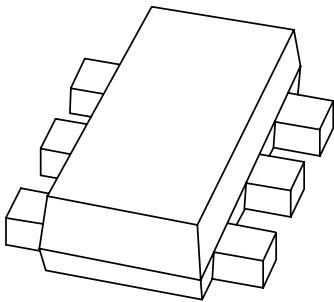


# DATA SHEET



## **PMEG2010EV**

Low  $V_F$  MEGA Schottky barrier diode

Product data sheet  
Supersedes data of 2002 Jun 24

2003 Aug 20

# Low $V_F$ MEGA Schottky barrier diode

# PMEG2010EV

### FEATURES

- Forward current: 1 A
- Reverse voltage: 20 V
- Very low forward voltage
- Ultra small SMD package
- Flat leads: excellent coplanarity and improved thermal behaviour.

### APPLICATIONS

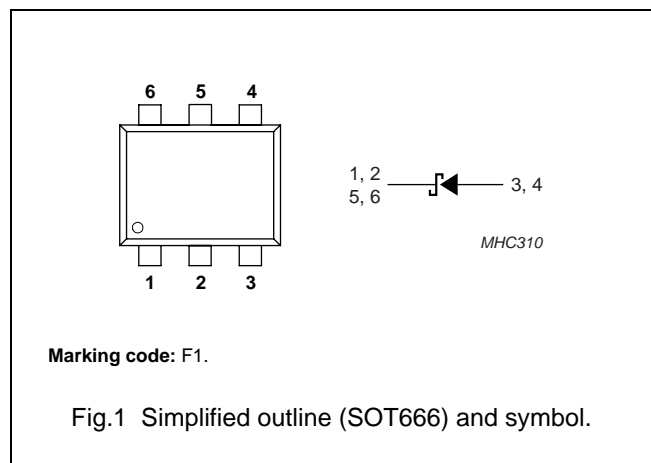
- Low voltage rectification
- High efficiency DC/DC conversion
- Switch mode power supply
- Inverse polarity protection
- Low power consumption applications.

### DESCRIPTION

Planar Maximum Efficiency General Application (MEGA) Schottky barrier diode with an integrated guard ring for stress protection in a SOT666 ultra small SMD plastic package.

### PINNING

PIN	DESCRIPTION
1	cathode
2	cathode
3	anode
4	anode
5	cathode
6	cathode



### 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	$t = 8.3$ ms half sinewave; JEDEC method; note 1	–	8	A
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C
$T_{amb}$	operating ambient temperature		–65	+125	°C

### Note

1. Only valid if pins 3 and 4 are connected in parallel.

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**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	405	K/W
		note 2	215	K/W

**Notes**

1. Refer to SOT666 standard mounting conditions.
2. Mounted on printed circuit-board, 1 cm<sup>2</sup> copper area.

**Soldering**

The only recommended soldering method is reflow soldering.

