Small Signal Switching Diode

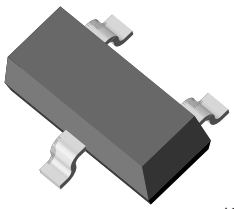
Features

- 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

Pb-free

e3

RoHS COMPLIANT



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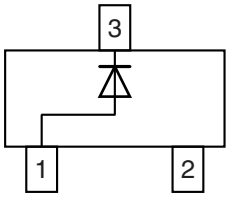


Mechanical Data

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 °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]		P_{tot}	225	mW
	Derate above 25 °C	P_{tot}	1.8	mW/°C
Maximum power dissipation on Alumina substrate [2]		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 °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 °C, unless otherwise specified

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

Typical Characteristics

T_{amb} = 25 °C unless otherwise specified

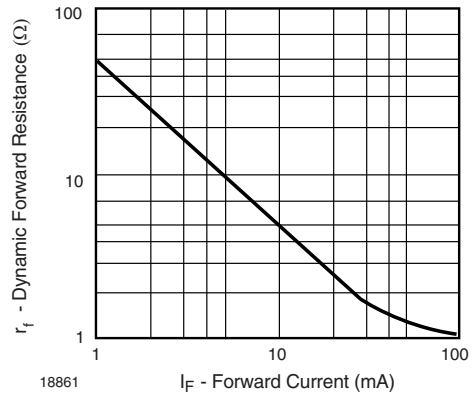


Figure 1. Dynamic Forward Resistance vs. Forward Current

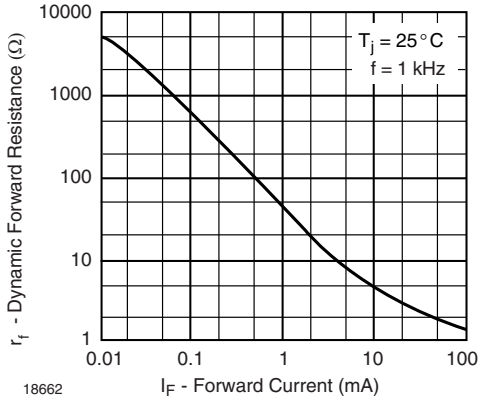


Figure 3. Dynamic Forward Resistance vs. Forward Current

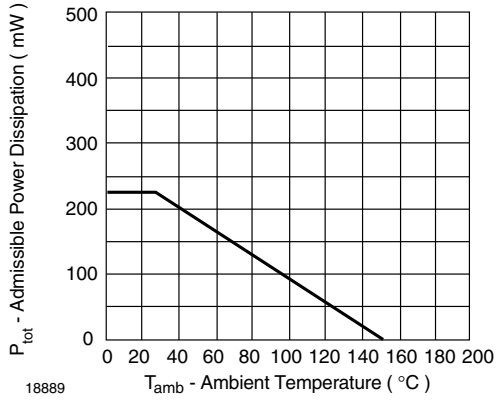


Figure 2. Admissible Power Dissipation vs. Ambient Temperature

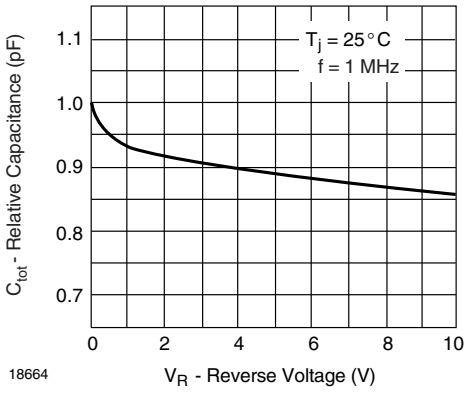


Figure 4. Relative Capacitance vs. Reverse Voltage

For technical questions within your region, please contact one of the following:
DiodesAmericas@vishay.com, DiodesAsia@vishay.com, DiodesEurope@vishay.com

