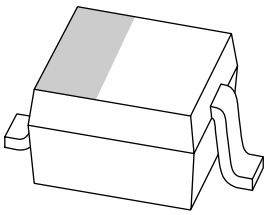
DATA SHEET



PMEG2010EA

Low V_F (MEGA) Schottky barrier diode

Product data sheet
Supersedes data of 2002 Dec 10

2004 Feb 06

Low V_F (MEGA) Schottky barrier diode PMEG2010EA

FEATURES

- Forward current: 1 A
- Reverse voltage: 20 V
- Ultra high-speed switching
- Very low forward voltage
- Very small plastic SMD package.

APPLICATIONS

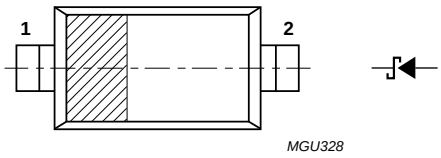
- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

DESCRIPTION

Planar Maximum Efficiency General Application (MEGA) Schottky barrier diode with an integrated guard ring for stress protection, encapsulated in a SOD323 (SC-76) very small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



Marking code: E1.
The marking bar indicates the cathode.

Fig.1 Simplified outline (SOD323; SC-76) and symbol.

ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
PMEG2010EA	–	plastic surface mounted package; 2 leads	SOD323

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		–	1	A
I_{FSM}	non-repetitive peak forward current	t_p = 8.3 ms half sinewave; JEDEC method	–	5	A
T_{stg}	storage temperature		−65	+150	°C
T_j	junction temperature		–	125	°C
T_{amb}	operating ambient temperature		−65	+125	°C

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	continuous forward voltage	see Fig.2; note 1			
		I_F = 10 mA	240	270	mV
		I_F = 100 mA	300	350	mV
		I_F = 1000 mA	480	550	mV
I_R	continuous reverse current	see Fig.3; note 1			
		V_R = 5 V	5	10	μA
		V_R = 8 V	7	20	μA
		V_R = 15 V	10	50	μA
C_d	diode capacitance	V_R = 5 V; f = 1 MHz; see Fig.4	19	25	pF

Note

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

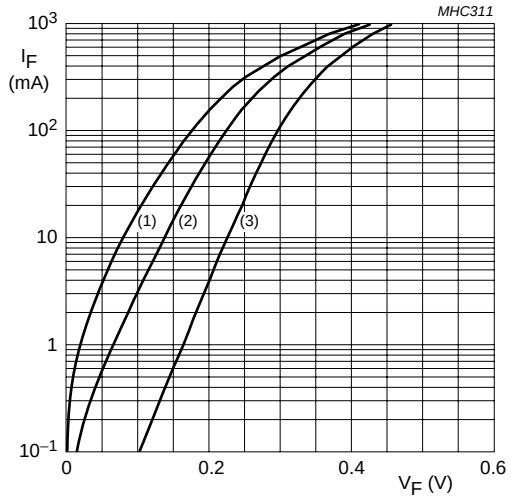
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	220	K/W
		note 2	180	K/W

Notes

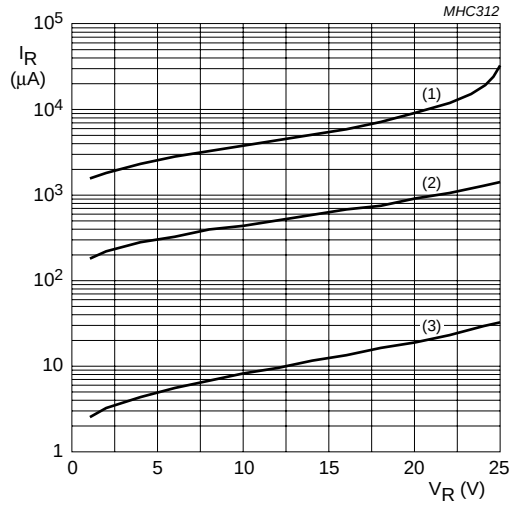
1. Device mounted on an FR4 printed-circuit board with Cu clad 10 x 10 mm.
2. Device mounted on an FR4 printed-circuit board with Cu clad 40 x 40 mm.

