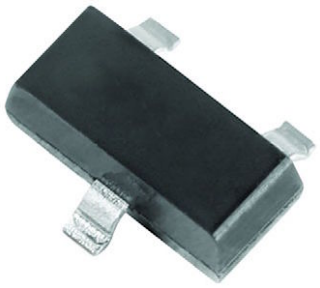
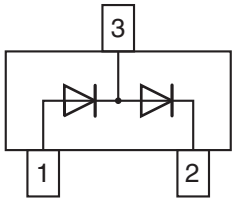
Small Signal Switching Diode, Dual





FEATURES

- Silicon epitaxial planar diode
- Fast switching dual diode, especially suited for automatic insertion
- AEC-Q101 qualified available
- Base P/N-E3 - RoHS-compliant, commercial grade
- Base P/N-HE3 - RoHS-compliant, AEC-Q101 qualified
- Material categorization: for definitions of compliance please see www.vishay.com/doc?99912

Pb-free

e3

RoHS COMPLIANT

DESIGN SUPPORT TOOLS click logo to get started

3D Models Available

MECHANICAL DATA

Case: SOT-23

Weight: approx. 8.8 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	MMBD7000-E3-08 or MMBD7000-E3-18	Dual serial	M5C	Tape and reel
	MMBD7000-HE3-08 or MMBD7000-HE3-18			

ABSOLUTE MAXIMUM RATINGS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Reverse voltage		V_R	100	V
Forward current (continuous)		I_F	200	mA
Non-repetitive peak forward current	t = 1 s	I_{FSM}	500	mA
Power dissipation on FR-5 board		P_{tot}	225	mW
	Derate above 25 °C	P_{tot}	1.8	mW/K
Total device dissipation on alumina substrate		P_{tot}	300	mW
	Derate above 25 °C	P_{tot}	2.4	mW/K

THERMAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)

PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT
Typical thermal resistance, junction to ambient air		R_{thJA} (1)	417	K/W
		R_{thJA} (2)	556	K/W
Maximum junction temperature		T_j	150	°C
Storage temperature range		T_{stg}	-55 to +150	°C
Operating temperature range		T_{op}	-55 to +150	°C

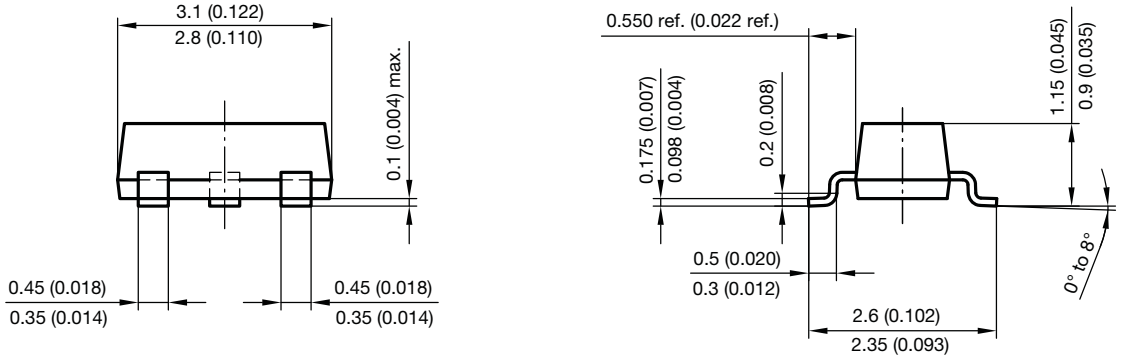
Notes

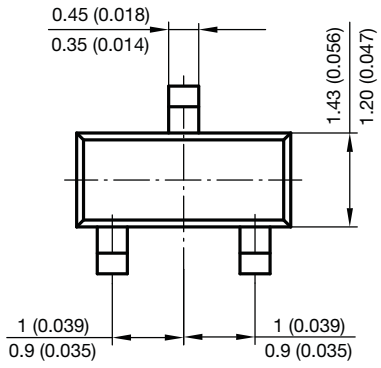
(1) Device on alumina substrate

(2) On FR-5 board

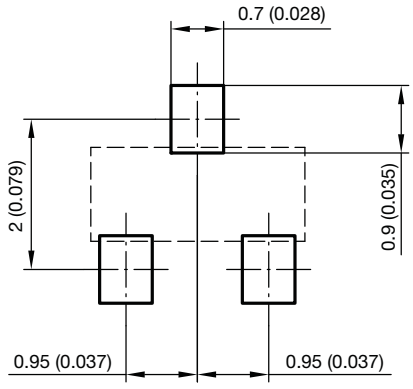
ELECTRICAL CHARACTERISTICS (T_{amb} = 25 °C, unless otherwise specified)						
PARAMETER	**TEST CONDITION**	**SYMBOL**	**MIN.**	**TYP.**	**MAX.**	**UNIT**
Reverse breakdown voltage	I_R = 100 µA	$V_{(BR)}$	100			V
Leakage current	V_R = 50 V	I_R			1000	nA
	V_R = 100 V	I_R			3	µA
	V_R = 50 V, T_j = 125 °C	I_R			100	µA
Forward voltage	I_F = 1 mA	V_F	0.55		0.70	V
	I_F = 10 mA	V_F	0.67		0.82	V
	I_F = 100 mA	V_F	0.75		1.10	V
Diode capacitance	V_R = 0, f = 1 MHz	C_D			1.5	pF
Reverse recovery time	$I_F = I_R$ = 10 mA, i_R = 1 mA, R_L = 100 Ω	t_{rr}			4	ns

PACKAGE DIMENSIONS in millimeters (inches): SOT-23





Foot print recommendation:



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