

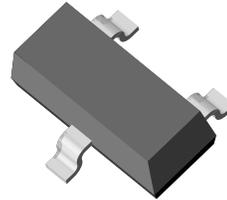
## Small Signal Switching Diode

### Features

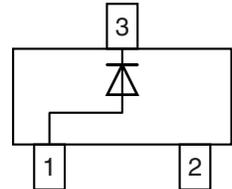
- Silicon Epitaxial Planar Diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



RoHS  
COMPLIANT



16923



### Mechanical Data

**Case:** SOT-23

**Weight:** approx. 8.8 mg

#### Packaging Codes/Options:

GS18 / 10 k per 13" reel (8 mm tape), 10 k/box

GS08 / 3 k per 7" reel (8 mm tape), 15 k/box

### Parts Table

Part	Ordering code	Marking	Remarks
MMBD6050-V	MMBD6050-V-GS18 or MMBD6050-V-GS08	5AM	Tape and Reel

### Absolute Maximum Ratings

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Continuous reverse voltage		$V_R$	70	V
Forward current		$I_F$	200	mA
Peak forward surge current		$I_{FSM}$	500	mA
Maximum power dissipation on FR-5 board <sup>1)</sup>		$P_{tot}$	225	mW
	Derate above 25 °C	$P_{tot}$	1.8	mW/°C
Maximum power dissipation on Alumina substrate <sup>2)</sup>		$P_{tot}$	300	mW
	Derate above 25 °C	$P_{tot}$	2.4	mW/°C

<sup>1)</sup> FR-5 = 1.0 x 0.75 x 0.062 in.

<sup>2)</sup> Alumina = 0.4 x 0.3 x 0.024 in. 99.5 % alumina

### Thermal Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Value	Unit
Thermal resistance FR-5		$R_{thJA}$	556	°C/W
Junction to ambient Alumina		$R_{thJA}$	417	°C/W
Maximum junction temperature		$T_j$	150	°C
Storage temperature range		$T_{stg}$	- 55 to + 150	°C

### Electrical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$	$V_{(BR)}$	70			V
Forward voltage	$I_F = 1\text{ mA}$	$V_F$	0.55		0.7	V
	$I_F = 100\text{ mA}$	$V_F$	0.85		1.1	V
Reverse leakage current	$V_R = 50\text{ V}$	$I_R$			0.1	$\mu\text{A}$
Reverse recovery time	$I_F = I_R = 10\text{ mA}$ , $t_{rr} = 1\text{ mA}$	$t_{rr}$			4	ns
Diode capacitance	$V_R = 0$	$C_D$			2.5	pF

