

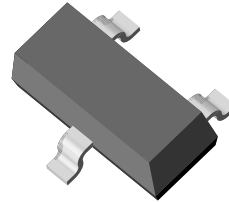
Small Signal Switching Diode

Features

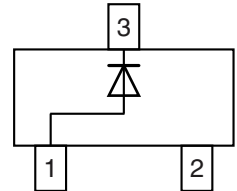
- Silicon Epitaxial Planar Diode
- Fast switching diode in case SOT-23, especially suited for automatic insertion.
- AEC-Q101 qualified
- Compliant to RoHS directive 2002/95/EC and in accordance to WEEE 2002/96/EC



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 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

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

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

Parameter	Test condition	Symbol	Min	Typ.	Max	Unit
Reverse breakdown voltage	$I_R = 100\ \mu\text{A}$	$V_{(BR)}$	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	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_D			2.5	pF

Typical Characteristics

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

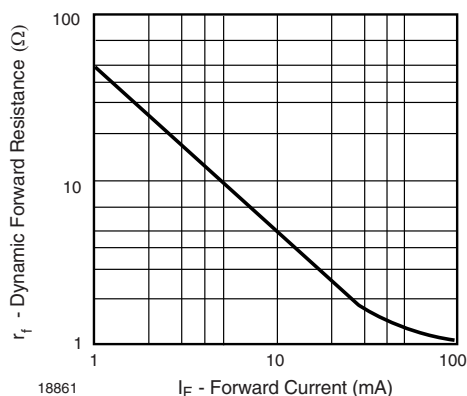


