



**THE DATASHEET OF  
PMEG2005EB,115**



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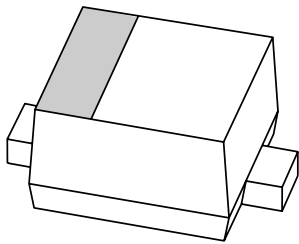
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Kind regards,

Team Nexperia

# DATA SHEET



## **PMEG2005EB**

Low  $V_F$  MEGA Schottky barrier diode

Product data sheet  
Supersedes data of 2003 Feb 20

2003 Apr 04

# Low $V_F$ MEGA Schottky barrier diode

# PMEG2005EB

### FEATURES

- Forward current: 0.5 A
- Reverse voltage: 20 V
- Very low forward voltage
- Guard ring protected
- Ultra small SMD package.

### APPLICATIONS

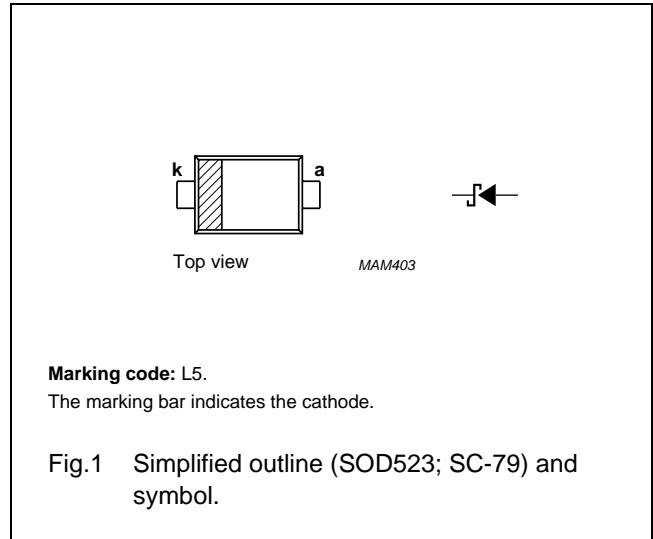
- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low current rectification
- Low power consumption applications (e.g. handheld devices).

### DESCRIPTION

Planar Maximum Efficiency General Application (MEGA) Schottky barrier diode, encapsulated in a SOD523 (SC-79) ultra small SMD plastic package.

### PINNING

PIN	DESCRIPTION
1	cathode
2	anode



### 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		–	500	mA
$I_{FRM}$	repetitive peak forward current	$t_p = 1 \text{ ms}; \delta \leq 0.25$	–	3.5	A
$I_{FSM}$	non-repetitive peak forward current	$t = 8 \text{ ms square wave}$	–	6	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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**ELECTRICAL 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			
		$I_F = 0.1\text{ mA}$	120	180	mV
		$I_F = 1\text{ mA}$	180	240	mV
		$I_F = 10\text{ mA}$	245	290	mV
		$I_F = 100\text{ mA}$	320	380	mV
		$I_F = 500\text{ mA}$	430	480	mV
$I_R$	continuous reverse current	$V_R = 10\text{ V}$ ; see Fig.3; note 1	7	30	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 1\text{ V}$ ; $f = 1\text{ MHz}$ ; see Fig.4	24	30	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	400	K/W

