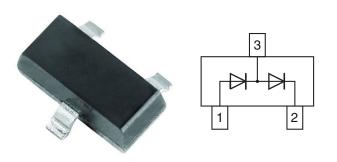


# Vishay Semiconductors

# **Small Signal Switching Diode, Dual**



### **FEATURES**

- Silicon epitaxial planar diode
- Fast switching dual diode, especially suited for automatic insertion
- AEC-Q101 qualified available (part number on request)
- Base P/N-G3 green, commercial grade
- Material categorization: for definitions of compliance please see www.vishav.com/doc?99912





RoHS COMPLIANT

FREE GREEN (5-2008)

#### **DESIGN SUPPORT TOOLS** click logo to get started



#### **MECHANICAL DATA**

Case: SOT-23

Weight: approx. 8.1 mg
Packaging codes / options:

18/10K per 13" reel (8 mm tape), 10K/box 08/3K per 7" reel (8 mm tape), 15K/box

PARTS TABLE					
PART	ORDERING CODE	CIRCUIT CONFIGURATION	TYPE MARKING	REMARKS	
MMBD7000-G	MMBD7000-G3-08 or MMBD7000-G3-18	Dual serial	M5G	Tape and reel	

<b>ABSOLUTE MAXIMUM RATINGS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Reverse voltage		$V_{R}$	100	V	
Forward current (continuous)		I <sub>F</sub>	200	mA	
Non-repetitive peak forward current	t = 1 s	I <sub>FSM</sub>	500	mA	
Device dissination on FD 5 hourd		P <sub>tot</sub>	225	mW	
Power dissipation on FR-5 board	Derate above 25 °C	P <sub>tot</sub>	1.8	mW/K	
Total device dissipation on alumina substrate		P <sub>tot</sub>	300	mW	
Total device dissipation on alumina substrate	Derate above 25 °C	P <sub>tot</sub>	2.4	mW/K	

THERMAL CHARACTERISTICS (T <sub>amb</sub> = 25 °C, unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Typical thermal resistance, junction to ambient air		R <sub>thJA</sub> (1)	417	K/W	
rypical thermal resistance, juriction to ambient air		R <sub>thJA</sub> (2)	556	K/W	
Maximum junction temperature		Tj	150	°C	
Storage temperature range		T <sub>stg</sub>	-55 to +150	°C	
Operating temperature range		T <sub>op</sub>	-55 to +150	°C	

### Notes

(1) Device on alumina substrate

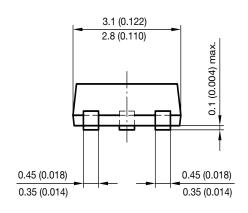
(2) On FR-5 board

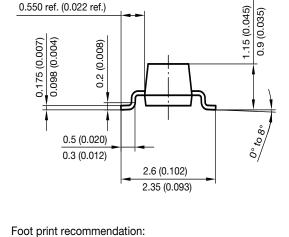


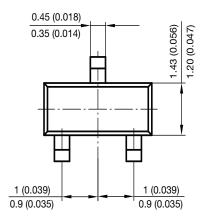
# Vishay Semiconductors

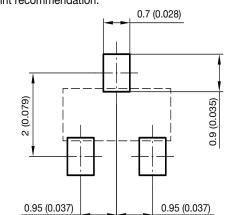
<b>ELECTRICAL CHARACTERISTICS</b> (T <sub>amb</sub> = 25 °C, unless otherwise specified)						
PARAMETER	TEST CONDITION	SYMBOL	MIN.	TYP.	MAX.	UNIT
Reverse breakdown voltage	I <sub>R</sub> = 100 μA	V <sub>(BR)</sub>	100			V
	V <sub>R</sub> = 50 V	I <sub>R</sub>			1000	nA
Leakage current	V <sub>R</sub> = 100 V	I <sub>R</sub>			3	μA
	$V_R = 50 \text{ V}, T_j = 125 ^{\circ}\text{C}$	I <sub>R</sub>			100	μA
	I <sub>F</sub> = 1 mA	$V_{F}$	0.55		0.70	V
Forward voltage	I <sub>F</sub> = 10 mA	V <sub>F</sub>	0.67		0.82	V
	$I_F = 100 \text{ mA}$	V <sub>F</sub>	0.75		1.10	V
Reverse recovery time	$I_F = I_R = 10 \text{ mA}, i_R = 1 \text{ mA},$ $R_L = 100 \Omega$	t <sub>rr</sub>			4	ns
Diode capacitance	V <sub>R</sub> = 0 V, f = 1 MHz	C <sub>D</sub>			1.5	pF

### PACKAGE DIMENSIONS in millimeters (inches): SOT-23









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