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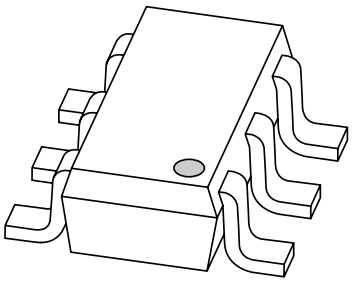
Kind regards,

Team Nexperia

DATA SHEET



PMEG6010AED
Low V_F (MEGA) Schottky barrier diode

Product data sheet

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

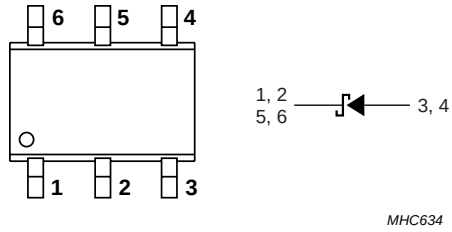
- Low power switched-mode power supplies
- Rectification
- Polarity protection.

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



Marking code: M4.

Fig.1 Simplified outline SOT457 (SC-74) and symbol.

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	$T_{amb} \leq 25$ °C; note 1	–	1	A
I_{FSM}	non-repetitive peak forward current	t = 8 ms; square wave	–	17.5	A
I_{RSM}	non-repetitive peak reverse current	t_p = 100 μs	–	0.5	A
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	+150	°C

Note

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

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	μA
		V_R = 60 V; T_j = 100 °C; notes 1 and 2	8	mA
C_d	diode capacitance	V_R = 4 V; f = 1 MHz; see Fig.4	60	pF

Notes

1. Pulse test: t_p = 300 μs; δ = 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.

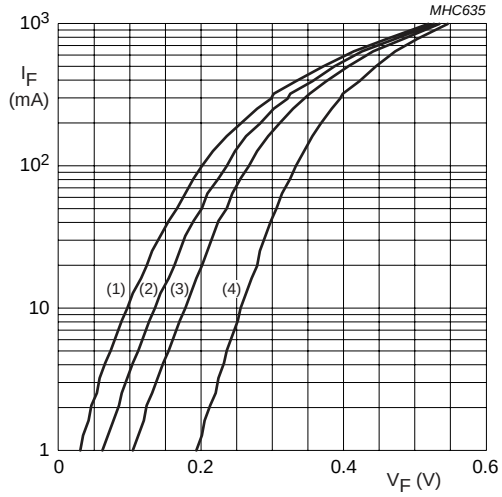
THERMAL CHARACTERISTICS

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

Notes

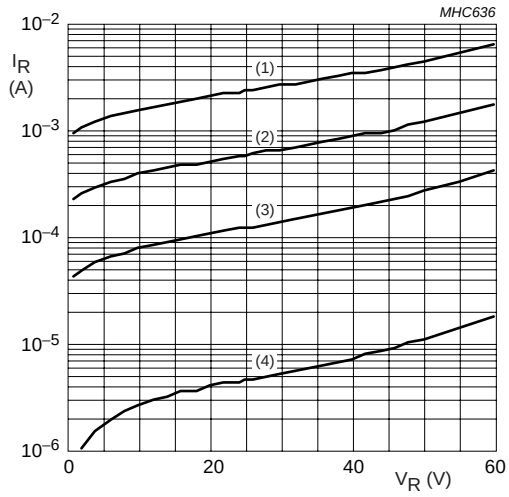
1. Device mounted on a printed-circuit board, single-sided copper, tinplated, mounting pad for cathode 1 cm^2.
2. Device mounted on a printed-circuit board, single-sided copper; tinplated, mounting pad for cathode 6 cm^2.

GRAPHICAL DATA



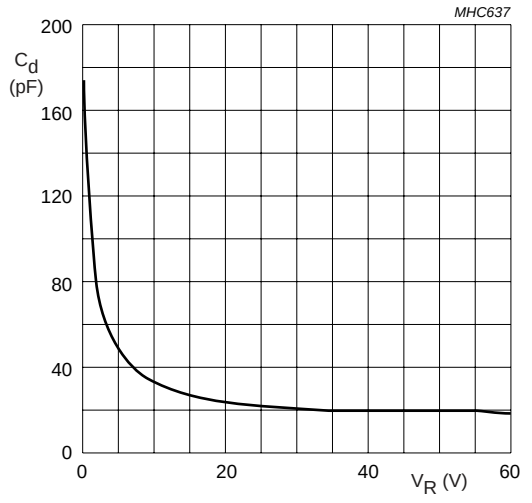
(1) T_{amb} = 125 °C. (3) T_{amb} = 75 °C.
(2) T_{amb} = 100 °C. (4) T_{amb} = 25 °C.