**ELECTRICAL CHARACTERISTICS**

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

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

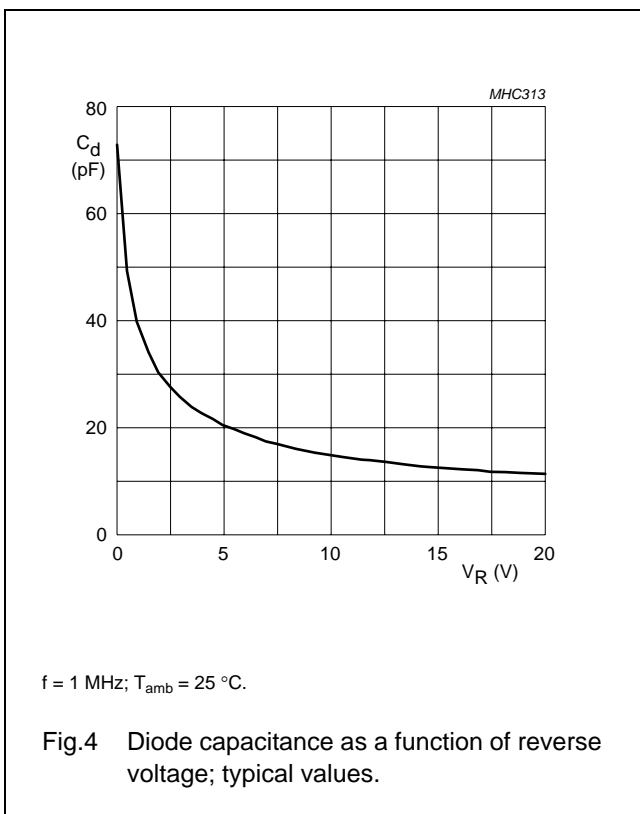
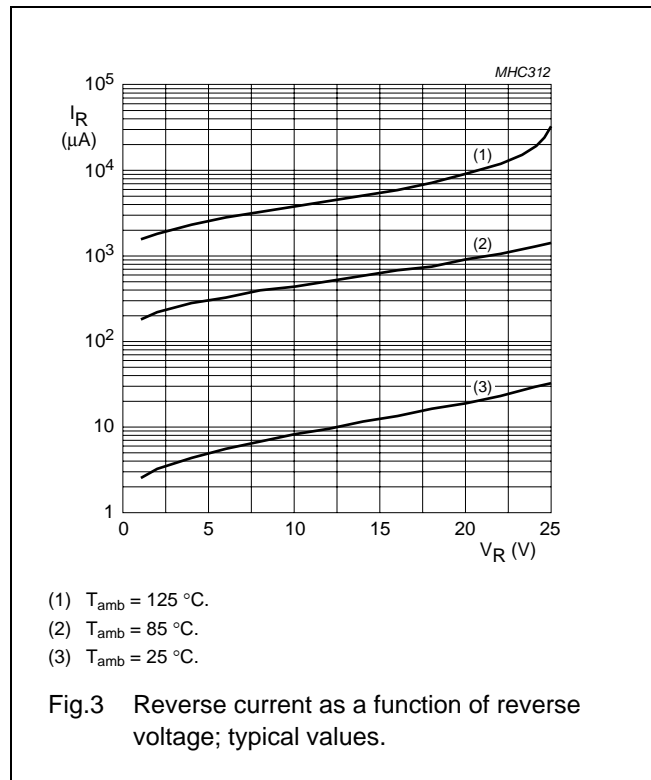
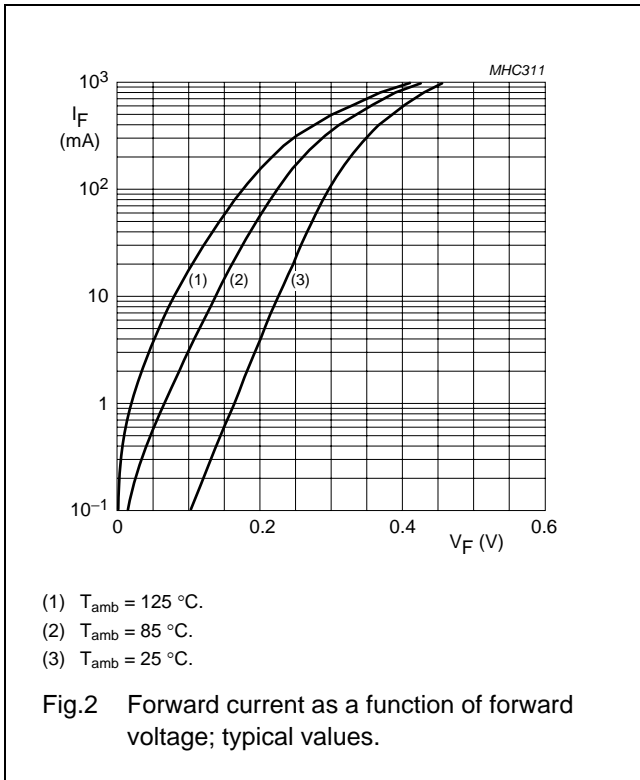
**Notes**

1. Only valid if pins 1, 2, 5 and 6 are soldered on a 1 cm<sup>2</sup> copper solder land.
2. Pulse test:  $t_p = 300\text{ }\mu\text{s}$ ;  $\delta = 0.02$ .

