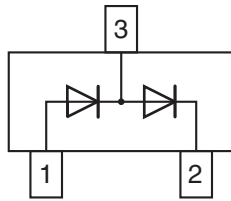




**THE DATASHEET OF  
MMBD7000-E3-08**



## 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](http://www.vishay.com/doc?99912)


**RoHS**  
COMPLIANT

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


### 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 ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , 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	$t = 1\text{ s}$	$I_{FSM}$	500	mA	
Power dissipation on FR-5 board		$P_{tot}$	225	mW	
	Derate above $25\text{ }^{\circ}\text{C}$	$P_{tot}$	1.8	mW/K	
Total device dissipation on alumina substrate		$P_{tot}$	300	mW	
	Derate above $25\text{ }^{\circ}\text{C}$	$P_{tot}$	2.4	mW/K	

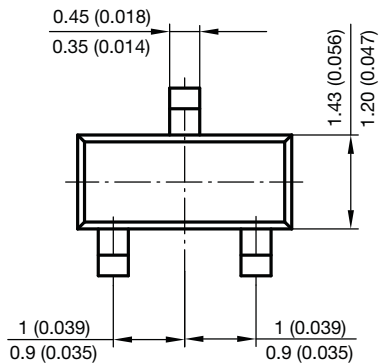
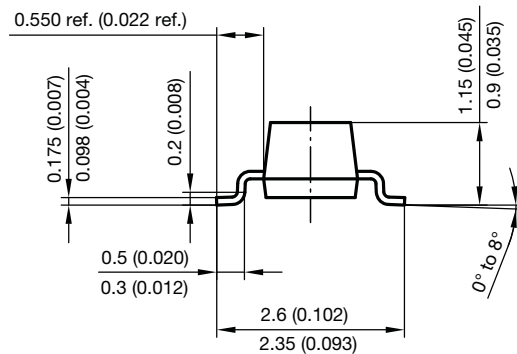
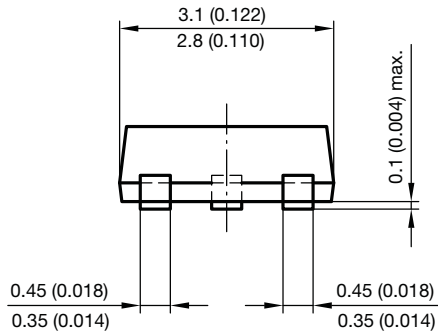
THERMAL CHARACTERISTICS ( $T_{amb} = 25\text{ }^{\circ}\text{C}$ , unless otherwise specified)					
PARAMETER	TEST CONDITION	SYMBOL	VALUE	UNIT	
Typical thermal resistance, junction to ambient air		$R_{thJA}^{(1)}$	417	K/W	
		$R_{thJA}^{(2)}$	556	K/W	
Maximum junction temperature		$T_j$	150	$^{\circ}\text{C}$	
Storage temperature range		$T_{stg}$	-55 to +150	$^{\circ}\text{C}$	
Operating temperature range		$T_{op}$	-55 to +150	$^{\circ}\text{C}$	

### Notes

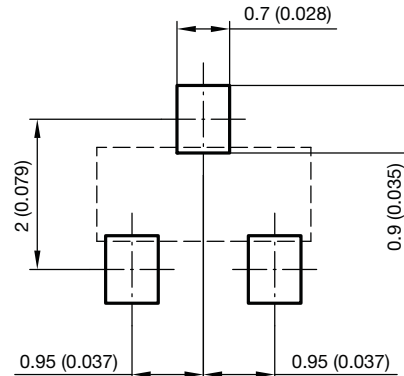
<sup>(1)</sup> Device on alumina substrate

<sup>(2)</sup> On FR-5 board

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

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


Foot print recommendation:





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