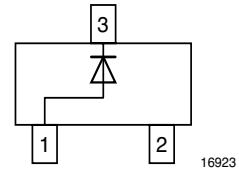
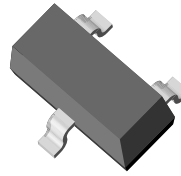


Small Signal Switching Diode

Features

- Silicon Epitaxial Planar Diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- Lead (Pb)-free component
- Component in accordance to RoHS 2002/95/EC and WEEE 2002/96/EC



16923

Mechanical Data

Case: SOT-23 Plastic case

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 ¹⁾	$T_A = 25\text{ }^{\circ}\text{C}$	P_{tot}	225	mW
	Derate above 25 °C	P_{tot}	1.8	mW/°C
Maximum power dissipation on Alumina substrate ²⁾	$T_A = 25\text{ }^{\circ}\text{C}$	P_{tot}	300	mW
	Derate above 25 °C	P_{tot}	2.4	mW/°C

¹⁾ FR-5 = 1.0 x 0.75 x 0.062 in.

²⁾ 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	$^{\circ}\text{C}/\text{W}$
Junction to ambient Alumina		R_{thJA}	417	$^{\circ}\text{C}/\text{W}$
Maximum junction temperature		T_j	150	$^{\circ}\text{C}$
Storage temperature range		T_S	- 55 to + 150	$^{\circ}\text{C}$

Electrical Characteristics

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	$I_R = 100\text{ }\mu\text{A}$	$V_{(BR)R}$	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	μA
Reverse recovery time	$I_F = I_R = 10\text{ mA}$, $I_{rr} = 1\text{ mA}$	t_{rr}			4	ns
Diode capacitance	$V_R = 0$	C_{tot}			2.5	pF

Typical Characteristics ($T_{amb} = 25\text{ }^{\circ}\text{C}$ unless otherwise specified)

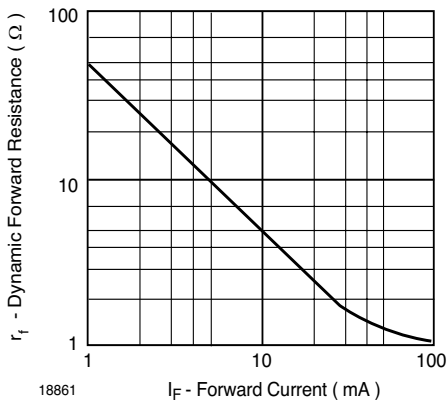


Figure 1. Dynamic Forward Resistance vs. Forward Current

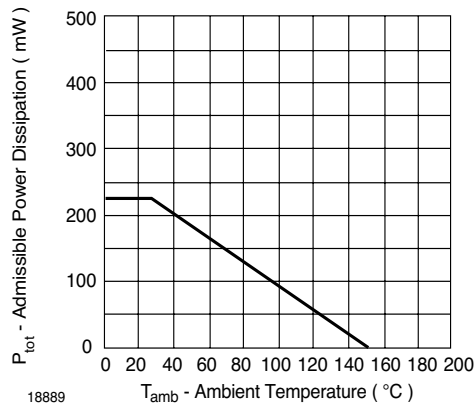


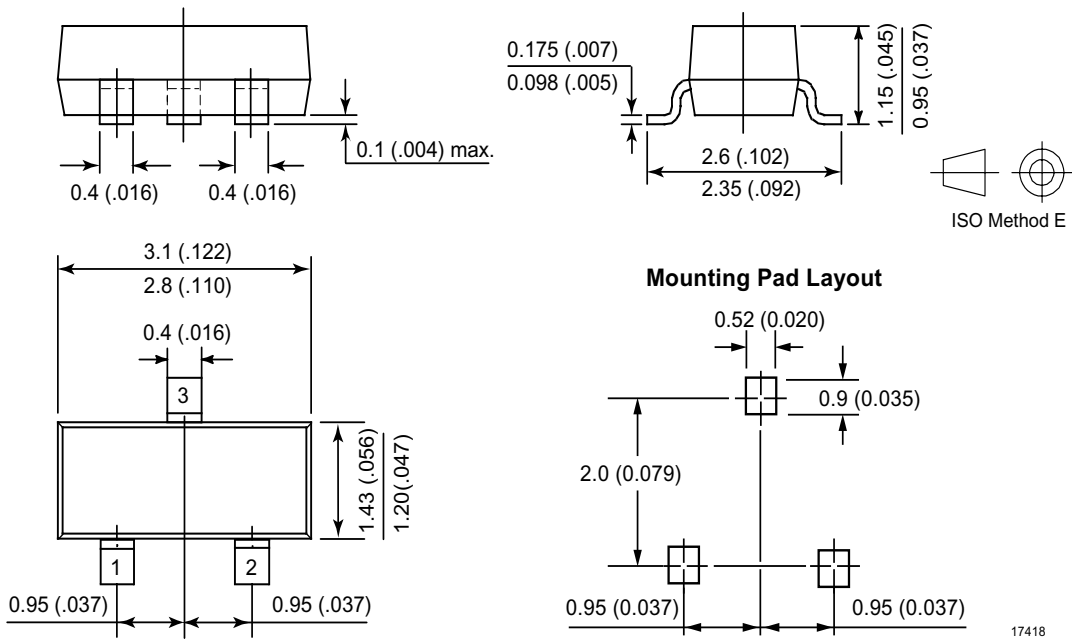
Figure 2. Admissible Power Dissipation vs. Ambient Temperature

MMBD6050-V

Vishay Semiconductors



Package Dimensions in mm (Inches)



17418