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Should be replaced with:

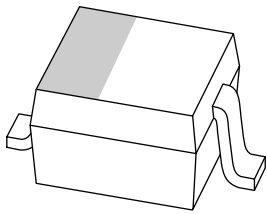
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Kind regards,

Team Nexperia

# DATA SHEET



## **PMEG2015EA**

Low  $V_F$  (MEGA) Schottky barrier diode

Product data sheet  
Supersedes data of 2003 May 20

2004 Feb 03

# Low $V_F$ (MEGA) Schottky barrier diode

## PMEG2015EA

### FEATURES

- Forward current: 1.5 A
- Reverse voltage: 20 V
- Ultra high-speed switching
- Very low forward voltage
- Very small plastic SMD package.

### APPLICATIONS

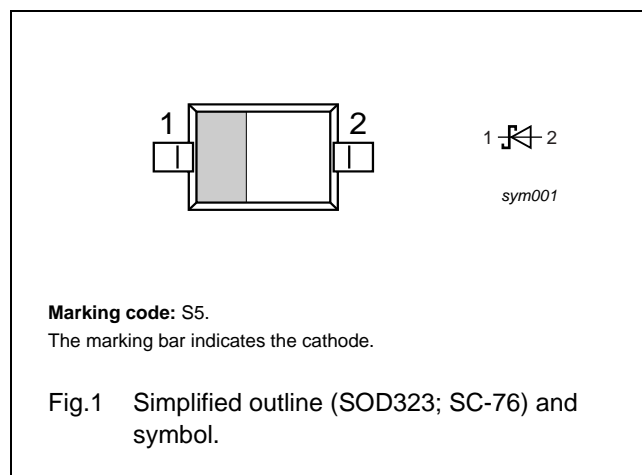
- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

### DESCRIPTION

Planar Maximum Efficiency General Application (MEGA) Schottky barrier diode with an integrated guard ring for stress protection, encapsulated in a SOD323 (SC-76) very small SMD plastic package.

### PINNING

| PIN | DESCRIPTION |
|-----|-------------|
| 1   | cathode     |
| 2   | anode       |



### ORDERING INFORMATION

| TYPE NUMBER | PACKAGE |  |         |
|-------------|---------|--|---------|
|             | NAME    | DESCRIPTION                              | VERSION |
| PMEG2015EA  | —       | plastic surface mounted package; 2 leads | SOD323  |

### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

| SYMBOL    | PARAMETER                           | CONDITIONS                              | MIN. | MAX. | UNIT |
|-----------|-------------------------------------|---|------|------|------|
| $V_R$     | continuous reverse voltage          |   | —    | 20   | V    |
| $I_F$     | continuous forward current          | $T_s < 55\text{ °C}$                    | —    | 1.5  | A    |
| $I_{FSM}$ | non-repetitive peak forward current | $t_p = 8\text{ ms square wave}$         | —    | 10   | A    |
| $I_{FRM}$ | repetitive peak forward current     | $t_p = 1\text{ ms}; \delta = \leq 0.25$ | —    | 4.5  | A    |
| $T_{stg}$ | storage temperature                 |   | −65  | +150 | °C   |
| $T_j$     | junction temperature                |   | —    | 125  | °C   |
| $T_{amb}$ | operating ambient temperature       |   | −65  | +125 | °C   |

Low  $V_F$  (MEGA) Schottky barrier diode

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**CHARACTERISTICS**

$T_{amb} = 25\text{ }^{\circ}\text{C}$  unless otherwise specified.

| SYMBOL | PARAMETER                  | CONDITIONS   | TYP. | MAX. | UNIT          |
|--------|----------------------------|--|------|------|---------------|
| $V_F$  | continuous forward voltage | see Fig.2; note 1                                      |      |      |               |
|        |                            | $I_F = 10\text{ mA}$                                   | 240  | 270  | mV            |
|        |                            | $I_F = 100\text{ mA}$                                  | 300  | 350  | mV            |
|        |                            | $I_F = 1000\text{ mA}$                                 | 480  | 550  | mV            |
|        |                            | $I_F = 1500\text{ mA}$                                 | 560  | 660  | mV            |
| $I_R$  | continuous reverse current | see Fig.3; note 1                                      |      |      |               |
|        |                            | $V_R = 5\text{ V}$                                     | 5    | 10   | $\mu\text{A}$ |
|        |                            | $V_R = 8\text{ V}$                                     | 7    | 20   | $\mu\text{A}$ |
|        |                            | $V_R = 15\text{ V}$                                    | 10   | 50   | $\mu\text{A}$ |
| $C_d$  | diode capacitance          | $V_R = 5\text{ V}$ ; $f = 1\text{ MHz}$ ;<br>see Fig.4 | 19   | 25   | pF            |

