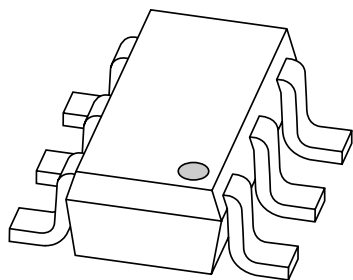


DATA SHEET



PMEG6010AED

Low V_F (MEGA) Schottky barrier diode

Product specification

2003 Jun 27

Low V_F (MEGA) Schottky barrier diode

PMEG6010AED

FEATURES

- Low switching losses
- Very high surge current absorption capability
- Fast recovery time
- Guard ring protected
- Plastic SMD package.

APPLICATIONS

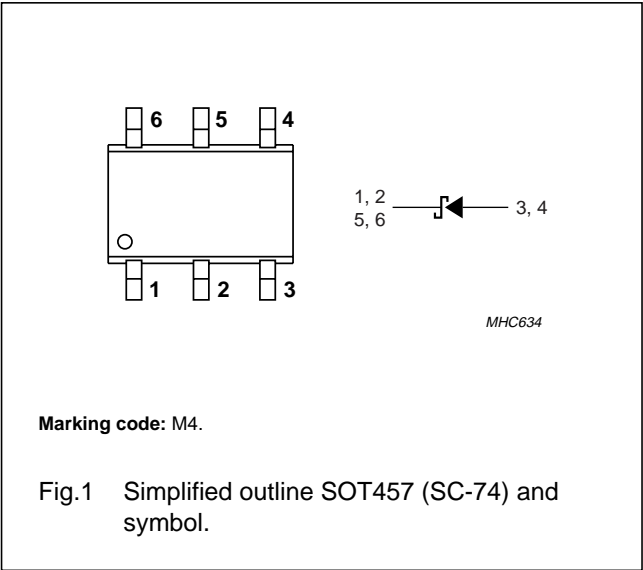
- Low power switched-mode power supplies
- Rectification
- Polarity protection.

GENERAL DESCRIPTION

Planar Schottky barrier diode encapsulated in a SOT457 (SC-74) small plastic package.

PINNING

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



LIMITING VALUES

In accordance with Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	60	V
I_F	continuous forward current	$T_{amb} \leq 25\text{ }^{\circ}\text{C}$; note 1	–	1	A
I_{FSM}	non-repetitive peak forward current	$t = 8\text{ ms}$; square wave	–	17.5	A
I_{RSM}	non-repetitive peak reverse current	$t_p = 100\text{ }\mu\text{s}$	–	0.5	A
T_{stg}	storage temperature		–65	+150	$^{\circ}\text{C}$
T_j	junction temperature		–	+150	$^{\circ}\text{C}$

Note

1. Device mounted on a printed-circuit board, single sided copper, tinplated, mounting pad for cathode 6 cm².

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PMEG6010AED

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	continuous forward voltage	$I_F = 0.1\text{ A}$	400	mV
		$I_F = 1\text{ A}$	650	mV
I_R	continuous reverse current	$V_R = 60\text{ V}$; see Fig.3	350	μA
		$V_R = 60\text{ V}$; $T_j = 100\text{ }^{\circ}\text{C}$; notes 1 and 2	8	mA
C_d	diode capacitance	$V_R = 4\text{ V}$; $f = 1\text{ MHz}$; see Fig.4	60	pF

Notes

1. Pulse test: $t_p = 300\text{ }\mu\text{s}$; $\delta = 0.02$.
2. For Schottky barrier diodes thermal runaway has to be considered, as in some applications, the reverse power losses P_R are a significant part of the total power losses.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	in free air; note 1	230	K/W
		in free air; note 2	180	K/W

