

Important notice

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Should be replaced with:

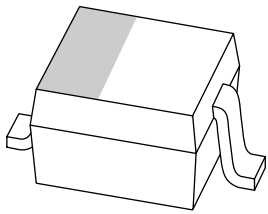
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If you have any questions related to the data sheet, please contact our nearest sales office via e-mail or telephone (details via salesaddresses@nexperia.com). Thank you for your cooperation and understanding,

Kind regards,

Team Nexperia

DATA SHEET



PMEG2010EA Low V_F (MEGA) Schottky barrier diode

Product data sheet
Supersedes data of 2002 Dec 10

2004 Feb 06

Low V_F (MEGA) Schottky barrier diode

PMEG2010EA

FEATURES

- Forward current: 1 A
- Reverse voltage: 20 V
- Ultra high-speed switching
- Very low forward voltage
- Very small plastic SMD package.

APPLICATIONS

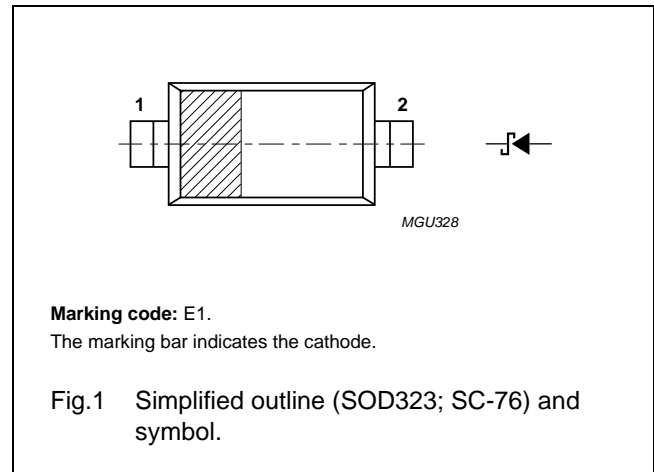
- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

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 |
| PMEG2010EA | - | 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 | | - | 1 | A |
| I_{FSM} | non-repetitive peak forward current | $t_p = 8.3$ ms half sinewave; JEDEC method | - | 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_R | continuous reverse current | see Fig.3; note 1 | | | |
| | | $V_R = 5\text{ V}$ | 5 | 10 | μA |
| | | $V_R = 8\text{ V}$ | 7 | 20 | μA |
| | | $V_R = 15\text{ V}$ | 10 | 50 | μA |
| C_d | diode capacitance | $V_R = 5\text{ V}$; $f = 1\text{ MHz}$; see Fig.4 | 19 | 25 | pF |

Note

1. Pulsed 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 | 220 | K/W |
| | | note 2 | 180 | K/W |

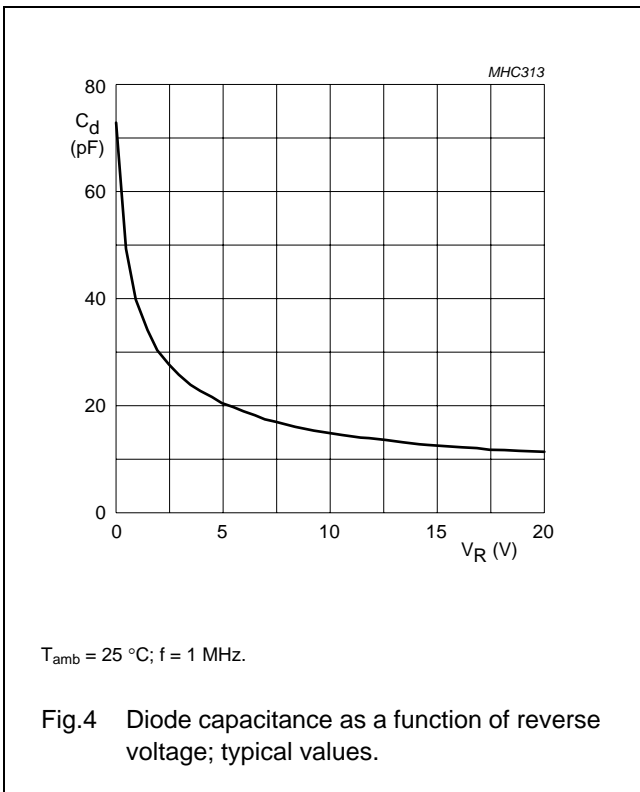
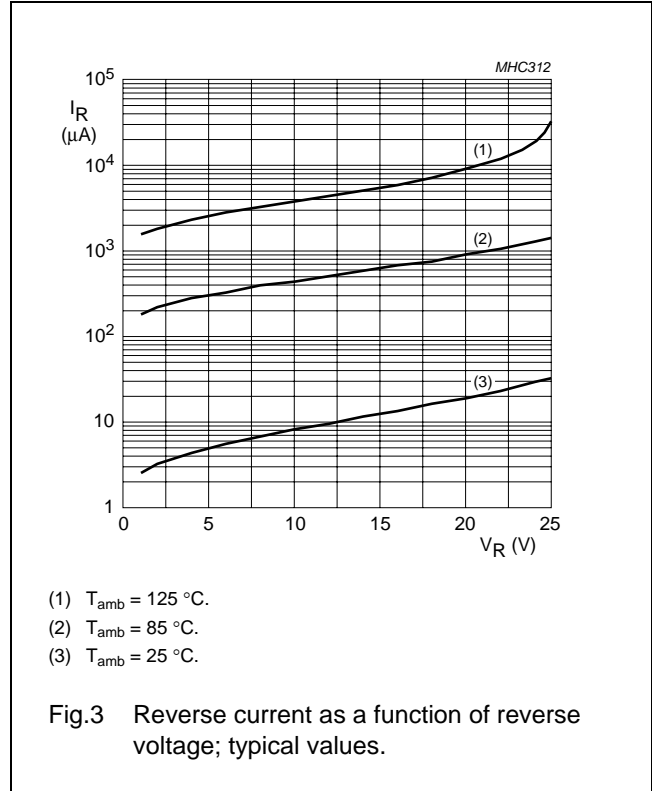
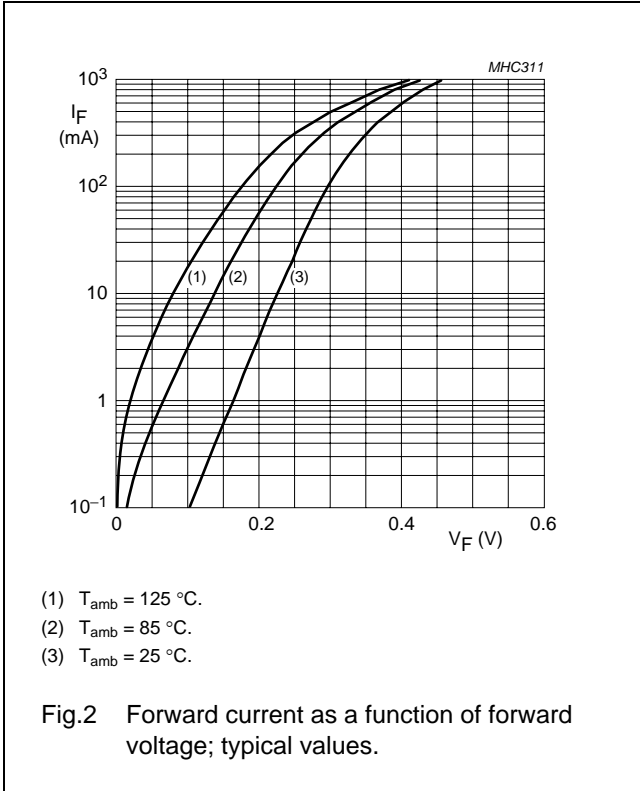
Notes

