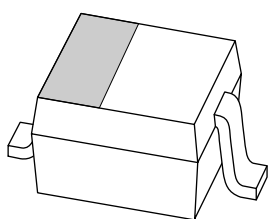


# DATA SHEET



## **PMEG2015EA**

**Low  $V_F$  (MEGA) Schottky barrier diode**

Product specification  
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

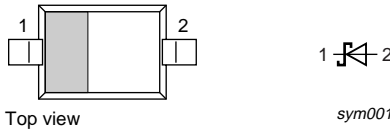
- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

## 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



Top view

*sym001*

**Marking code:** S5.  
The marking bar indicates the cathode.

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

## 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

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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	$V_R = 5\text{ V}$ ; $f = 1\text{ MHz}$ ; 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

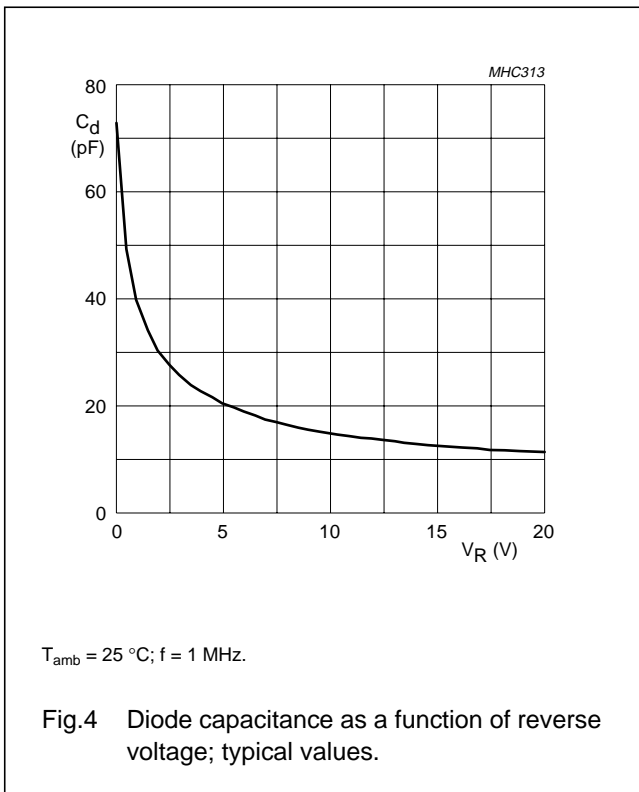
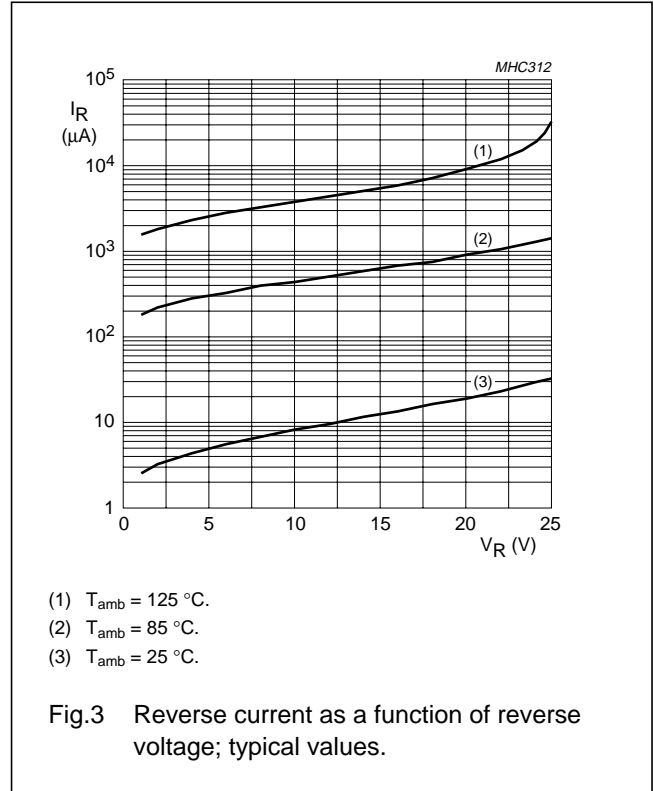
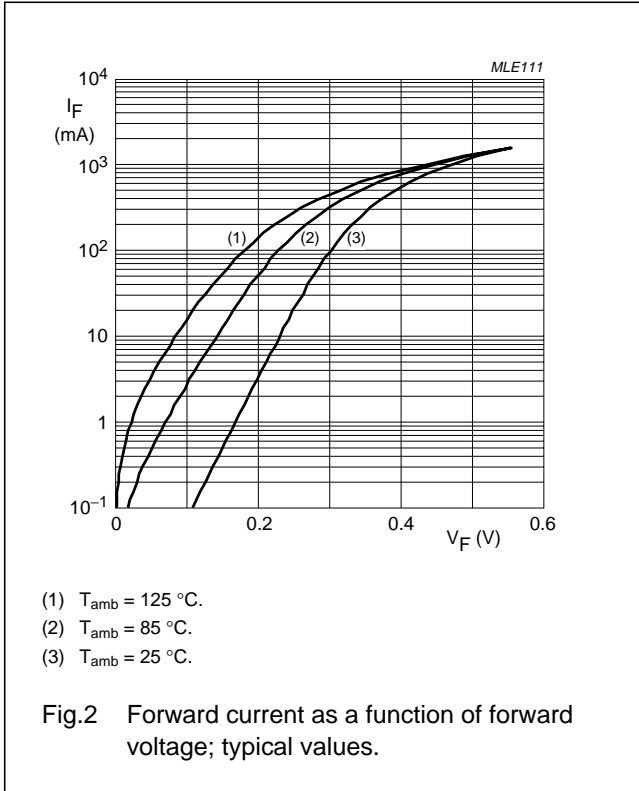
**Notes**