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



(1) T_{amb} = 125 °C. (3) T_{amb} = 75 °C.
(2) T_{amb} = 100 °C. (4) T_{amb} = 25 °C.

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

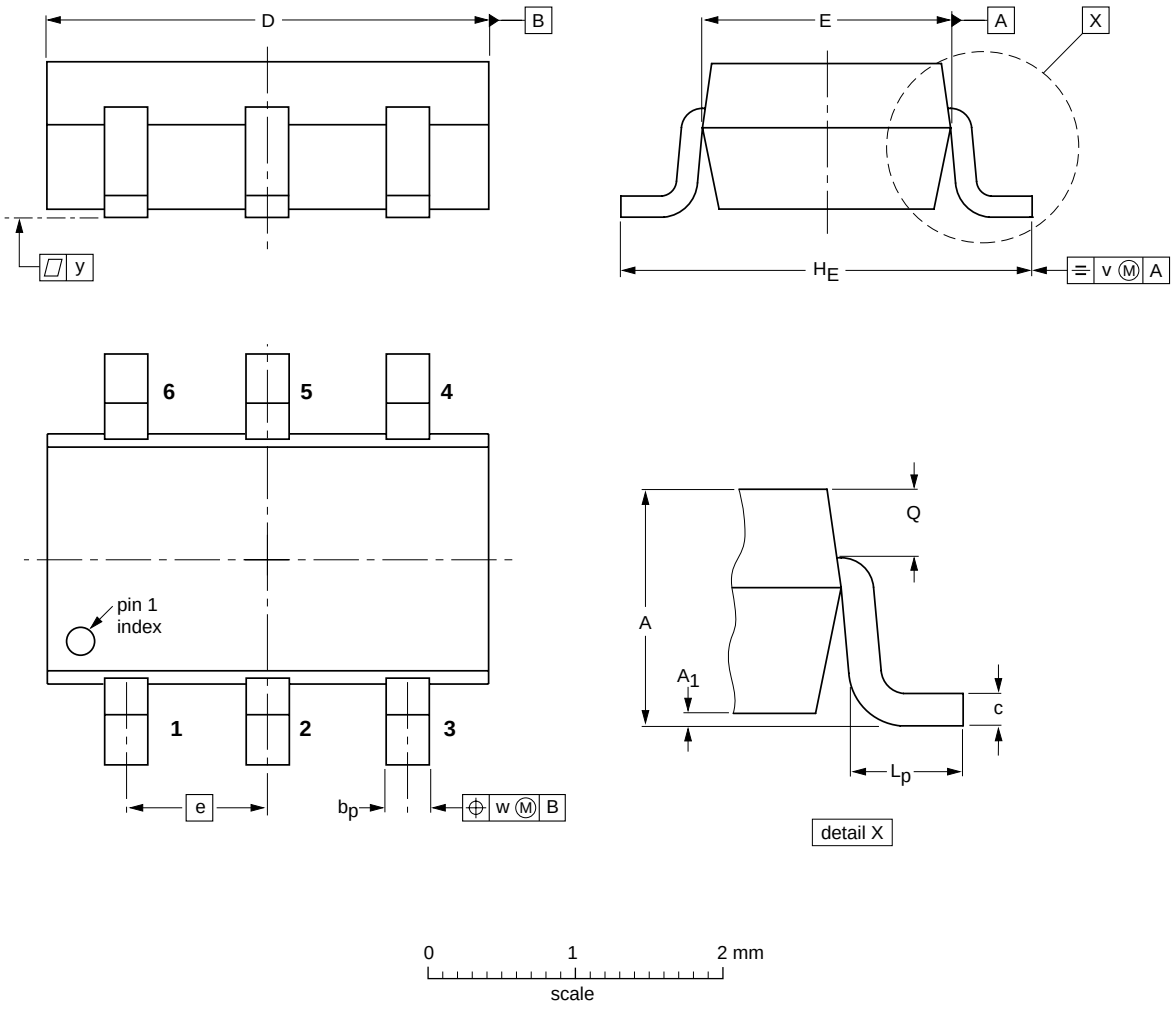


f = 1 MHz; T_{amb} = 25 °C.

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

PACKAGE OUTLINE

Plastic surface mounted package; 6 leads **SOT457**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1	b_p	c	D	E	e	H_E	L_p	Q	v	w	y
mm	1.1 0.9	0.1 0.013	0.40 0.25	0.26 0.10	3.1 2.7	1.7 1.3	0.95	3.0 2.5	0.6 0.2	0.33 0.23	0.2	0.2	0.1

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

DATA SHEET STATUS

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.
2. 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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NXP Semiconductors

Customer notification

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For additional information please visit: **http://www.nxp.com**
For sales offices addresses send e-mail to: **salesaddresses@nxp.com**

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