GRAPHICAL DATA



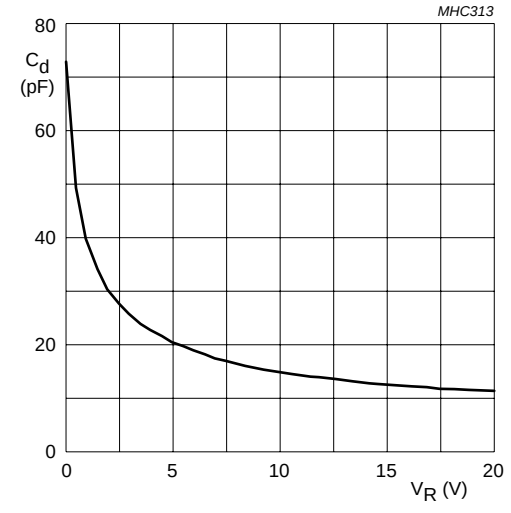
(1) T_{amb} = 125 °C.
(2) T_{amb} = 85 °C.
(3) T_{amb} = 25 °C.

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.

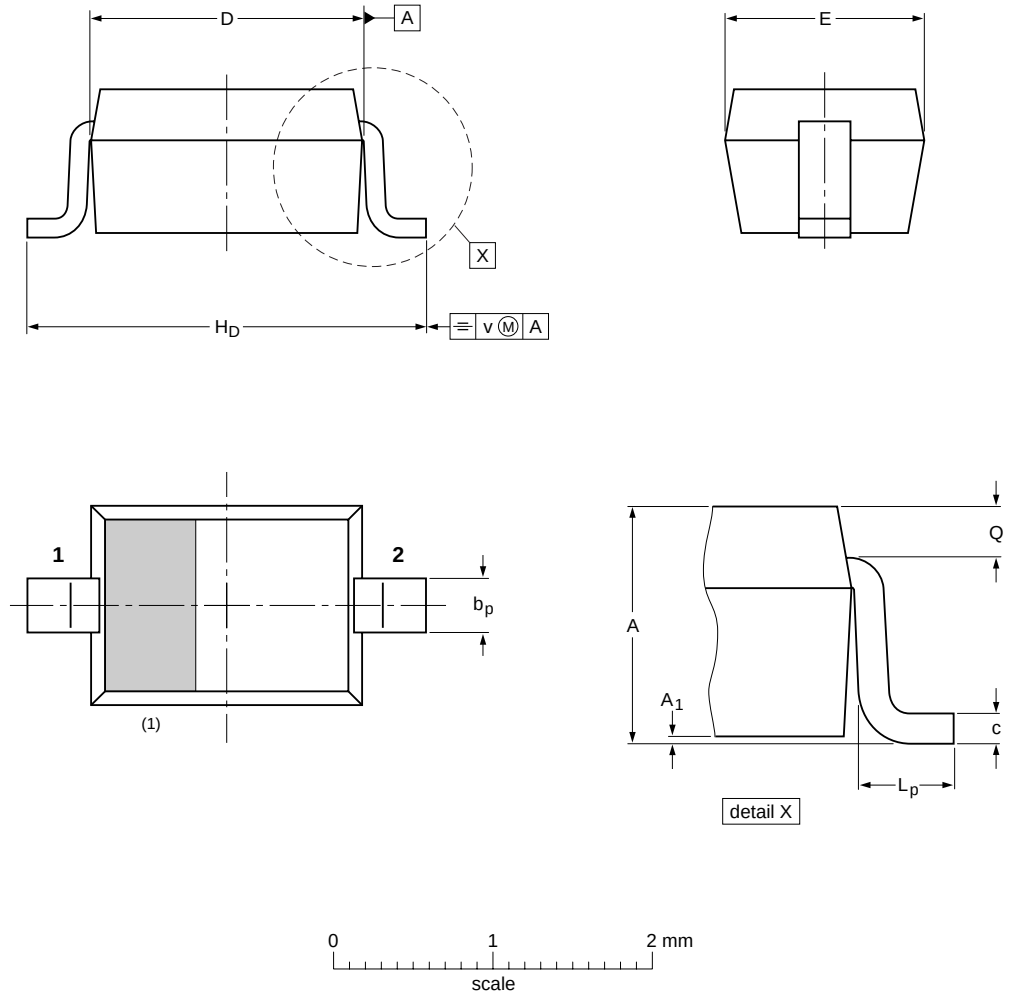


T_{amb} = 25 °C; f = 1 MHz.

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

PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads **SOD323**



DIMENSIONS (mm are the original dimensions)

UNIT	A	A_1 max	b_p	c	D	E	H_D	L_p	Q	v
mm	1.1 0.8	0.05	0.40 0.25	0.25 0.10	1.8 1.6	1.35 1.15	2.7 2.3	0.45 0.15	0.25 0.15	0.2

Note

1. The marking bar indicates the cathode

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOD323			SC-76			~~03-12-17~~ 06-03-16

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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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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