

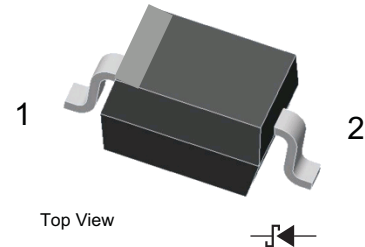
Schottky Diodes

PMEG1020EA

■ Features

- Forward current: 2A
- Reverse voltage: 10V
- Ultra low forward voltage
- Very small plastic SMD package.

SOD-323



PIN DESCRIPTION

PIN	DESCRIPTION
1	Cathode
2	Anode

■ Maximum Ratings $T_a=25^\circ\text{C}$

Parameter	Symbol	Value	Unit
Continuous reverse voltage	V_R	10	V
Continuous forward current	I_F	2	A
Repetitive peak forward current	I_{FRM}	3.2	
Non-repetitive peak forward current	I_{FSM}	9	
Thermal resistance from junction to ambient	R_{thJA}	450	$^\circ\text{C}/\text{W}$
		210	
thermal resistance from junction to solder point	R_{thJS}	90	
Junction temperature	T_J	150	$^\circ\text{C}$
Storage temperature	T_{STG}	-65 to +150	
Operating ambient temperature	T_{amb}	-65 to +150	

Note: 1. Refer to SOD-323 standard mounting conditions.

2. Device mounted on an FR4 printed-circuit board with copper clad 10x10mm.

3. Solder point of cathode tab.

■ Electrical Characteristics $T_a = 25^\circ\text{C}$ unless otherwise specified.

Parameter	Symbol	Test Conditions	Min	Typ	Max	Unit
Reverse breakdown voltage	V_R	$I_R = 100 \mu\text{A}$	10			V
Forward voltage	V_F	see Fig.1; note 1 $I_F = 0.01\text{A}$ $I_F = 0.1\text{A}$ $I_F = 1\text{A}$ $I_F = 2\text{A}$			130 200 350 450	mV
Reverse current	I_R	see Fig.2; note 2 $V_R = 5\text{V}$ $V_R = 8\text{V}$ $V_R = 10\text{V}$			2 2.5 3	mA
Diode capacitance	C_D	$V_R = 5\text{V}$, $f = 1\text{MHz}$; see Fig.3			45	pF

Note 1. Pulse test: $t_p = 300 \mu\text{s}$; $\delta = 0.02$.

2. For Schottky barrier diodes thermal runaway has to be considered, as in some applications the reverse power losses (PR) are a significant part of the total power losses.

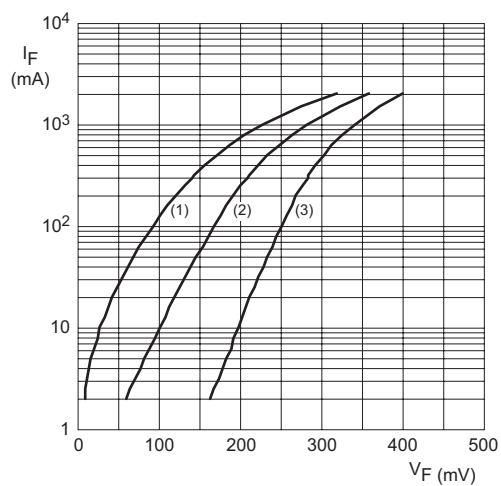
■ Marking

Marking	E2
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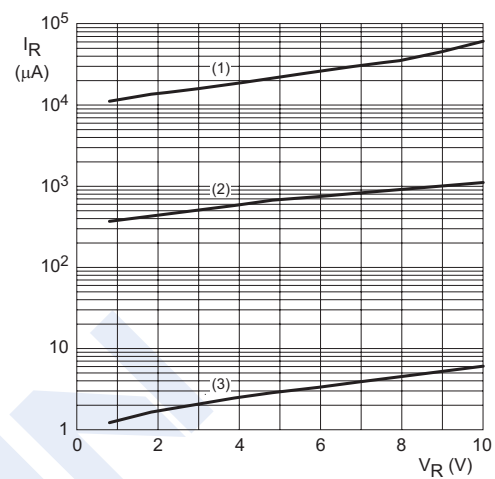
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■ Typical Characteristics



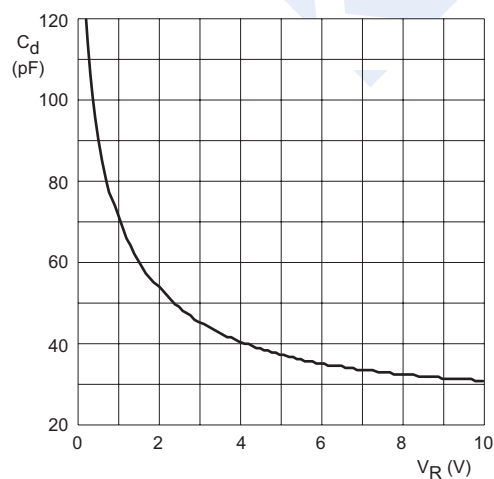
- (1) $T_{amb} = 85\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = -40\text{ }^{\circ}\text{C}$.

