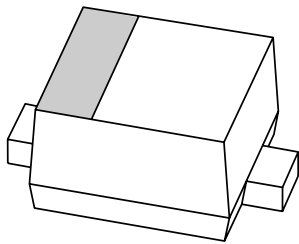


DATA SHEET



PMEG2005EB

Low V_F MEGA Schottky barrier diode

Product specification

2003 Feb 20

Low V_F MEGA Schottky barrier diode

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FEATURES

- Forward current: 0.5 A
- Reverse voltage: 20 V
- Very low forward voltage
- Guard ring protected
- Ultra small SMD package.

APPLICATIONS

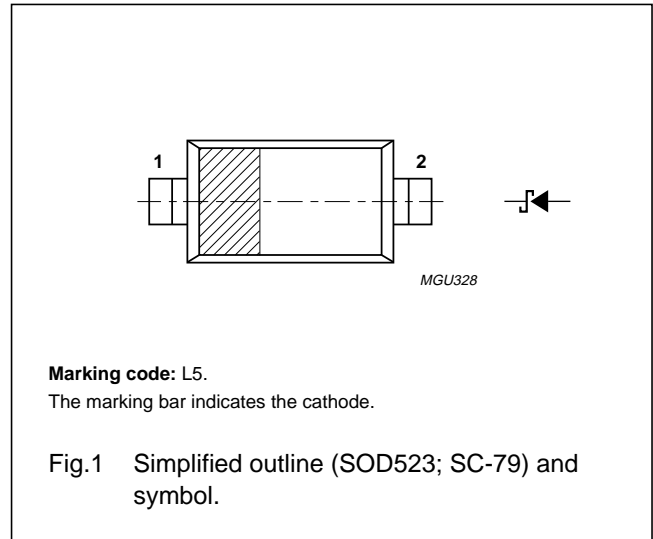
- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low current rectification
- Low power consumption applications (e.g. handheld devices).

DESCRIPTION

Planar Maximum Efficiency General Application (MEGA) Schottky barrier diode, encapsulated in a SOD523 (SC-79) ultra small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



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		–	500	mA
I_{FRM}	repetitive peak forward current	$t_p = 1 \text{ ms}; \delta \leq 0.25$	–	3.5	A
I_{FSM}	non-repetitive peak forward current	$t = 8 \text{ ms square wave}$	–	6	A
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	125	°C
T_{amb}	operating ambient temperature		–65	+125	°C

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ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	continuous forward voltage	see Fig.2			
		$I_F = 0.1\text{ mA}$	120	180	mV
		$I_F = 1\text{ mA}$	180	240	mV
		$I_F = 10\text{ mA}$	245	290	mV
		$I_F = 100\text{ mA}$	320	380	mV
		$I_F = 500\text{ mA}$	430	480	mV
I_R	continuous reverse current	$V_R = 10\text{ V}$; see Fig.3; note 1	7	30	μA
C_d	diode capacitance	$V_R = 1\text{ V}$; $f = 1\text{ MHz}$; see Fig.4	24	30	pF