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GRAPHICAL DATA



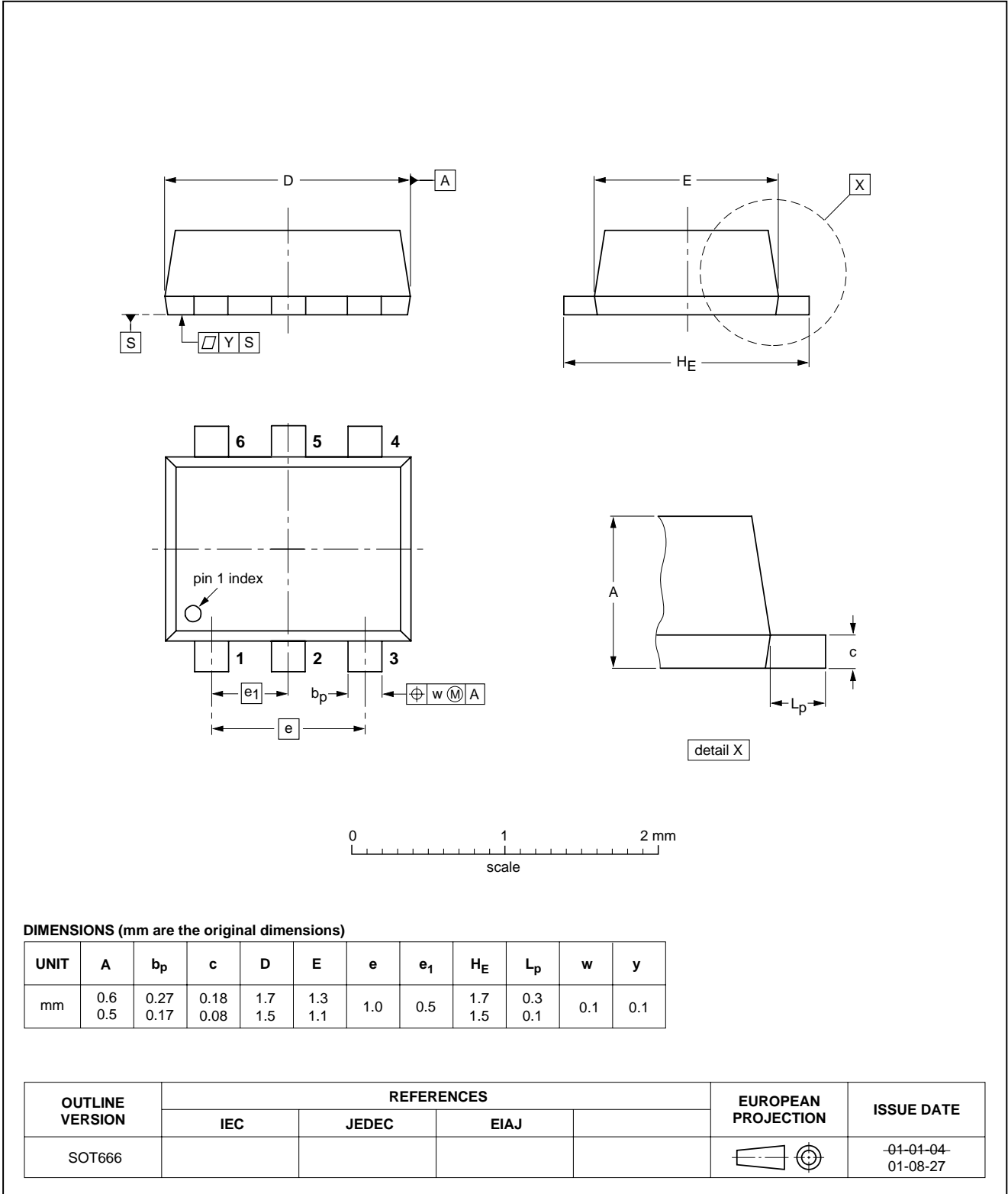
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT666



# 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**

This data sheet was changed to reflect the new company name NXP Semiconductors. No changes were made to the content, except for the legal definitions and disclaimers.

## **Contact information**

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

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