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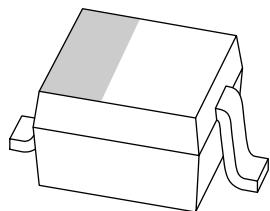
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Kind regards,

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<sub>F</sub> (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**

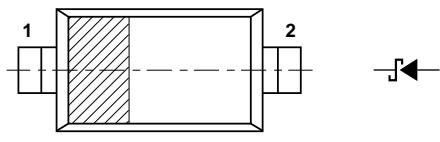
- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

**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



MGU328

**Marking code: E1.**

The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD323; SC-76) and symbol.

**ORDERING INFORMATION**

TYPE NUMBER	PACKAGE			VERSION
	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 <sub>R</sub>	continuous reverse voltage		–	20	V
I <sub>F</sub>	continuous forward current		–	1	A
I <sub>FSM</sub>	non-repetitive peak forward current	t <sub>p</sub> = 8.3 ms half sinewave; JEDEC method	–	5	A
T <sub>stg</sub>	storage temperature		–65	+150	°C
T <sub>j</sub>	junction temperature		–	125	°C
T <sub>amb</sub>	operating ambient temperature		–65	+125	°C

Low  $V_F$  (MEGA) Schottky barrier diode

PMEG2010EA

**CHARACTERISTICS** $T_{amb} = 25^\circ C$  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
$I_R$	continuous reverse current	$I_F = 1000 \text{ mA}$	480	550	mV
		see Fig.3; note 1			
		$V_R = 5 \text{ V}$	5	10	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 8 \text{ V}$	7	20	$\mu\text{A}$
		$V_R = 15 \text{ V}$	10	50	$\mu\text{A}$
		$V_R = 5 \text{ V}; f = 1 \text{ MHz};$ see Fig.4	19	25	pF

**Note**

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

**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

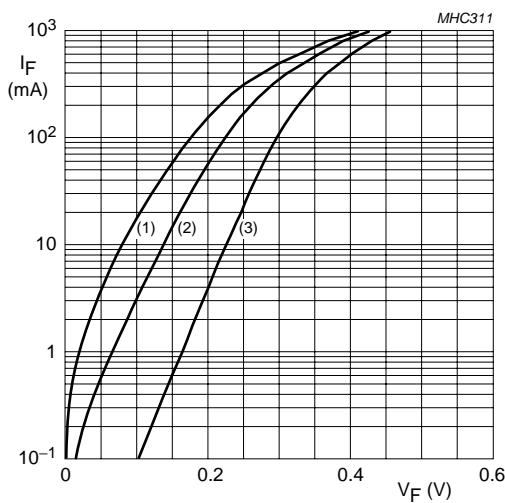
**Notes**

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

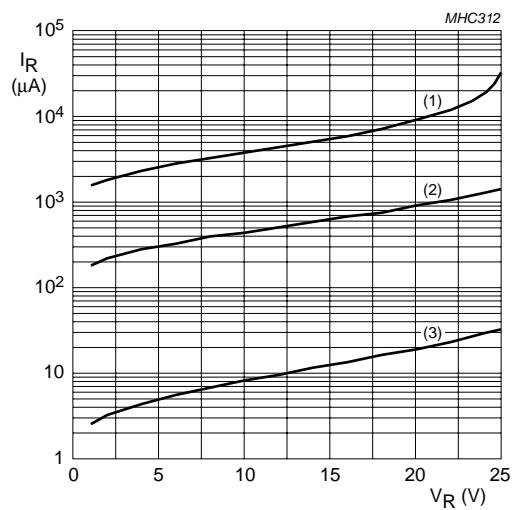
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## GRAPHICAL DATA



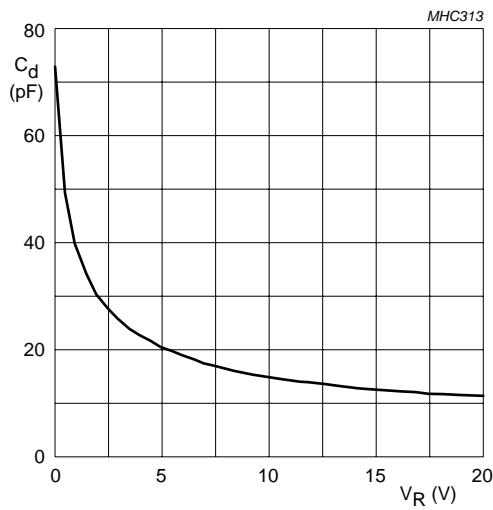
- (1)  $T_{amb} = 125$  °C.
- (2)  $T_{amb} = 85$  °C.
- (3)  $T_{amb} = 25$  °C.

