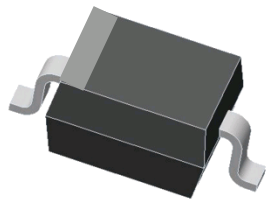
# Schottky Diodes

# PMEG1020EA

## ■ Features

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

SOD-323




Top View

PIN DESCRIPTION

| PIN | DESCRIPTION |
|---|---|
| 1 | Cathode |
| 2 | Anode |

## ■ Maximum Ratings $T_a$=25℃

| Parameter | | Symbol | Value | Unit |
|---|---|---|---|---|
| Continuous reverse voltage | | $V_R$ | 10 | V |
| Continuous forward current | Tsp≤55℃ | $I_F$ | 2 | A |
| Repetitive peak forward current | tp≤1ms; δ≤0.5 | $I_{FRM}$ | 3.2 | |
| Non-repetitive peak forward current | tp=8ms square wave | $I_{FSM}$ | 9 | |
| Thermal resistance from junction to ambient | Note 1 | $R_{thJA}$ | 450 | ℃/W |
| | Note 2 | | 210 | |
| thermal resistance from junction to solder point | Note 3 | $R_{thJS}$ | 90 | |
| Junction temperature | | $T_J$ | 150 | ℃ |
| 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 Ta = 25℃ unless otherwise specified.

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

Note 1. Pulse test: $t_p$=300μs; δ=0.02.
2. For Schottky barrier diodes thermal runaway has to be considered, as in some applications the reverse power losses ($P_R$) are a significant part of the total power losses.

## ■ Marking

| Marking | E2 |
|---|---|

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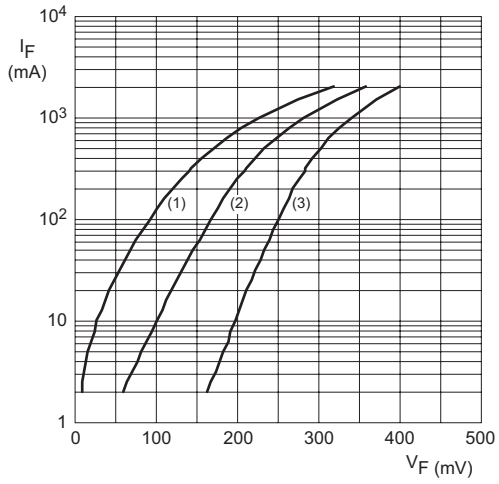
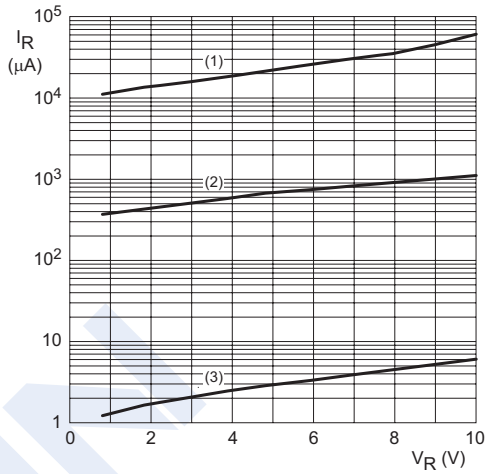
## ■ Typical Characterisitics



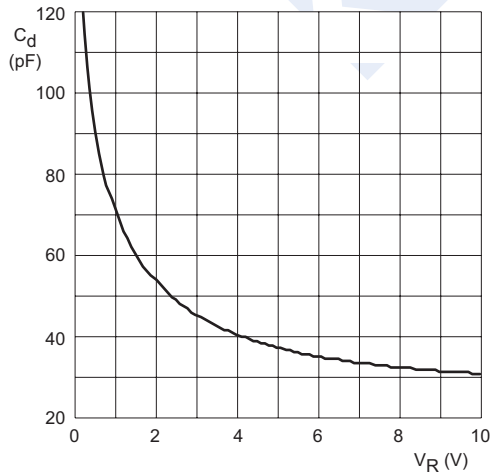

(1) $T_{amb}$ = 85 °C.
(2) $T_{amb}$ = 25 °C.
(3) $T_{amb}$ = –40 °C.

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




(1) $T_{amb}$ = 85 °C.
(2) $T_{amb}$ = 25 °C.
(3) $T_{amb}$ = –40 °C.

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




f = 1 MHz; $T_{amb}$ = 25 °C.