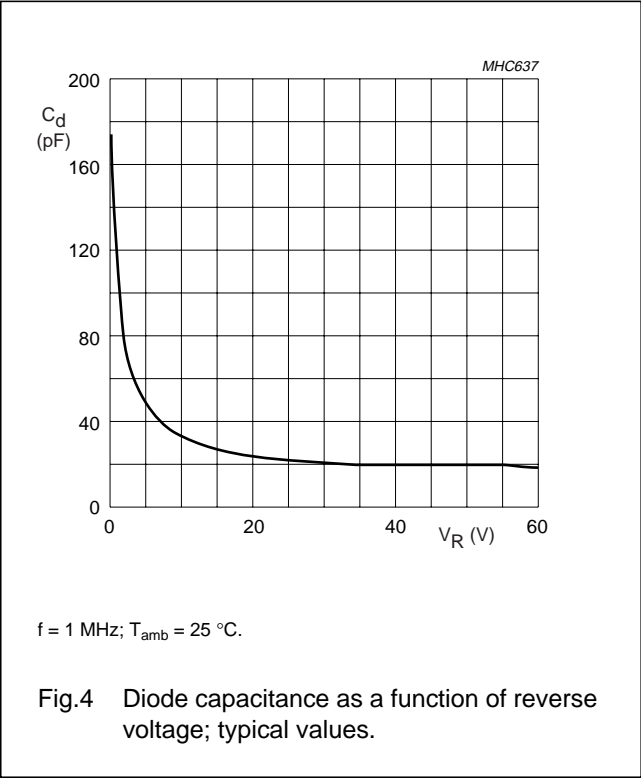
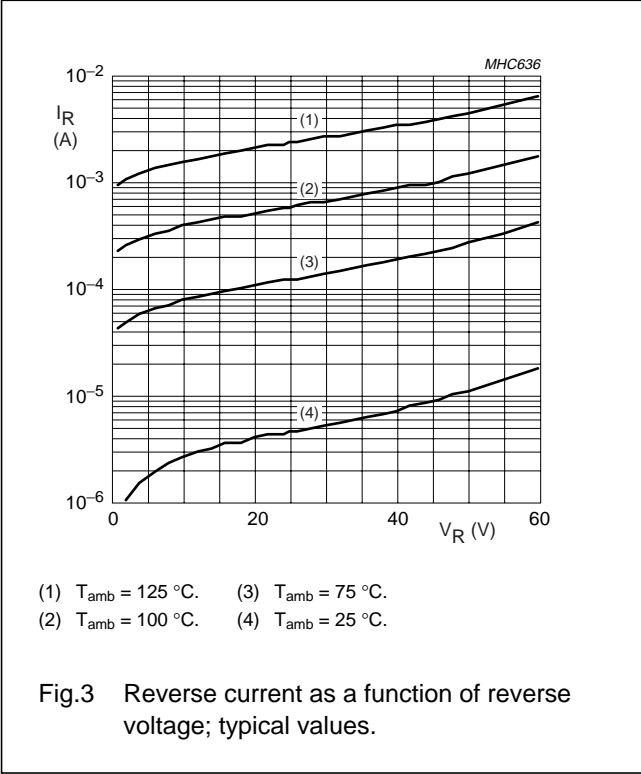
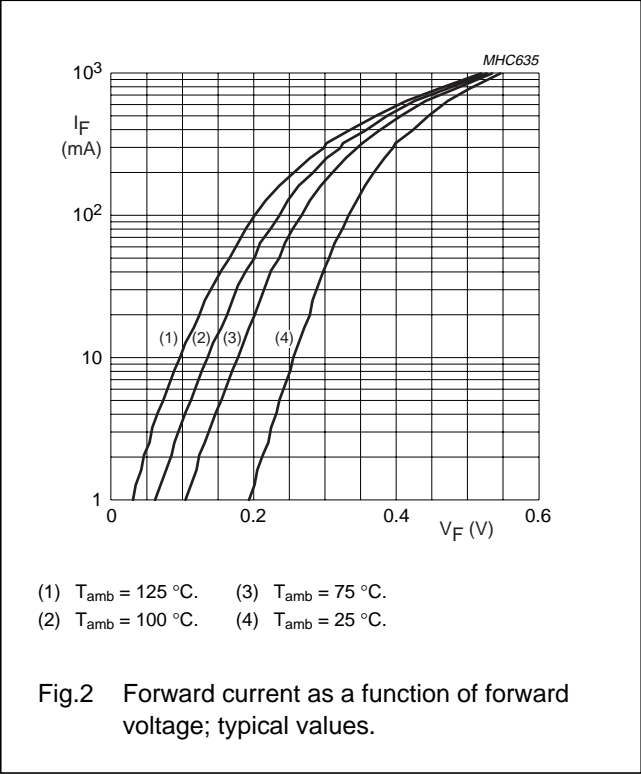
Notes

1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for cathode 1 cm^2 .
2. Device mounted on a printed-circuit board, single-sided copper; tinplated, mounting pad for cathode 6 cm^2 .