**Note**

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

**THERMAL CHARACTERISTICS**

| SYMBOL        | PARAMETER  | CONDITIONS | VALUE | UNIT |
|---------------|--|------------|-------|------|
| $R_{th(j-a)}$ | thermal resistance from junction to ambient      | note 1     | 450   | K/W  |
|               |  | note 2     | 210   | K/W  |
| $R_{th(j-s)}$ | thermal resistance from junction to solder point | note 3     | 90    | K/W  |

**Notes**

1. Refer to SC-76 (SOD323) standard mounting conditions.
2. Device mounted on a printed-circuit board with copper clad 10 x 10 mm.
3. Soldering point of cathode tab.

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## GRAPHICAL DATA

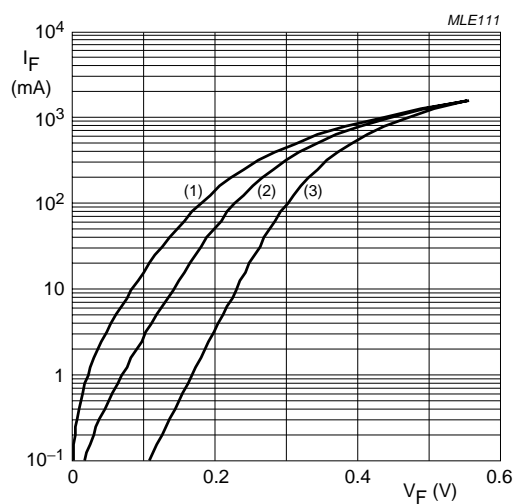


Fig.2 Forward current as a function of forward voltage; typical values.

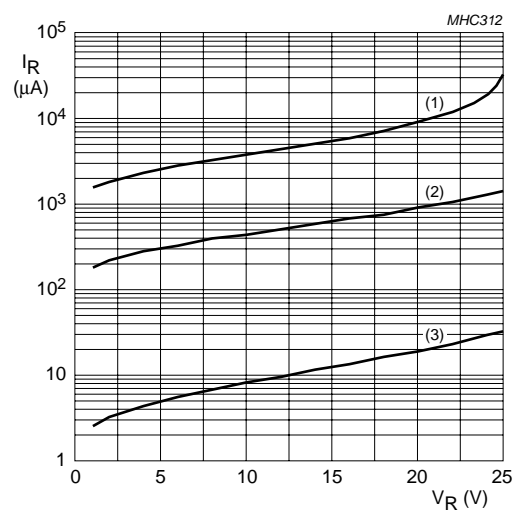


Fig.3 Reverse current as a function of reverse voltage; typical values.

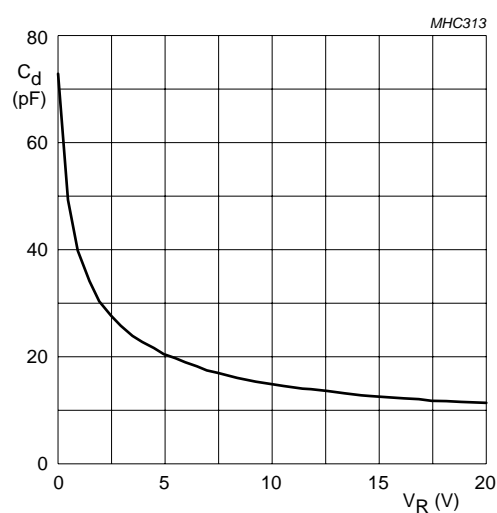


Fig.4 Diode capacitance as a function of reverse voltage; typical values.

