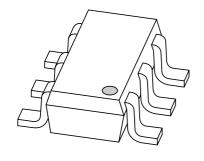
DISCRETE SEMICONDUCTORS

DATA SHEET



PMEG6010AEDLow 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

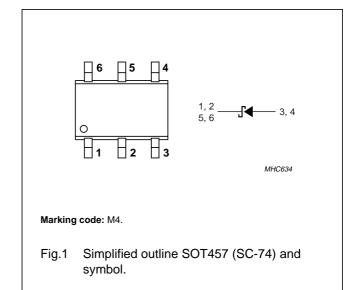
- Low power switched-mode power supplies
- Rectification
- · Polarity protection.

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} ≤ 25 °C; note 1	_	1	Α
I _{FSM}	non-repetitive peak forward current	t = 8 ms; square wave	_	17.5	А
I _{RSM}	non-repetitive peak reverse current	t _p = 100 μs	_	0.5	А
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		_	+150	°C

Note

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

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V _F	continuous forward voltage	I _F = 0.1 A	400	mV
		I _F = 1 A	650	mV
I _R	continuous reverse current	V _R = 60 V; see Fig.3	350	μΑ
		V _R = 60 V; T _j = 100 °C; notes 1 and 2	8	mA
C _d	diode capacitance	$V_R = 4 \text{ V}$; f = 1 MHz; see Fig.4	60	pF

Notes

- 1. Pulse test: $t_p = 300 \ \mu s$; $\delta = 0.02$.
- 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

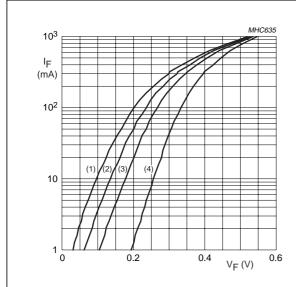
Notes

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

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GRAPHICAL DATA



- (1) $T_{amb} = 125 \, ^{\circ}C$.
- (3) $T_{amb} = 75 \,^{\circ}C$.
- (2) $T_{amb} = 100 \, ^{\circ}C$.
- (4) $T_{amb} = 25 \, ^{\circ}C$.

Fig.2 Forward current as a function of forward voltage; typical values.

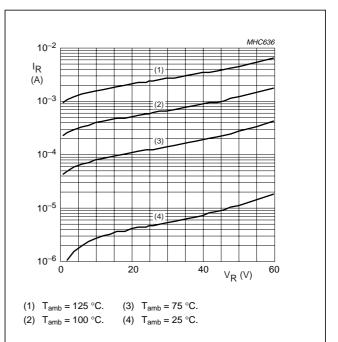
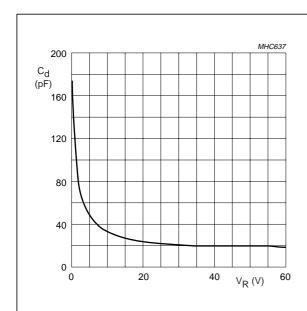


Fig.3 Reverse current as a function of reverse voltage; typical values.



 $f = 1 \text{ MHz}; T_{amb} = 25 \,^{\circ}\text{C}.$

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

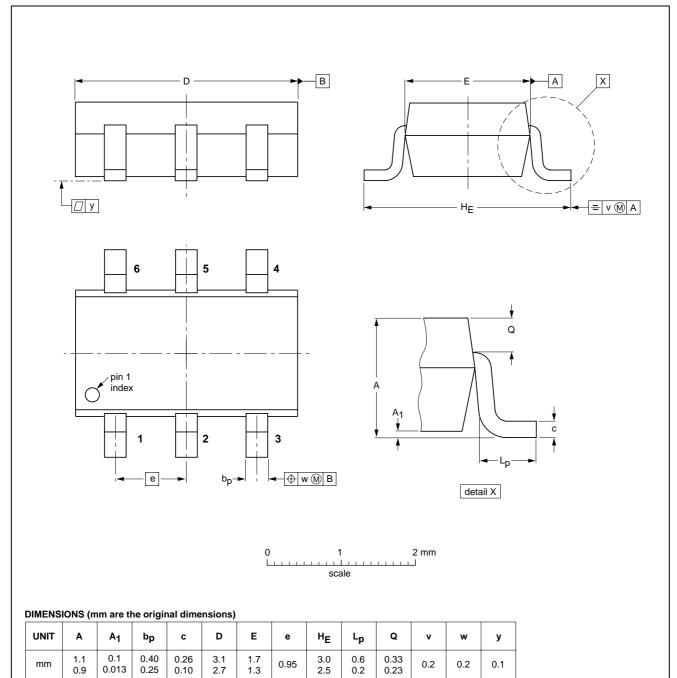
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PACKAGE OUTLINE

Plastic surface mounted package; 6 leads

SOT457



OUTLINE	REFERENCES			EUROPEAN	ICCUE DATE	
VERSION	IEC	JEDEC	EIAJ		PROJECTION	ISSUE DATE
SOT457			SC-74			97-02-28 01-05-04

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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.
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NOTES

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Contact information

For additional information please visit http://www.semiconductors.philips.com. Fax: +31 40 27 24825 For sales offices addresses send e-mail to: sales.addresses@www.semiconductors.philips.com.

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