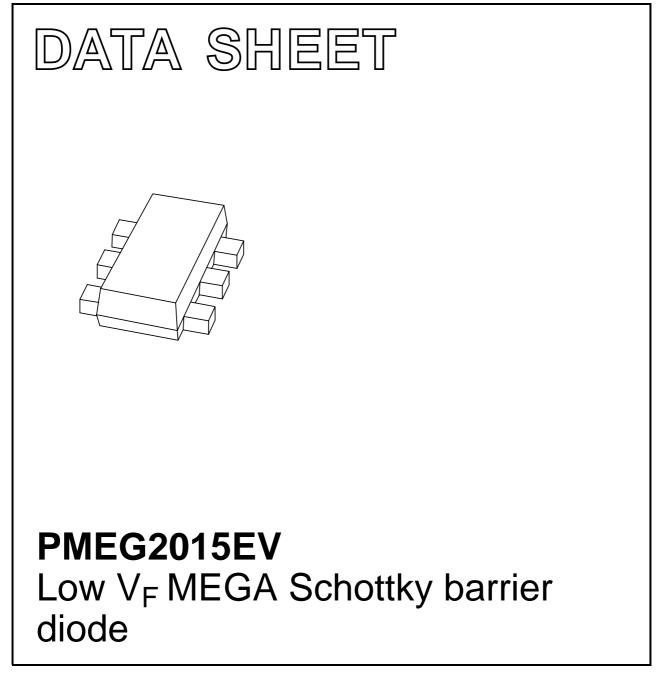
DISCRETE SEMICONDUCTORS



Product data sheet Supersedes data of 2003 May 21 2003 Jun 03



FEATURES

- Forward current: 1.5 A
- Reverse voltage: 20 V
- · Very low forward voltage
- · Ultra small plastic SMD package
- Flat leads: excellent coplanarity and improved thermal behaviour.

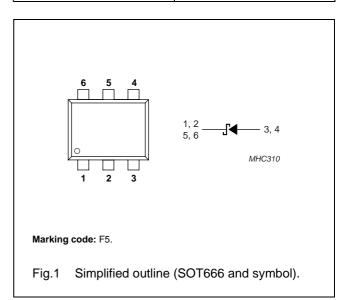
APPLICATIONS

- · 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, encapsulated in a SOT666 ultra small SMD plastic package.

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	T _s < 55 °C	-	1.5	А
I _{FSM}	non-repetitive peak forward current	t _p = 8 ms square wave; note 1	-	10	А
I _{FRM}	repetitive peak forward current	$t_p = 1 ms; \delta = \le 0.25$	-	4.5	А
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	150	°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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ELECTRICAL CHARACTERISTICS

T_{amb} = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V _F	continuous forward voltage	see Fig.2; note 1			
		I _F = 10 mA	240	270	mV
		I _F = 100 mA	300	350	mV
		I _F = 1000 mA	480	550	mV
		I _F = 1500 mA	530	660	mV
I _R	continuous reverse current	see Fig.3; note 2			
		$V_R = 5 V$	5	10	μA
		V _R = 8 V	7	20	μA
		V _R = 15 V	10	50	μA
C _d	diode capacitance	$V_R = 5 V$; f = 1 MHz; see Fig.4	19	25	pF

Notes

- 1. Only valid if pins 1, 2 and 5, 6 are soldered on 1 cm^2 copper solder land.
- 2. Pulse test: $t_p = 300 \ \mu s$; $\delta = 0.02$.

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
R _{th j-s}	thermal resistance from junction to solder point	note 3	80	K/W

Notes

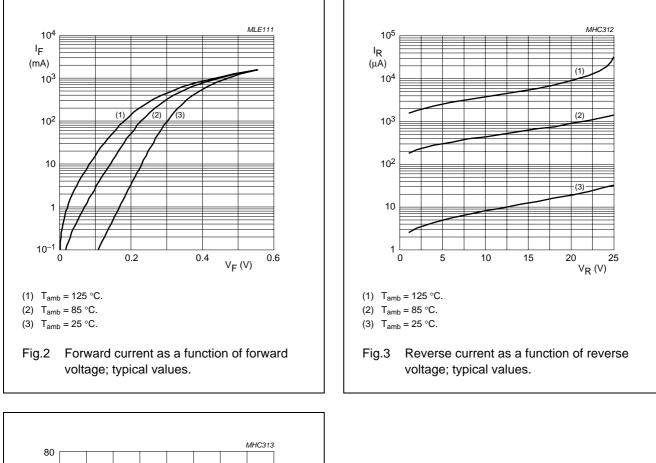
- 1. Refer to SOT666 standard mounting conditions.
- 2. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for cathode 1 cm².
- 3. Soldering point of cathode tabs.

Soldering

Reflow soldering is the only recommended soldering method.

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GRAPHICAL DATA



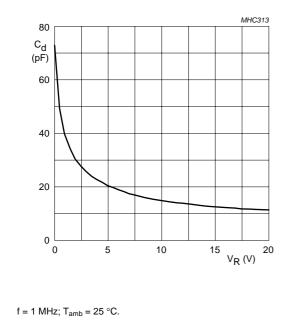
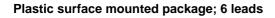


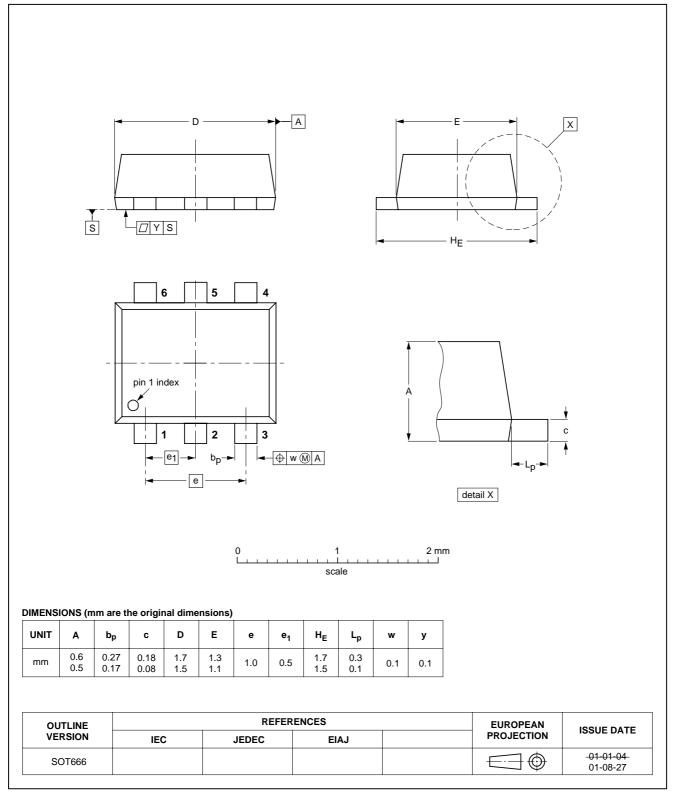
Fig.4 Diode capacitance as a function of reverse voltage; typical values.

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Low V_F MEGA Schottky barrier diode

PACKAGE OUTLINE





SOT666

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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.
- 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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