### Typical Characteristics

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified

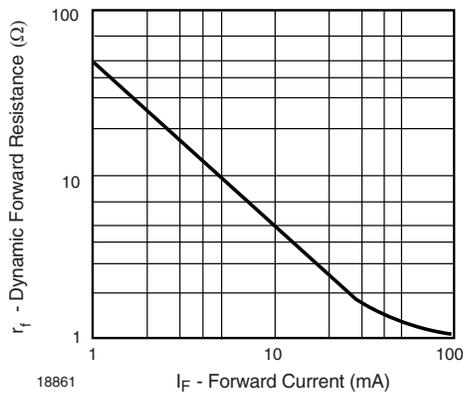


Figure 1. Dynamic Forward Resistance vs. Forward Current

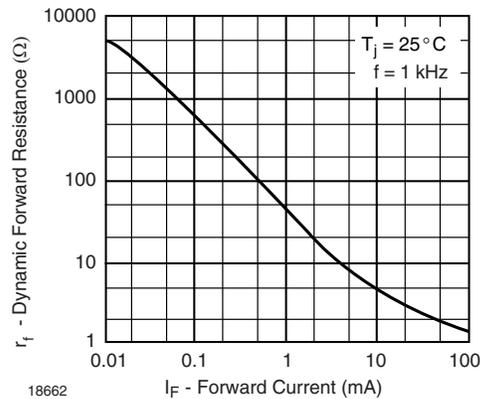


Figure 3. Dynamic Forward Resistance vs. Forward Current

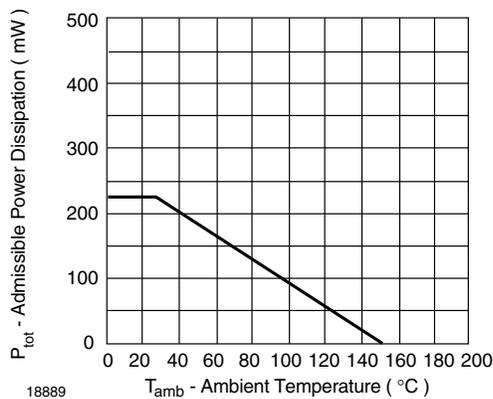


Figure 2. Admissible Power Dissipation vs. Ambient Temperature

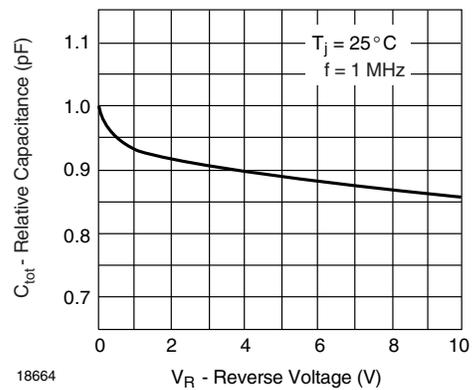


Figure 4. Relative Capacitance vs. Reverse Voltage

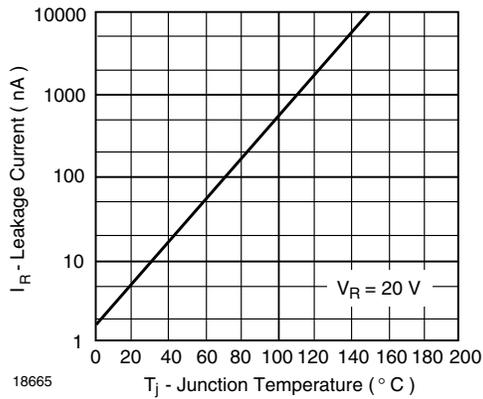


Figure 5. Leakage Current vs. Junction Temperature

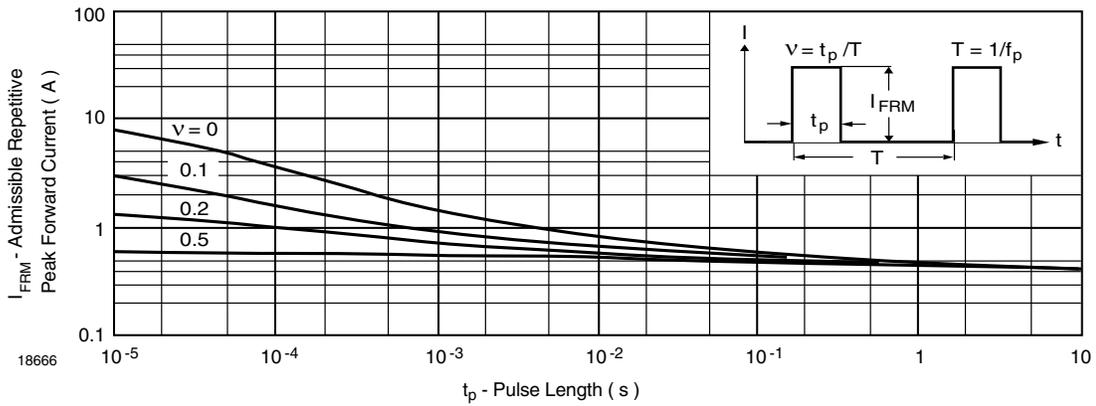


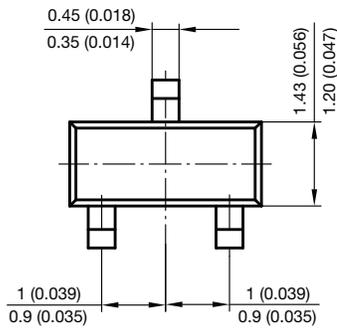
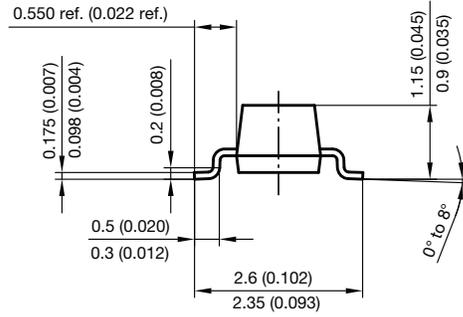
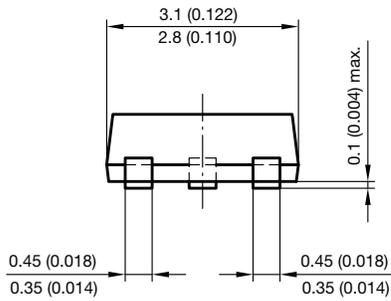
Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

# MMBD6050-V

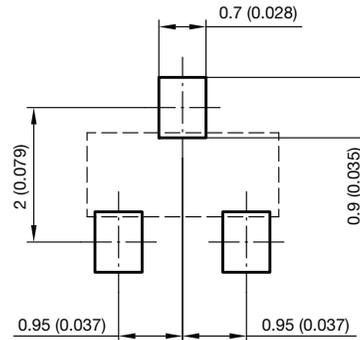
Vishay Semiconductors



## Package Dimensions in millimeters (inches): SOT-23



Foot print recommendation:



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17418



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All product specifications and data are subject to change without notice.

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