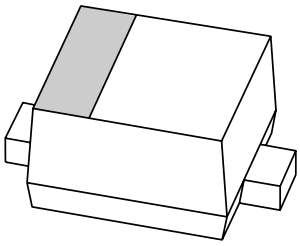
DATA SHEET



PMEG2005EB

Low V_F MEGA Schottky barrier diode

Product data sheet
Supersedes data of 2003 Feb 20

2003 Apr 04

NXP founded by Philips

Low V_F MEGA Schottky barrier diode PMEG2005EB

FEATURES

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

APPLICATIONS

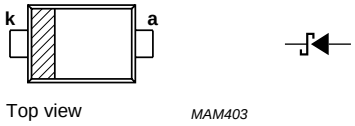
- Ultra high-speed switching
- Voltage clamping
- Protection circuits
- Low current rectification
- Low power consumption applications (e.g. handheld devices).

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



Top view MAM403

Marking code: L5.
The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD523; SC-79) and symbol.

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 ms; $\delta \leq 0.25$	–	3.5	A
I_{FSM}	non-repetitive peak forward current	t = 8 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

ELECTRICAL CHARACTERISTICS

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

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

Note

1. Pulsed test: t_p = 300 μs; δ = 0.02.

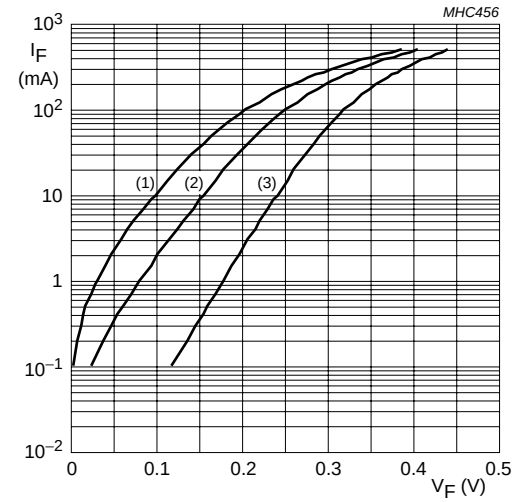
THERMAL CHARACTERISTICS

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

Note

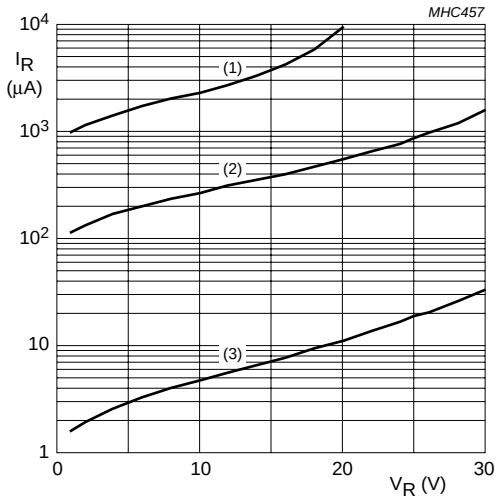
1. Refer to SOD523 (SC-79) standard mounting conditions.

GRAPHICAL DATA



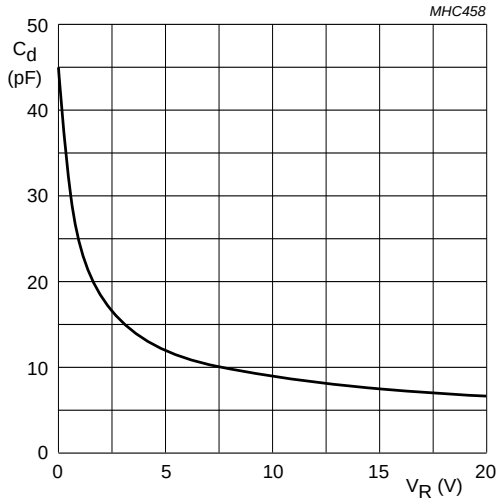
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

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



(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

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

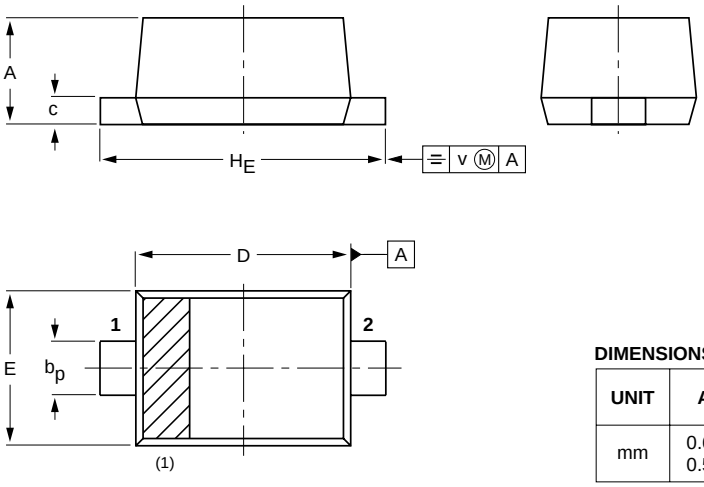


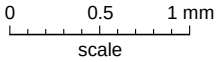
f = 1 MHz; T_{amb} = 25 °C.

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

PACKAGE OUTLINE

Plastic surface mounted package; 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

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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