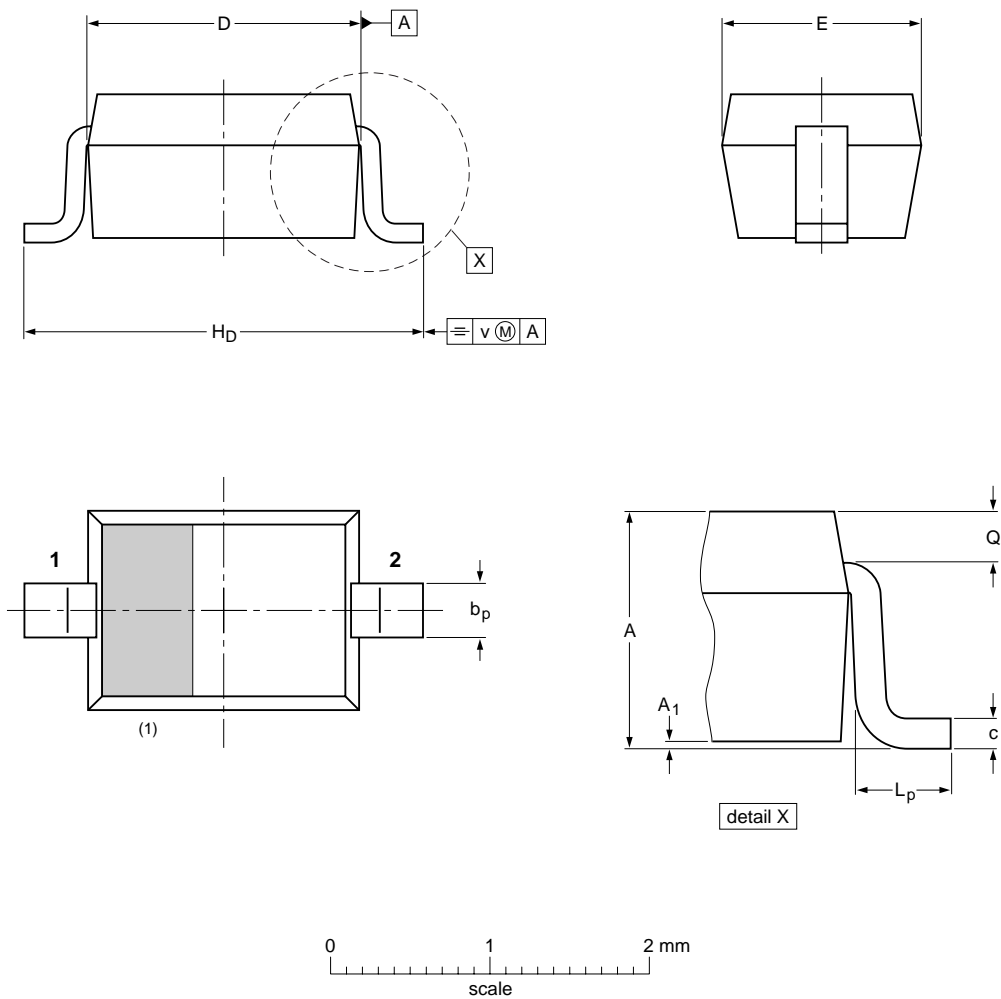
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PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

| UNIT | A          | A <sub>1</sub><br>max | b <sub>p</sub> | c            | D          | E            | H <sub>D</sub> | L <sub>p</sub> | Q            | v   |
|------|------------|-----------------------|----------------|--------------|------------|--------------|----------------|----------------|--------------|-----|
| mm   | 1.1<br>0.8 | 0.05                  | 0.40<br>0.25   | 0.25<br>0.10 | 1.8<br>1.6 | 1.35<br>1.15 | 2.7<br>2.3     | 0.45<br>0.15   | 0.25<br>0.15 | 0.2 |

Note  
1. The marking bar indicates the cathode

| OUTLINE<br>VERSION | REFERENCES |       |       |  | EUROPEAN<br>PROJECTION | ISSUE DATE             |
|--------------------|------------|-------|-------|--|------------------------|------------------------|
|                    | IEC        | JEDEC | JEITA |  |                        |                        |
| SOD323             |            |       | SC-76 |  |                        | -03-12-17-<br>06-03-16 |

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## DATA SHEET STATUS

| DOCUMENT STATUS <sup>(1)</sup> | PRODUCT STATUS <sup>(2)</sup> | DEFINITION  |
|--------------------------------|-------------------------------|---|
| Objective data sheet           | Development                   | This document contains data from the objective specification for product development. |
| Preliminary data sheet         | Qualification                 | This document contains data from the preliminary specification.                       |
| Product data sheet             | Production                    | This document contains the product specification.                                     |

## Notes

1. Please consult the most recently issued document before initiating or completing a design.
2. The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL <http://www.nxp.com>.

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# ***NXP Semiconductors***

## **Customer notification**

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

## **Contact information**

For additional information please visit: **<http://www.nxp.com>**

For sales offices addresses send e-mail to: **[salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)**

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