Note

1. Pulsed test: $t_p = 300\text{ }\mu\text{s}$; $\delta = 0.02$.

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	400	K/W

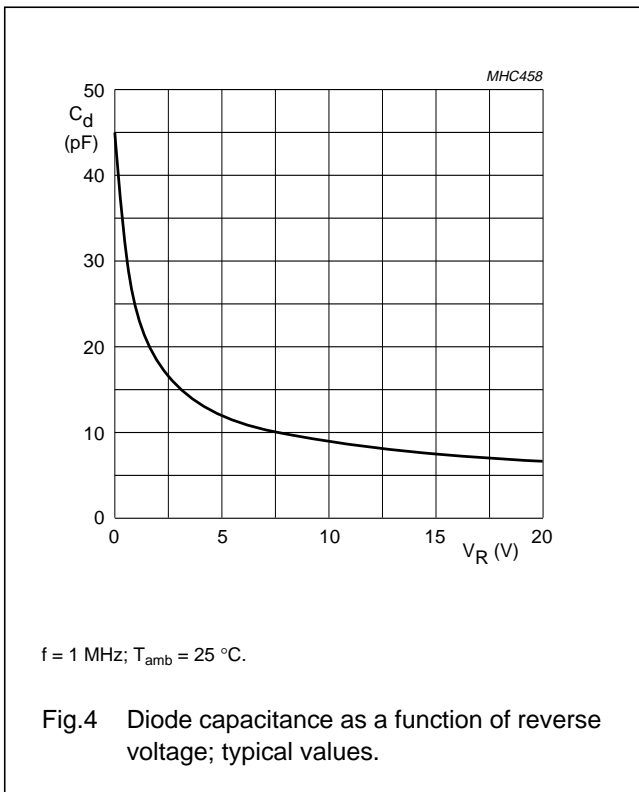
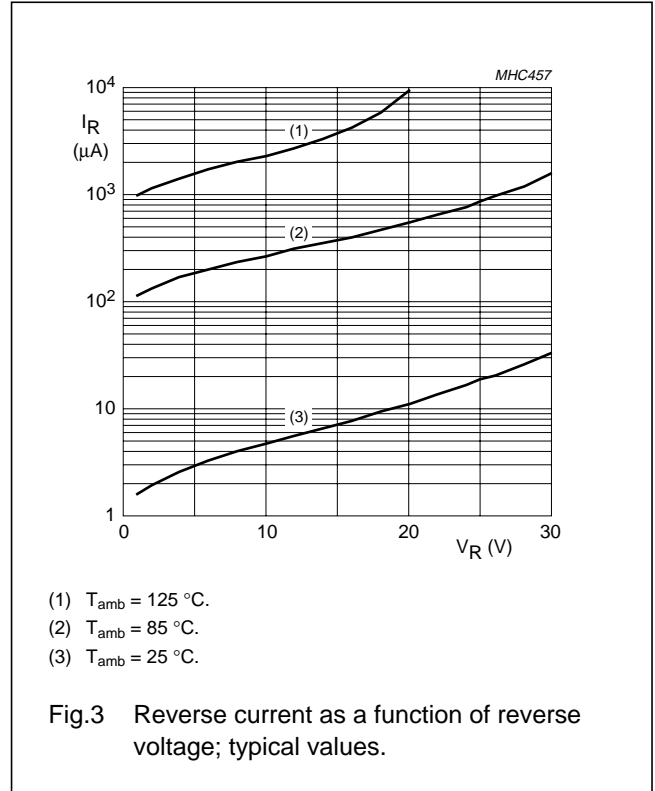
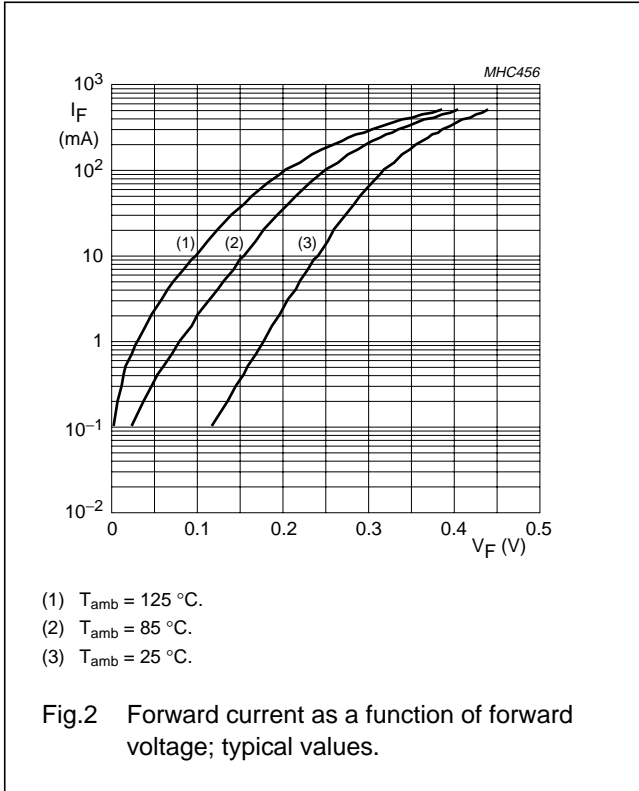
Note

1. Refer to SOD523 (SC-79) standard mounting conditions.

Low V_F MEGA Schottky barrier diode

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GRAPHICAL DATA



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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD523

DIMENSIONS (mm are the original dimensions)

UNIT	A	b_p	c	D	E	H_E	v
mm	0.65 0.58	0.34 0.26	0.17 0.11	1.25 1.15	0.85 0.75	1.65 1.55	0.1

Note
1. The marking bar indicates the cathode.

OUTLINE VERSION	REFERENCES			EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA		
SOD523			SC-79		98-11-25- 02-12-13

Low V_F MEGA Schottky barrier diode

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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.
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.
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DEFINITIONS

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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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