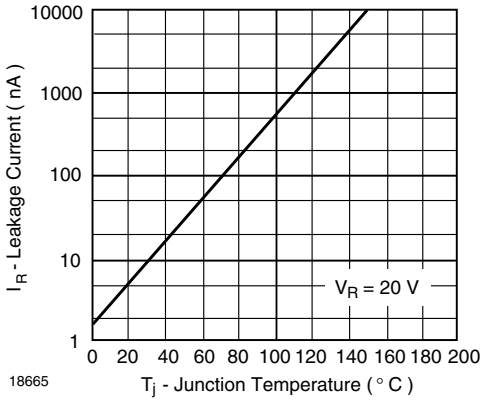


Figure 5. Leakage Current vs. Junction Temperature

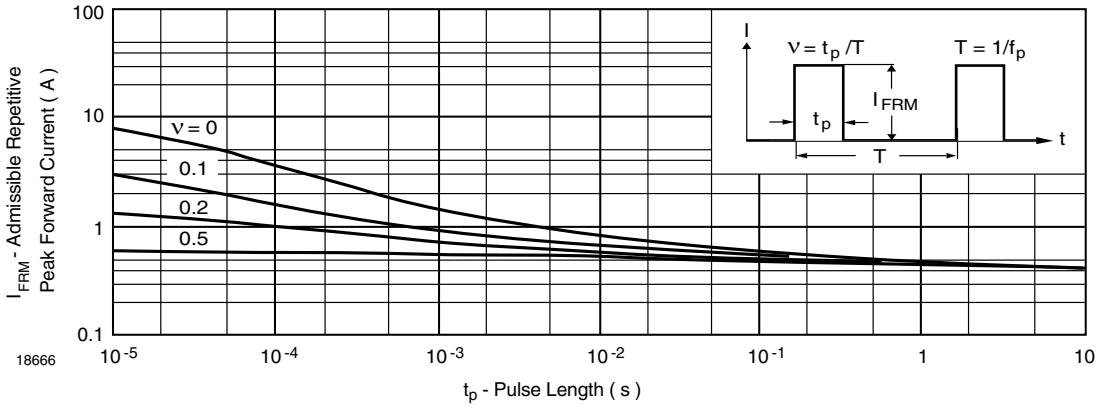
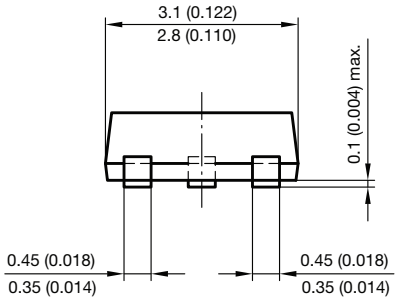
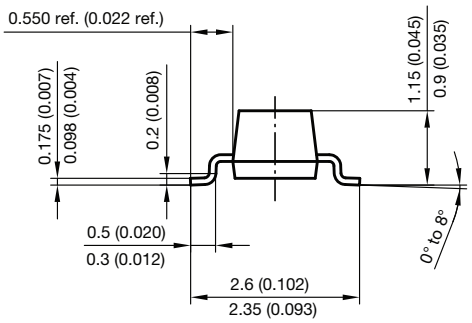
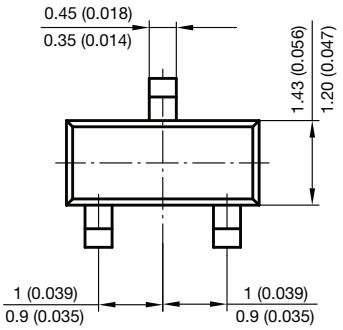


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

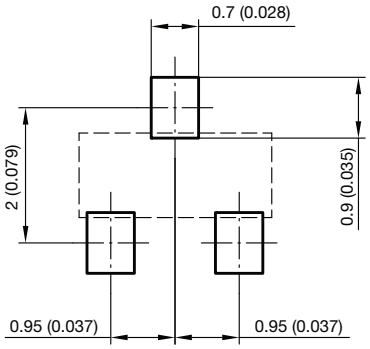
Package Dimensions in millimeters (inches): SOT-23







Foot print recommendation:



Document no.: 6.541-5014.01-4
Rev. 8 - Date: 23.Sept.2009
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