Low V_F (MEGA) Schottky barrier diode

PMEG6010AED

GRAPHICAL DATA



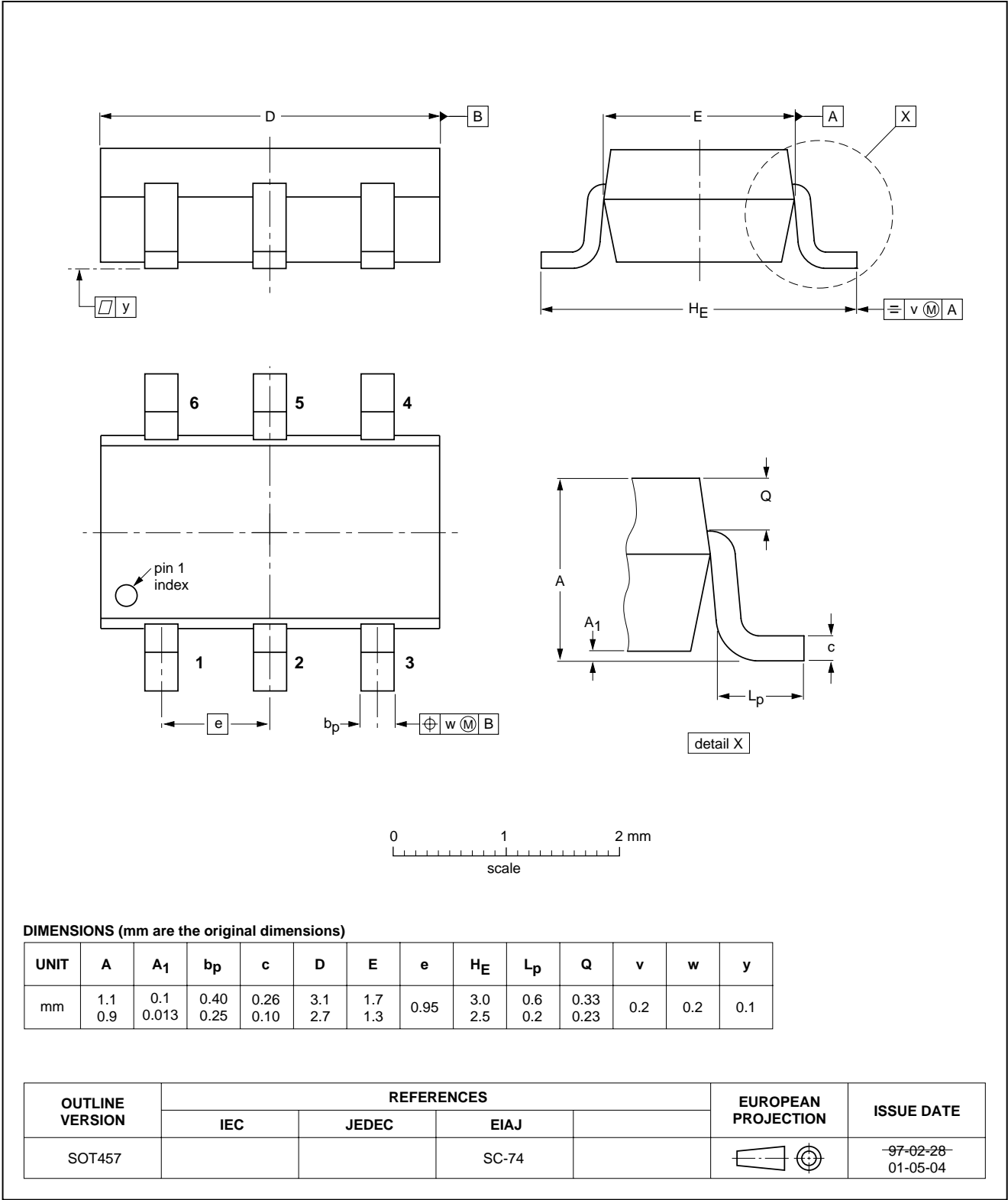
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PMEG6010AED

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



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PMEG6010AED

DATA SHEET STATUS

LEVEL	DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾⁽³⁾	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.
II	Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
III	Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Relevant changes will be communicated via a Customer Product/Process Change Notification (CPCN).

Notes

1. Please consult the most recently issued data sheet before initiating or completing a design.
2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.
3. For data sheets describing multiple type numbers, the highest-level product status determines the data sheet status.

DEFINITIONS

Short-form specification — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

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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NOTES

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