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

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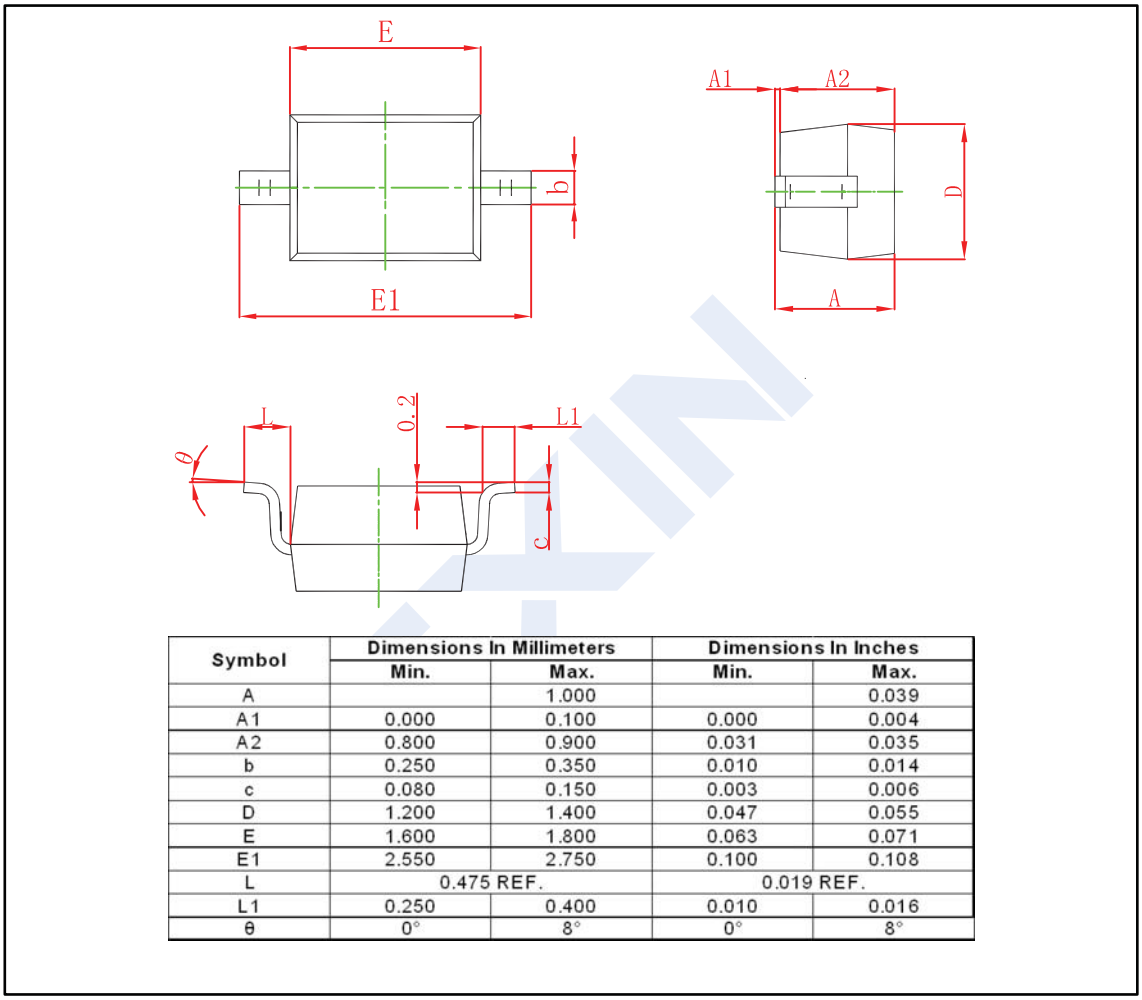
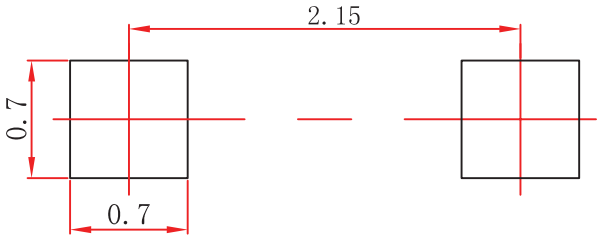
■ Package Outline Dimensions

Plastic surface mounted package; 2 leads SOD-323




| Symbol | Dimensions In Millimeters | | Dimensions In Inches | |
|---|---|---|---|---|
| | Min. | Max. | Min. | Max. |
| A | | 1.000 | | 0.039 |
| A1 | 0.000 | 0.100 | 0.000 | 0.004 |
| A2 | 0.800 | 0.900 | 0.031 | 0.035 |
| b | 0.250 | 0.350 | 0.010 | 0.014 |
| c | 0.080 | 0.150 | 0.003 | 0.006 |
| D | 1.200 | 1.400 | 0.047 | 0.055 |
| E | 1.600 | 1.800 | 0.063 | 0.071 |
| E1 | 2.550 | 2.750 | 0.100 | 0.108 |
| L | 0.475 REF. | | 0.019 REF. | |
| L1 | 0.250 | 0.400 | 0.010 | 0.016 |
| θ | 0° | 8° | 0° | 8° |

■ The Recommended Mounting Pad Size




**Note:**

1.Controlling dimension: in millimeters.

2.General tolerance:±0.05mm.

3.The pad layout is for reference purposes only.