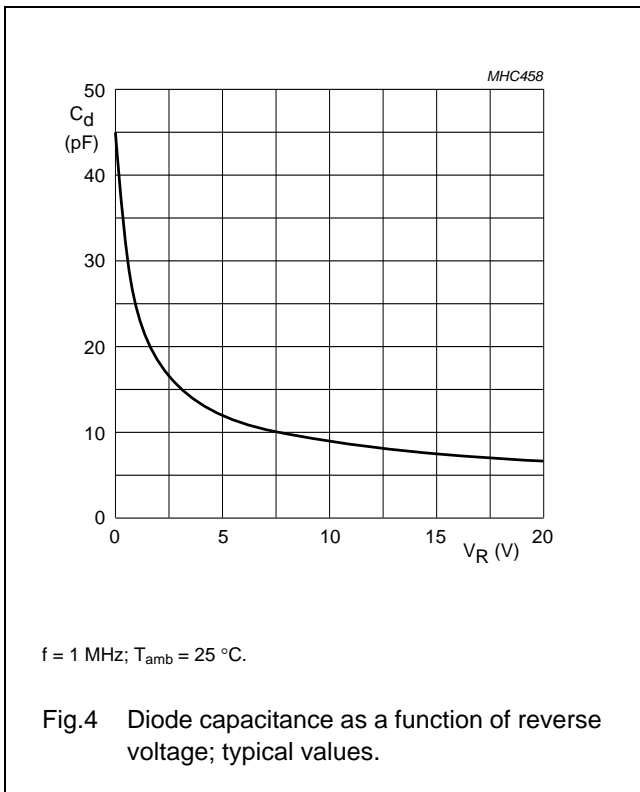
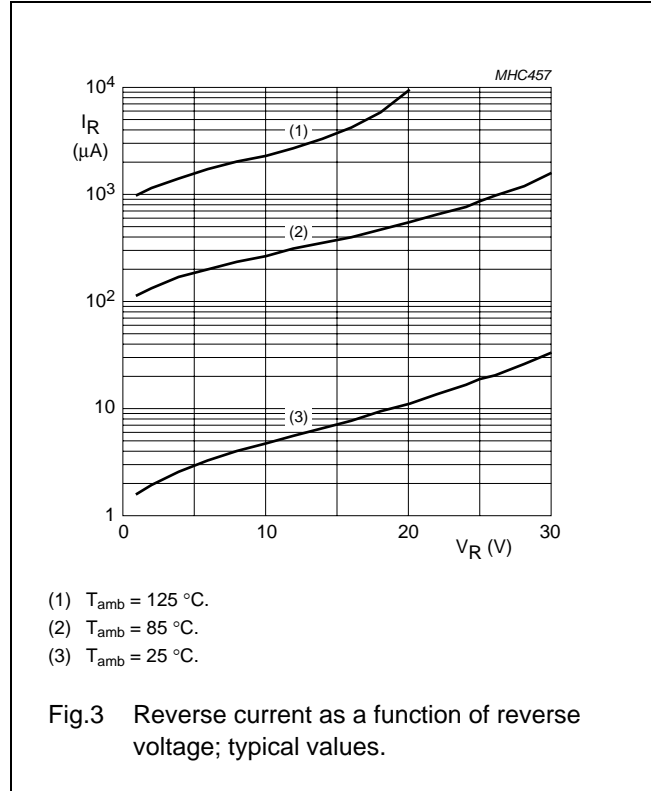
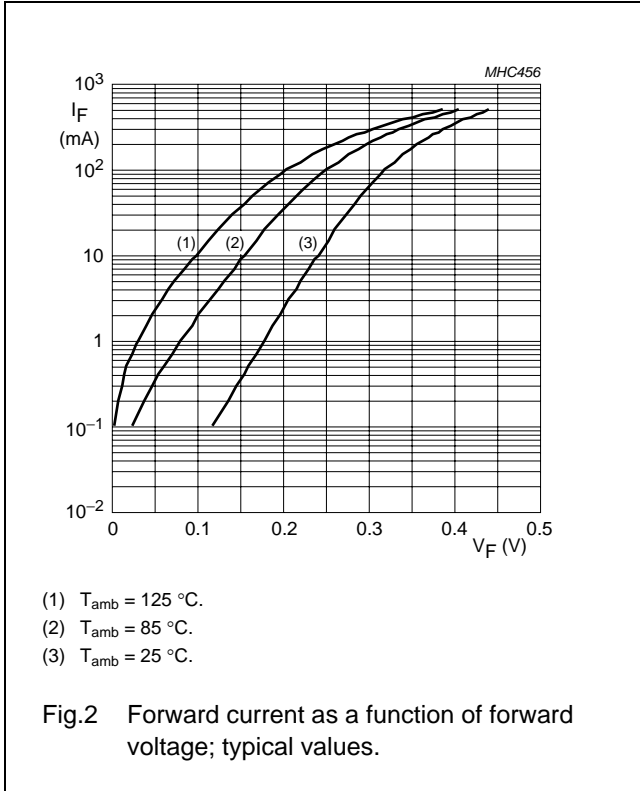
**Note**

1. Refer to SOD523 (SC-79) standard mounting conditions.

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GRAPHICAL DATA



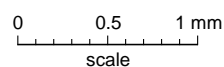
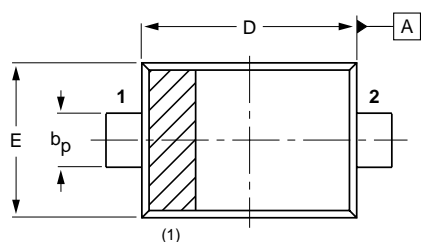
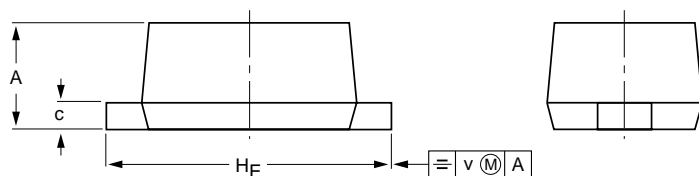
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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523



DIMENSIONS (mm are the original dimensions)

UNIT	A	b <sub>p</sub>	c	D	E	H <sub>E</sub>	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1

Note

1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
SOD523			SC-79		98-11-25- 02-12-13

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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.

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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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