

SILICON PLANAR EPITAXIAL HIGH SPEED DIODES

The PMBD7000 consists of two diodes in a microminiature plastic envelope. The diodes are connected in series and the unit is intended for high speed switching.

QUICK REFERENCE DATA

Continuous reverse voltage	V_R	max.	100 V
Forward current (DC)	I_F	max.	215 mA
Non-repetitive peak forward current	I_{FSM}	max.	500 mA
Total power dissipation at $T_{amb} = 25^\circ C$	P_{tot}	max.	250 mW
Junction temperature	T_j	max.	150 $^\circ C$
Forward voltage at $I_F = 100$ mA	V_F	max.	1.10 V
Reverse recovery time $I_F = 10$ mA to $I_R = 10$ mA measured at $I_R = 1$ mA	t_{rr}	max.	4 ns

MECHANICAL DATA

Dimensions in mm

Marking code:

PMBD7000: p5C

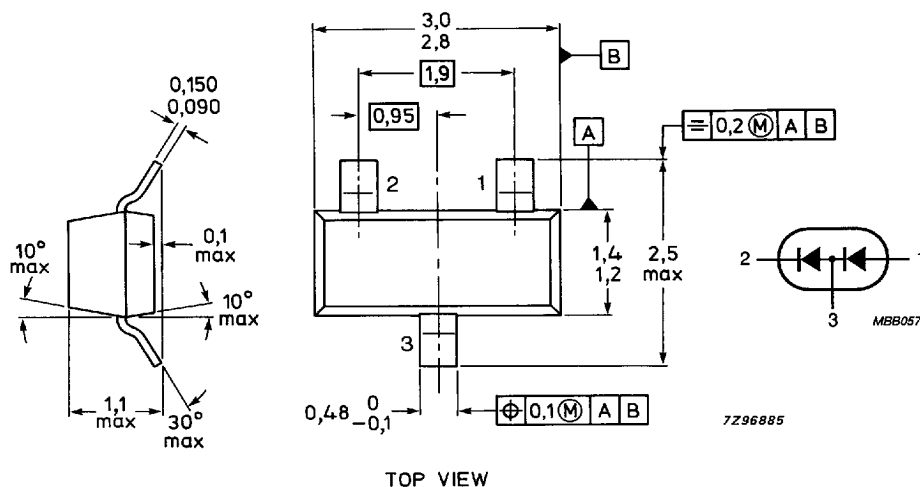


Fig. 1 SOT-23.

RATINGS

Limiting values in accordance with the Absolute Maximum System (IEC 134)

Continuous reverse voltage	V_R	max.	100 V
Forward current (DC)	I_F	max.	215 mA
Non-repetitive peak forward current ($t = 1$ s)	I_{FSM}	max.	500 mA
Total power dissipated up to $T_{amb} = 25$ °C	P_{tot}	max.	250 mW
Storage temperature	T_{stg}	—65 to +150 °C	
Junction temperature	T_j	max.	150 °C

THERMAL RESISTANCE

From junction to ambient*	$R_{th\ j-a}$	500 K/W
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CHARACTERISTICS (per diode) $T_{amb} = 25$ °C unless otherwise specified

Forward voltage

$I_F = 1$ mA	V_F	min.	0.55 V
		max.	0.70 V
$I_F = 10$ mA	V_F	min.	0.67 V
		max.	0.82 V
$I_F = 100$ mA	V_F	min.	0.75 V
		max.	1.10 V

Reverse breakdown voltage

$I_R = 100$ μ A	$V_{(BR)R}$	min.	100 V
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Reverse current

$V_R = 50$ V	I_R	max.	300 nA
$V_R = 100$ V	I_R	max.	500 nA
$V_R = 50$ V; $T_{amb} = 125$ °C	I_R	max.	100 μ A

Diode capacitance

$V_R = 0$ V; $f = 1$ MHz	C_d	max.	1.5 pF
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Reverse recovery time switched from

$I_F = 10$ mA to $I_R = 10$ mA; measured at $I_R = 1$ mA (see Fig. 2)	t_{rr}	max.	4 ns
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* Mounted on an FR4 printed-circuit board.

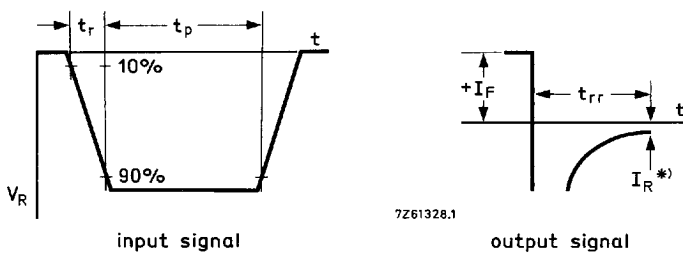
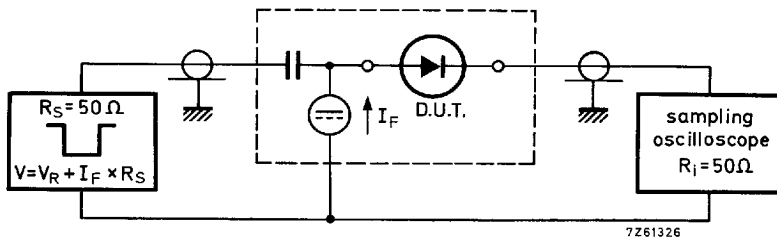


Fig. 2 Test circuit and waveforms; reverse recovery time.