

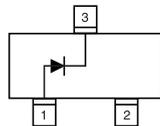


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# MMBD6050

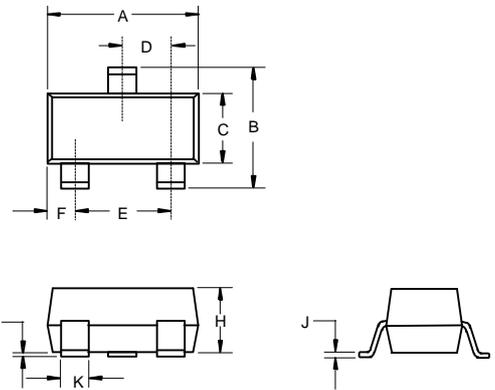
## Features

- 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<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

### 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

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	

### Suggested Solder Pad Layout

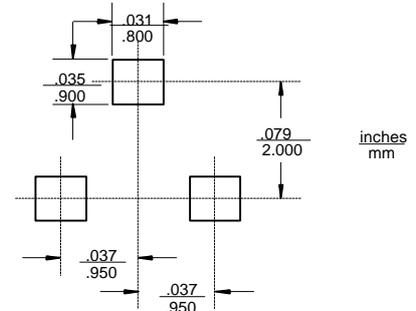


FIG 1  
Forward Characteristics

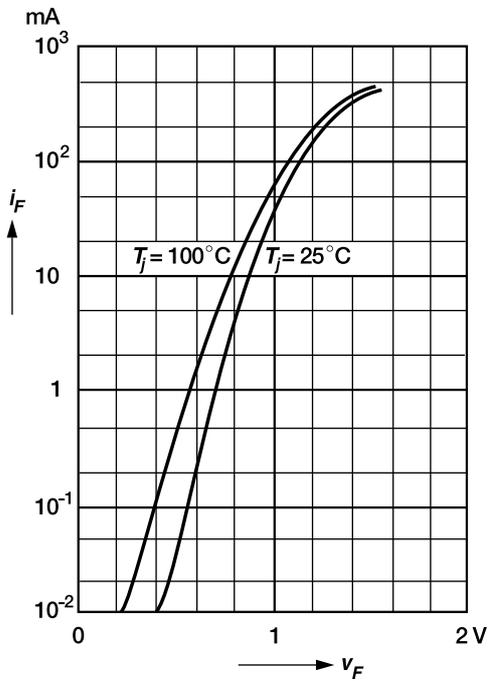


FIG 2  
Dynamic Forward Resistance Versus Forward Current

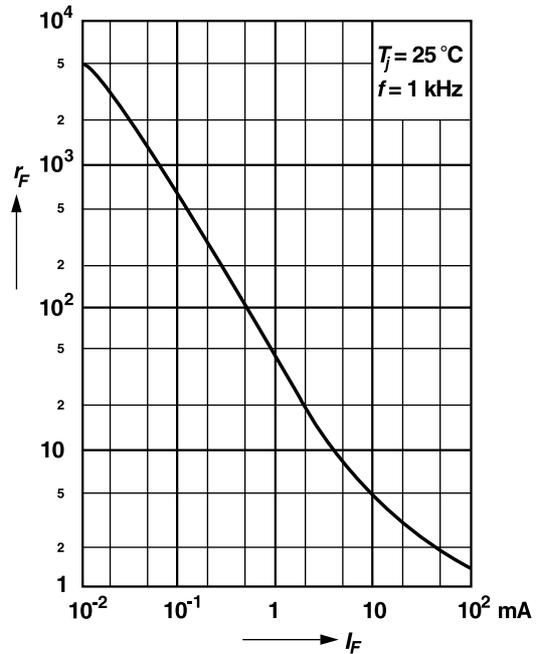


FIG 3  
Admissible Power Dissipation Versus Ambient Temperature

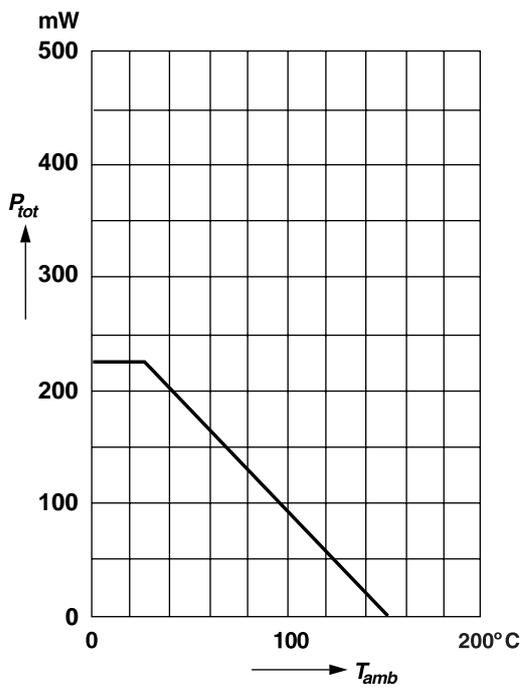


FIG 4  
Relative Capacitance Versus Reverse Voltage

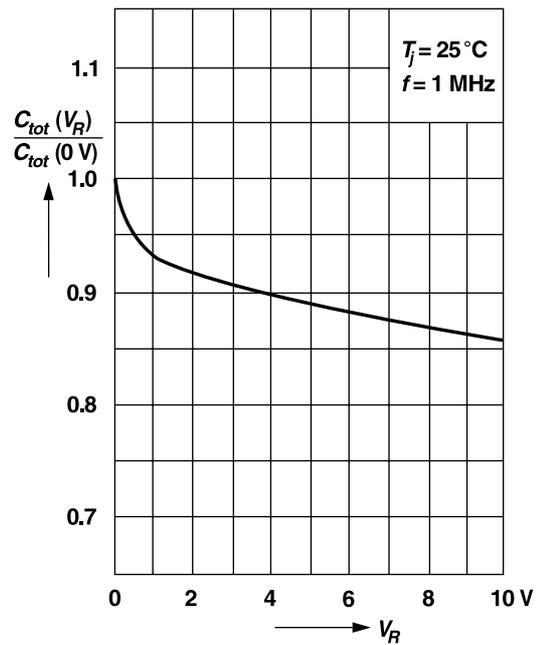


FIG 5  
Leakage Current Versus Junction Temperature

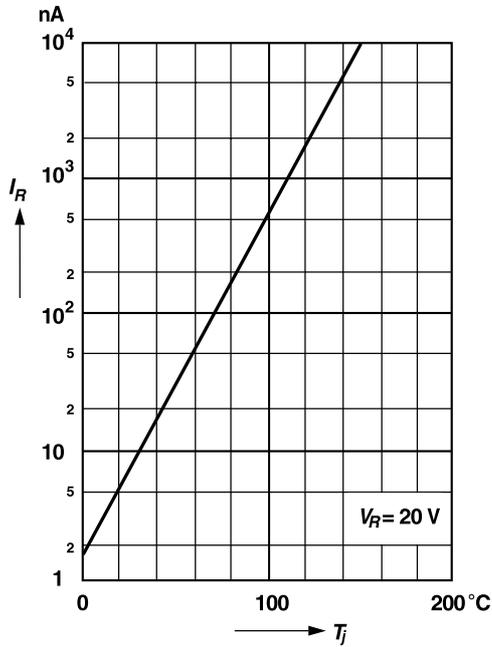


FIG 6  
Admissible Repetitive Peak Forward Current Versus Pulse Duration

