

FEATURES

- Forward current: 1.5 A
- Reverse voltage: 20 V
- Ultra high-speed switching
- Very low forward voltage
- Very small plastic SMD package.

APPLICATIONS

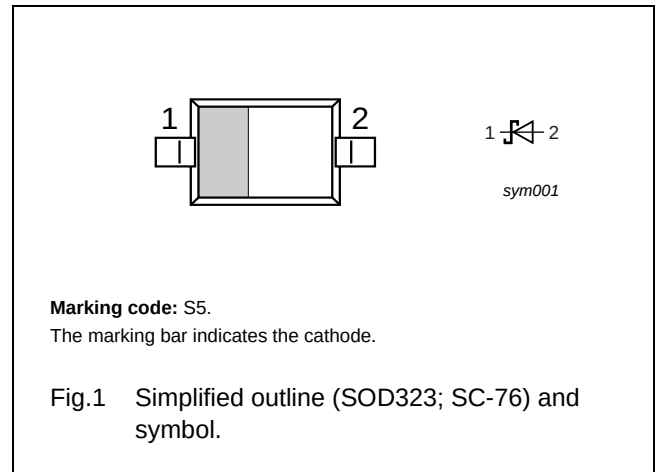
- Ultra high-speed switching
- Voltage clamping
- Protection circuits.

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



ORDERING INFORMATION

TYPE NUMBER	PACKAGE		
	NAME	DESCRIPTION	VERSION
PMEG2015EA	–	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	$T_s < 55\text{ °C}$	–	1.5	A
I_{FSM}	non-repetitive peak forward current	$t_p = 8\text{ ms square wave}$	–	10	A
I_{FRM}	repetitive peak forward current	$t_p = 1\text{ ms}; \delta = \leq 0.25$	–	4.5	A
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	125	°C
T_{amb}	operating ambient temperature		–65	+125	°C

CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	continuous forward voltage	see Fig.2; note 1			
		$I_F = 10\text{ mA}$	240	270	mV
		$I_F = 100\text{ mA}$	300	350	mV
		$I_F = 1000\text{ mA}$	480	550	mV
		$I_F = 1500\text{ mA}$	560	660	mV
I_R	continuous reverse current	see Fig.3; note 1			
		$V_R = 5\text{ V}$	5	10	μA
		$V_R = 8\text{ V}$	7	20	μA
		$V_R = 15\text{ V}$	10	50	μA
C_d	diode capacitance	$V_R = 5\text{ V}$; $f = 1\text{ MHz}$; see Fig.4	19	25	pF

Note

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

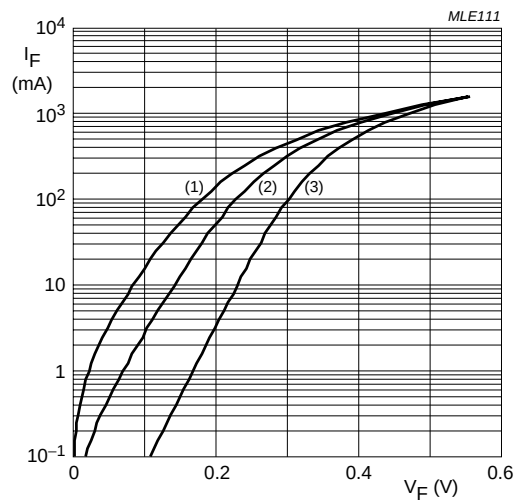
THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th(j-a)}$	thermal resistance from junction to ambient	note 1	450	K/W
		note 2	210	K/W
$R_{th(j-s)}$	thermal resistance from junction to solder point	note 3	90	K/W

Notes

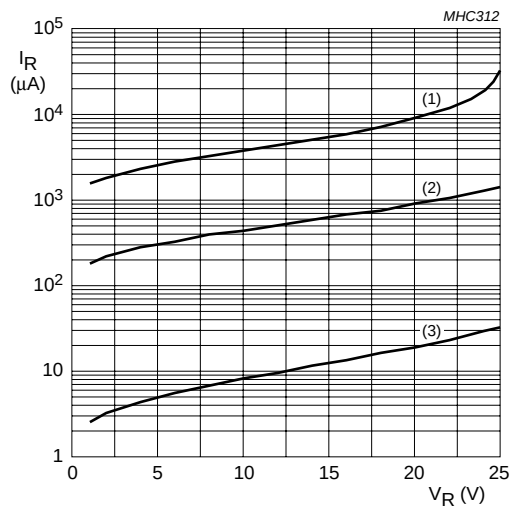
1. Refer to SC-76 (SOD323) standard mounting conditions.
2. Device mounted on a printed-circuit board with copper clad 10 x 10 mm.
3. Soldering point of cathode tab.