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.

Low  $V_F$  (MEGA) Schottky barrier diode

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GRAPHICAL DATA



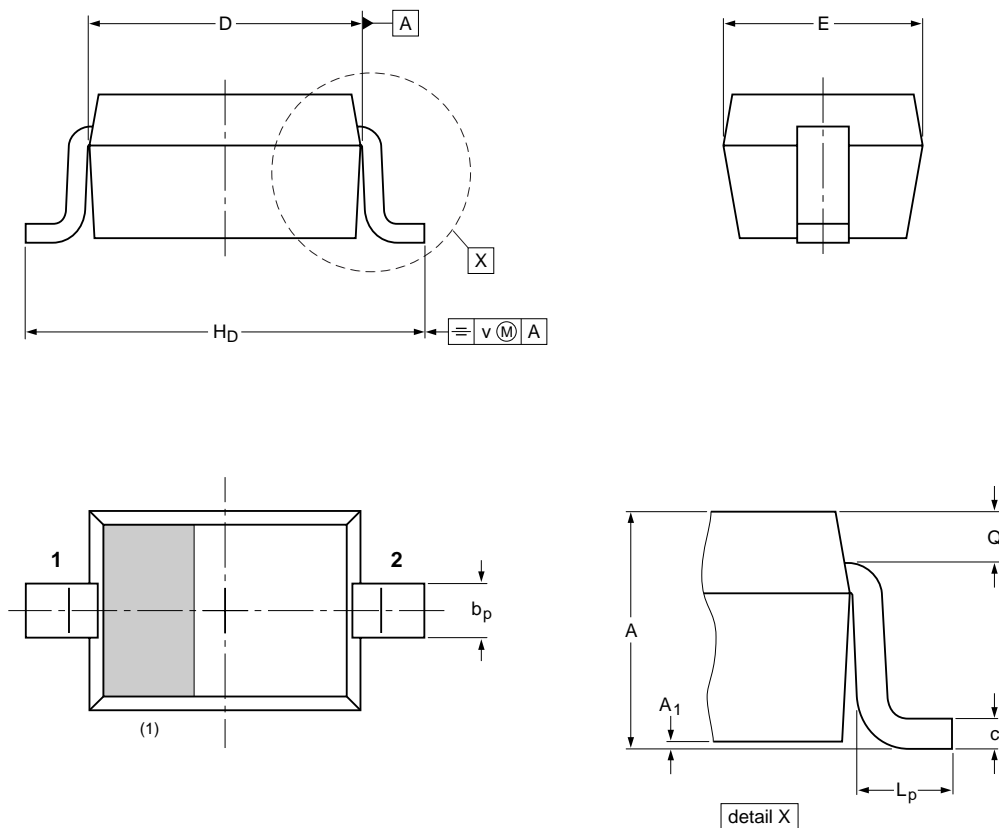
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1 max</sub>	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		
SOD323			SC-76		99-09-13 03-12-17

Low  $V_F$  (MEGA) Schottky barrier diode

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## DATA SHEET STATUS

LEVEL	DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)(3)</sup>	DEFINITION
I	Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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**Limiting values definition** — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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