Fig.1 Forward current as a function of forward voltage; typical values.



- (1) $T_{amb} = 85\text{ }^{\circ}\text{C}$.
 (2) $T_{amb} = 25\text{ }^{\circ}\text{C}$.
 (3) $T_{amb} = -40\text{ }^{\circ}\text{C}$.

Fig.2 Reverse current as a function of reverse voltage; typical values.



$f = 1\text{ MHz}$; $T_{amb} = 25\text{ }^{\circ}\text{C}$.

Fig.3 Diode capacitance as a function of reverse voltage; typical values.

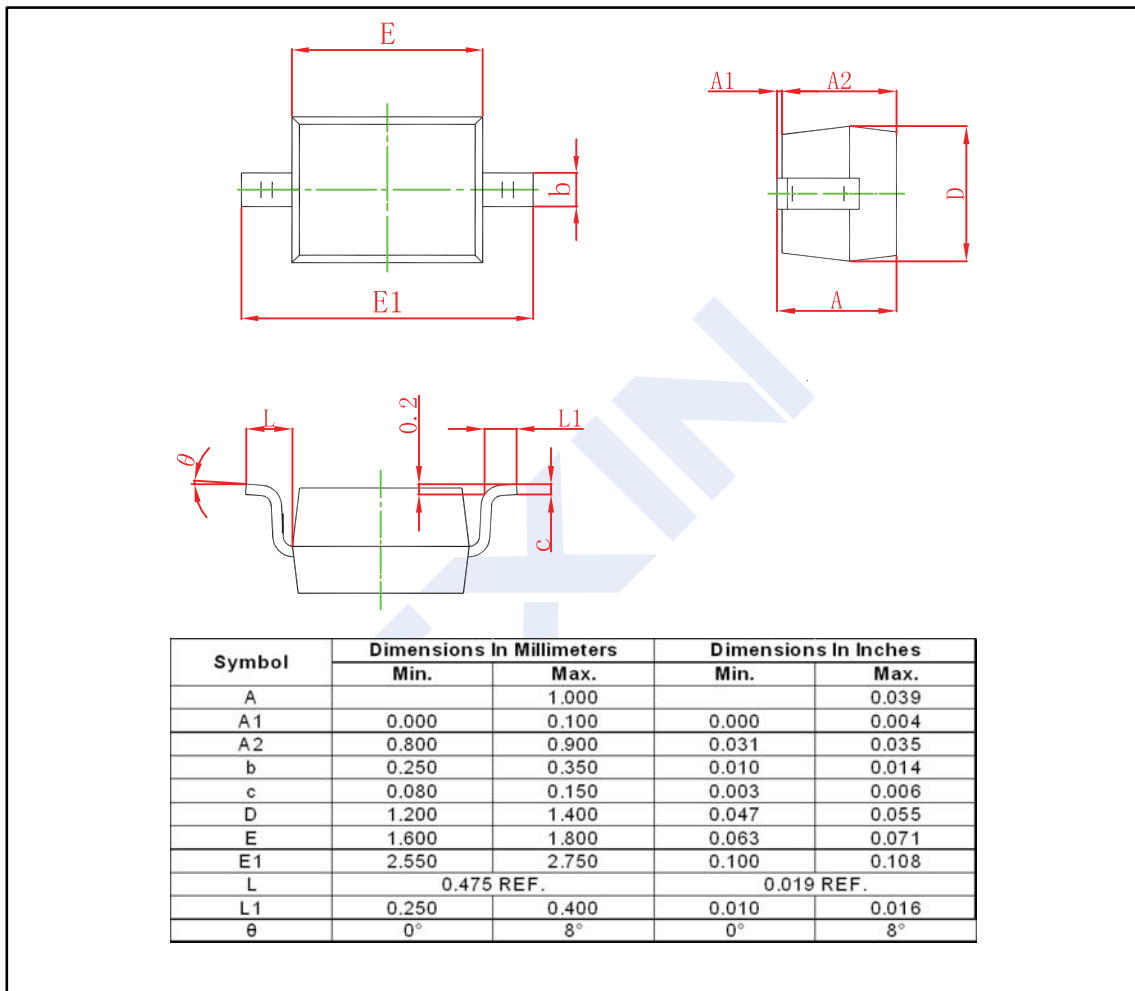
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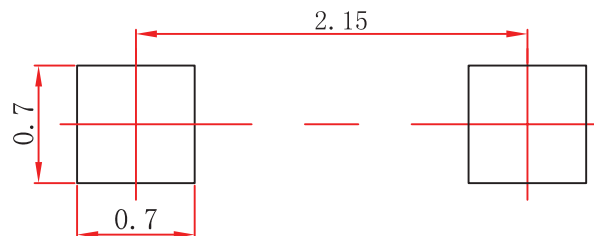
■ Package Outline Dimensions

Plastic surface mounted package; 2 leads

SOD-323



■ The Recommended Mounting Pad Size



Note:

1. Controlling dimension: in millimeters.
2. General tolerance: $\pm 0.05\text{mm}$.
3. The pad layout is for reference purposes only.