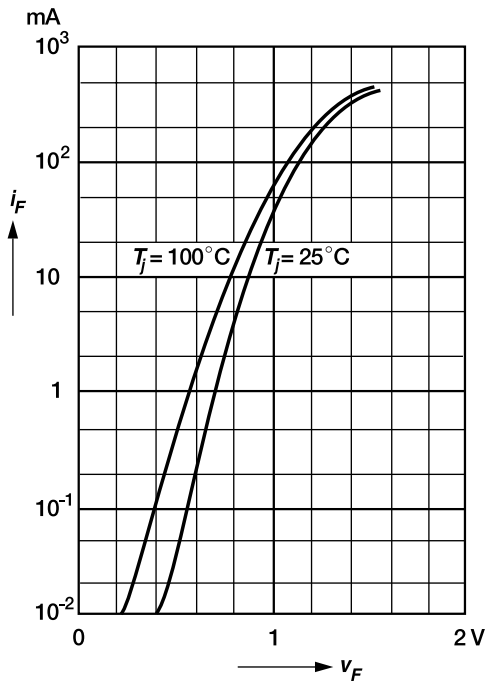


FIG 2  
Dynamic Forward Resistance  
Versus Forward Current

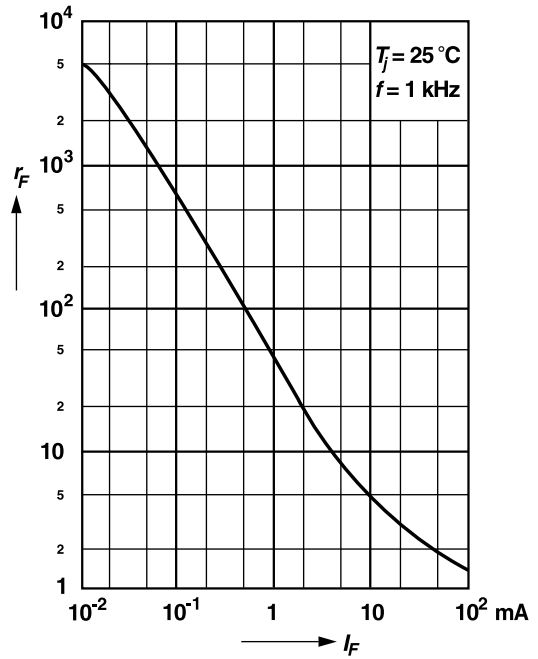


FIG 3  
Admissible Power Dissipation Versus  
Ambient Temperature

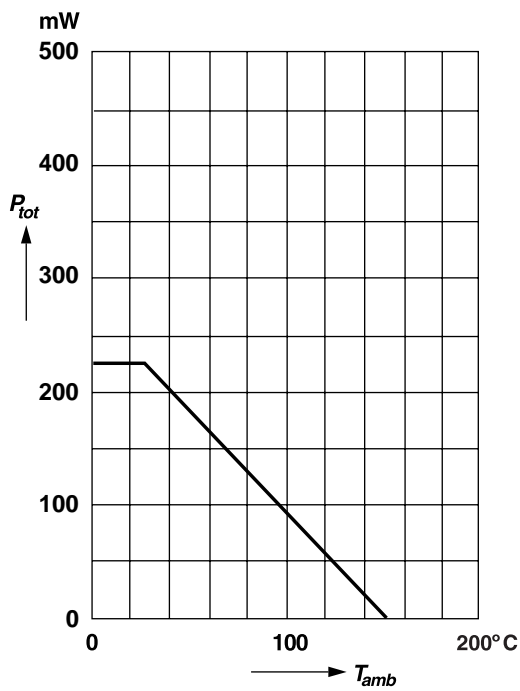


FIG 4  
Relative Capacitance Versus  
Reverse Voltage

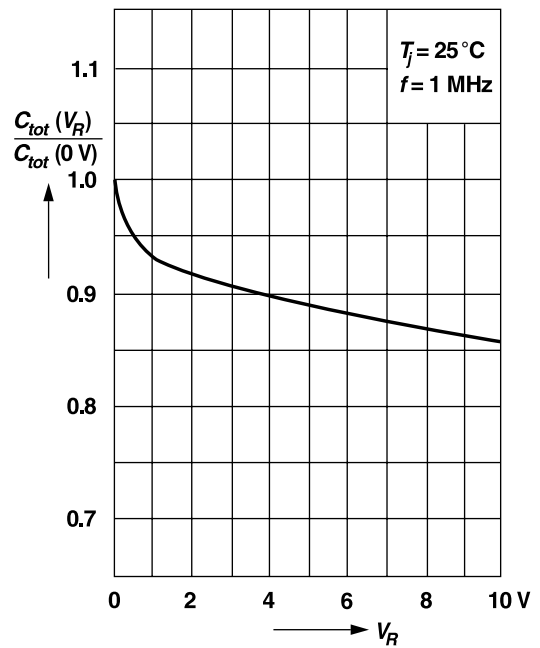


FIG 5  
Leakage Current Versus Junction Temperature

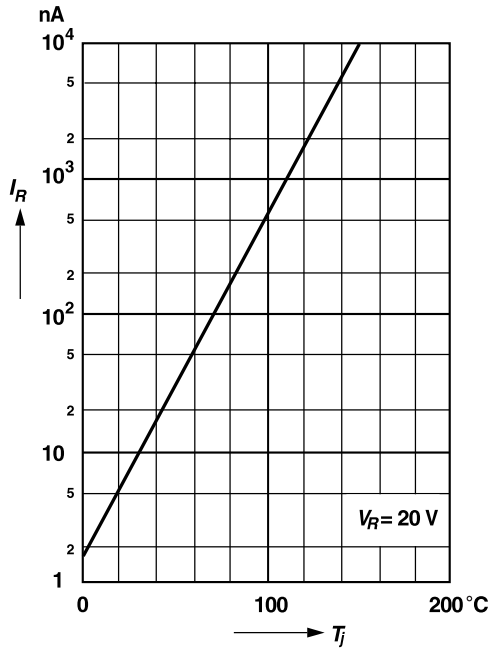


FIG 6  
Admissible Repetitive Peak Forward Current Versus Pulse Duration