GRAPHICAL DATA



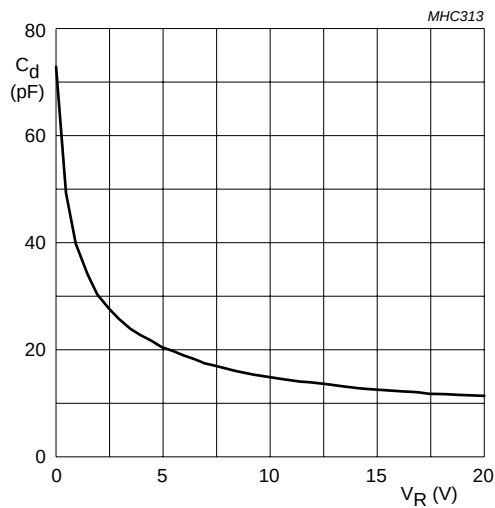
- (1) $T_{amb} = 125^\circ\text{C}$.
- (2) $T_{amb} = 85^\circ\text{C}$.
- (3) $T_{amb} = 25^\circ\text{C}$.

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



- (1) $T_{amb} = 125^\circ\text{C}$.
- (2) $T_{amb} = 85^\circ\text{C}$.
- (3) $T_{amb} = 25^\circ\text{C}$.

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



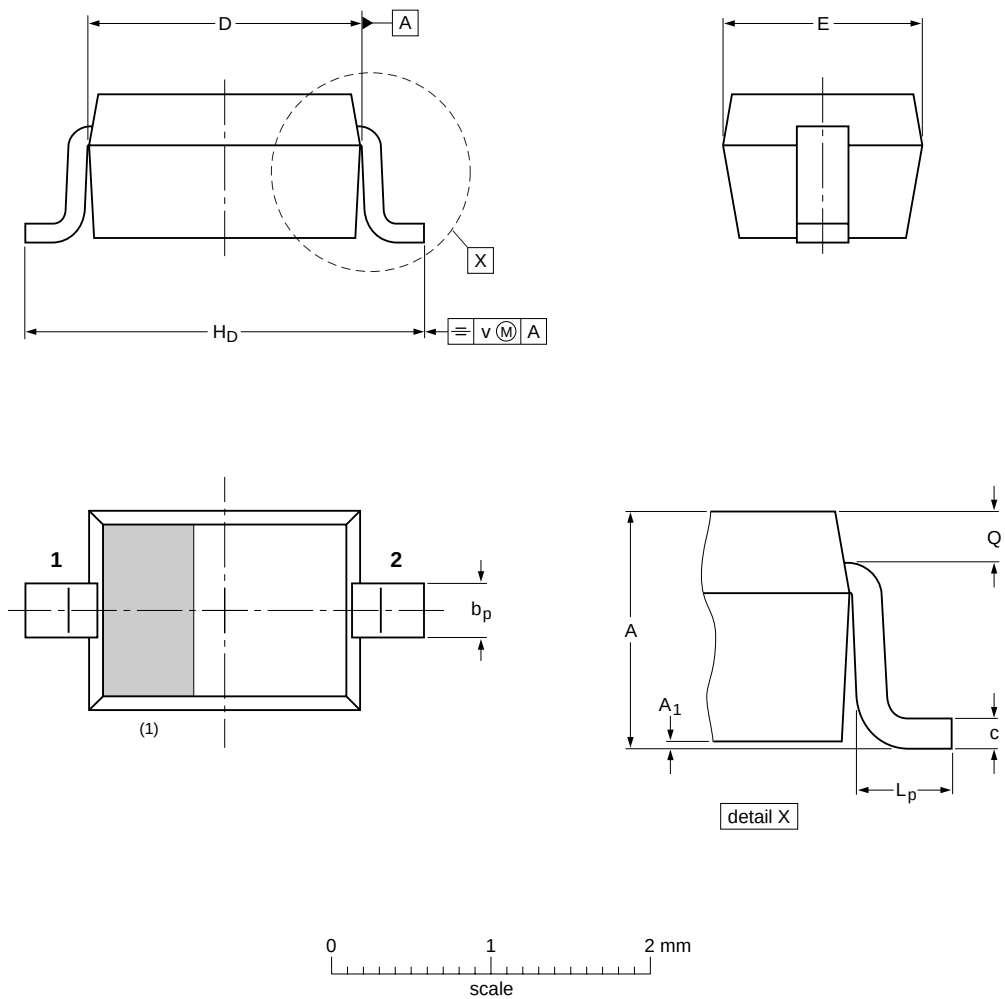
$T_{amb} = 25^\circ\text{C}$; $f = 1\text{ MHz}$.

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

PACKAGE OUTLINE

Plastic surface-mounted package; 2 leads

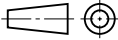
SOD323



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.