1. Device mounted on an FR4 printed-circuit board with Cu clad 10 x 10 mm.
2. Device mounted on an FR4 printed-circuit board with Cu clad 40 x 40 mm.

Low V_F (MEGA) Schottky barrier diode

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GRAPHICAL DATA



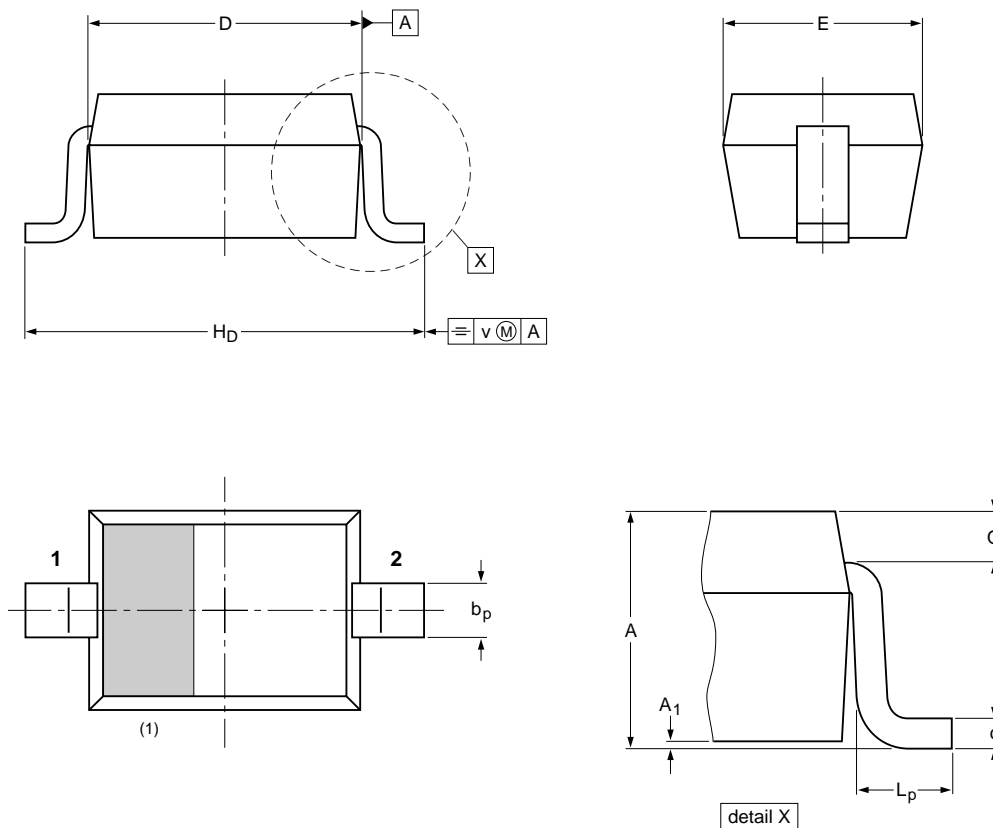
Low V_F (MEGA) Schottky barrier diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

| UNIT | A | A ₁ max | b _p | c | D | E | H _D | L _p | Q | v |
|------|------------|-----------------------|----------------|--------------|------------|--------------|----------------|----------------|--------------|-----|
| mm | 1.1 0.8 | 0.05 | 0.40 0.25 | 0.25 0.10 | 1.8 1.6 | 1.35 1.15 | 2.7 2.3 | 0.45 0.15 | 0.25 0.15 | 0.2 |

Note

1. The marking bar indicates the cathode

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

Low V_F (MEGA) Schottky barrier diode

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DATA SHEET STATUS

| DOCUMENT STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | 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>

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