Figure 1. Dynamic Forward Resistance vs. Forward Current

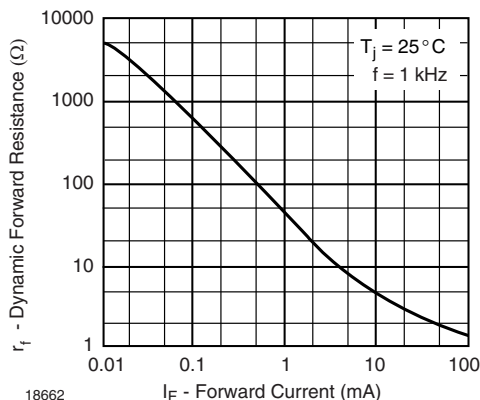


Figure 3. Dynamic Forward Resistance vs. Forward Current

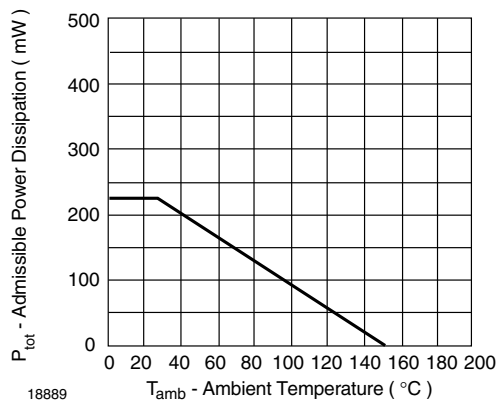


Figure 2. Admissible Power Dissipation vs. Ambient Temperature

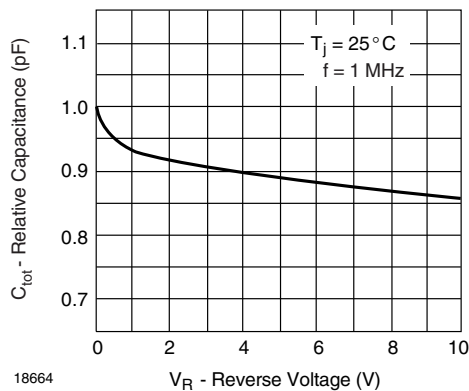


Figure 4. Relative Capacitance vs. Reverse Voltage

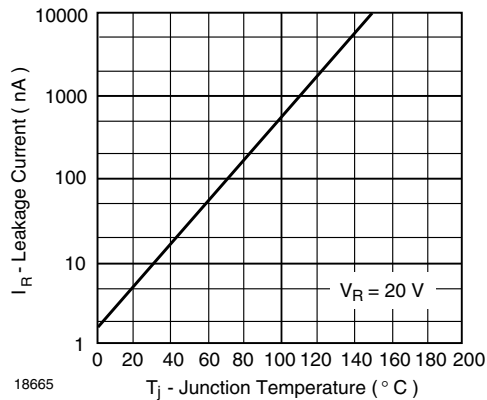


Figure 5. Leakage Current vs. Junction Temperature

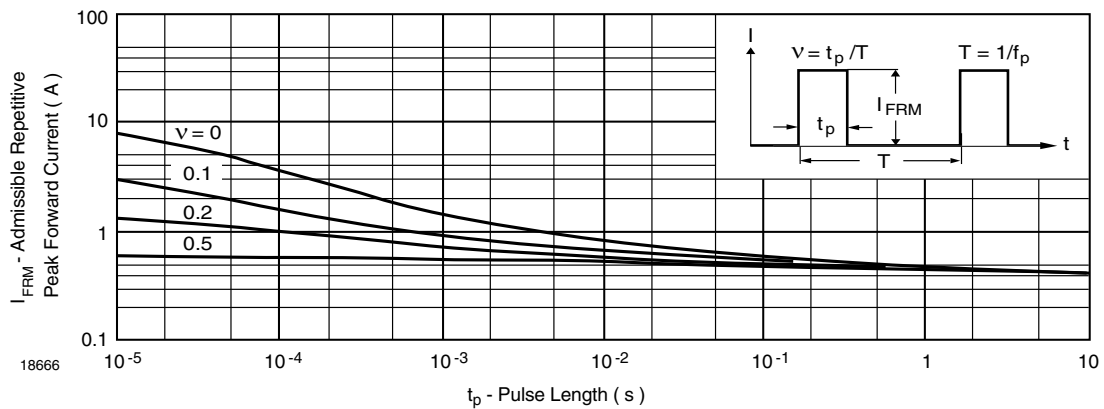
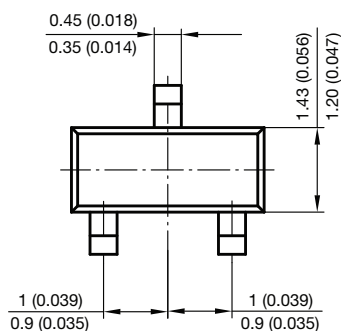
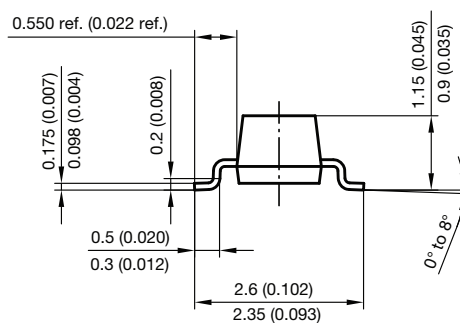
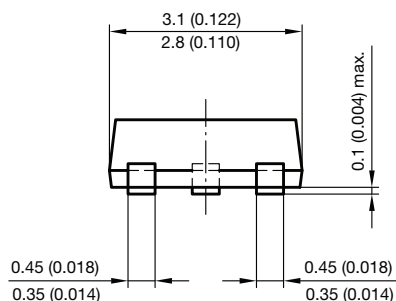
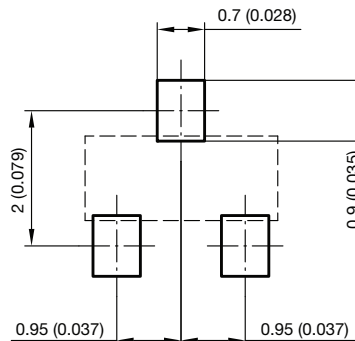


Figure 6. Admissible Repetitive Peak Forward Current vs. Pulse Duration

Package Dimensions in millimeters (inches): SOT-23



Foot print recommendation:



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