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



- (1)  $T_{amb} = 125$  °C.
- (2)  $T_{amb} = 85$  °C.
- (3)  $T_{amb} = 25$  °C.

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



$T_{amb} = 25$  °C;  $f = 1$  MHz.

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

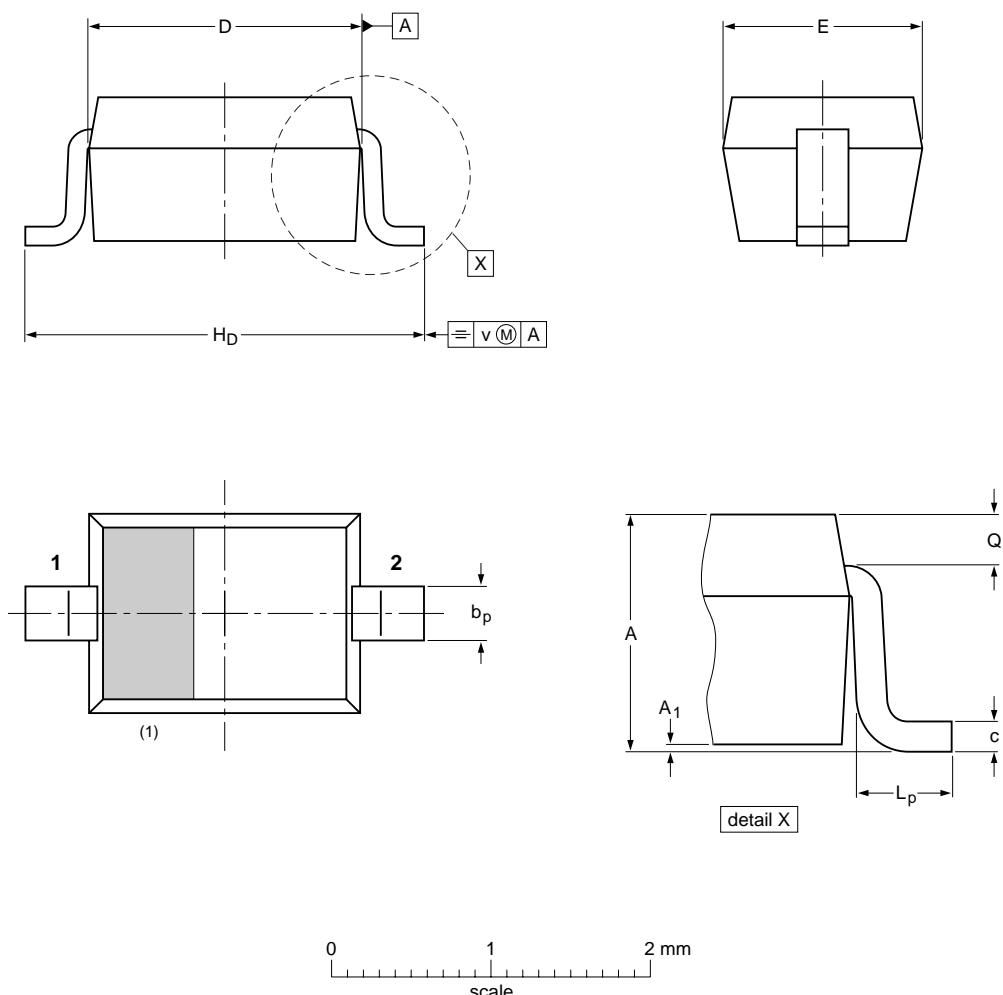
Low  $V_F$  (MEGA) Schottky barrier diode

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## PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

SOD323



## DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	H <sub>D</sub>	L <sub>p</sub>	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	SC-76		
SOD323						03-12-17 06-03-16

Low  $V_F$  (MEGA) Schottky barrier diode

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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

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## **Customer notification**

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## **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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Printed in The Netherlands

R76/02/PP7

Date of release: 2004 Feb 06

Document order number: 9397 750 12626

Founded by

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