

# DATA SHEET



## **BAS85** Schottky barrier diode

Product specification  
Supersedes data of 1996 Oct 01

2000 May 25

# Schottky barrier diode

# BAS85

### FEATURES

- Low forward voltage
- High breakdown voltage
- Guard ring protected
- Hermetically-sealed small SMD package.

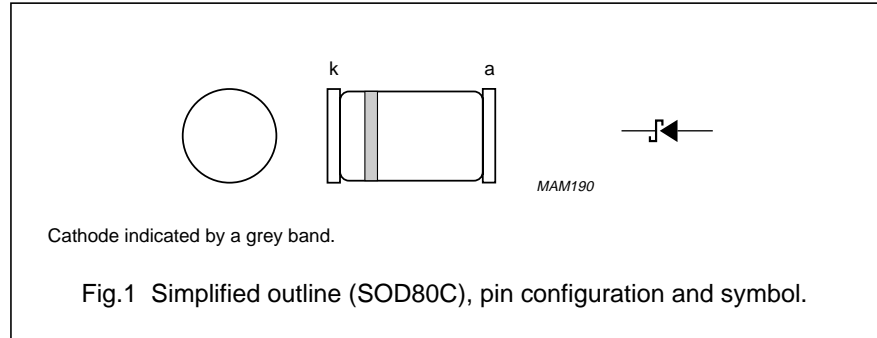
### APPLICATIONS

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

### DESCRIPTION

Planar Schottky barrier diode with an integrated protection ring against static discharges. This surface mounted diode is

encapsulated in a hermetically sealed SOD80C glass SMD package with tin-plated metal discs at each end. It is suitable for “automatic placement” and as such it can withstand immersion soldering.



### LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_R$	continuous reverse voltage		–	30	V
$I_F$	continuous forward current		–	200	mA
$I_{F(AV)}$	average forward current	$V_{RWM} = 25\text{ V}$ ; $a = 1.57$ ; $\delta = 0.5$ ; note 1; Fig.2	–	200	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1\text{ s}$ ; $\delta \leq 0.5$	–	300	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p = 10\text{ ms}$	–	5	A
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–	125	°C
$T_{amb}$	operating ambient temperature		–65	+125	°C

### Note

1. Refer to SOD80 standard mounting conditions.

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**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
$V_F$	forward voltage	see Fig.3 $I_F = 0.1\text{ mA}$ $I_F = 1\text{ mA}$ $I_F = 10\text{ mA}$ $I_F = 30\text{ mA}$ $I_F = 100\text{ mA}$	240 320 400 500 800	mV mV mV mV mV
$I_R$	reverse current	$V_R = 25\text{ V}$ ; note 1; see Fig.4	2.3	$\mu\text{A}$
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; $V_R = 1\text{ V}$ ; see Fig.5	10	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	320	K/W

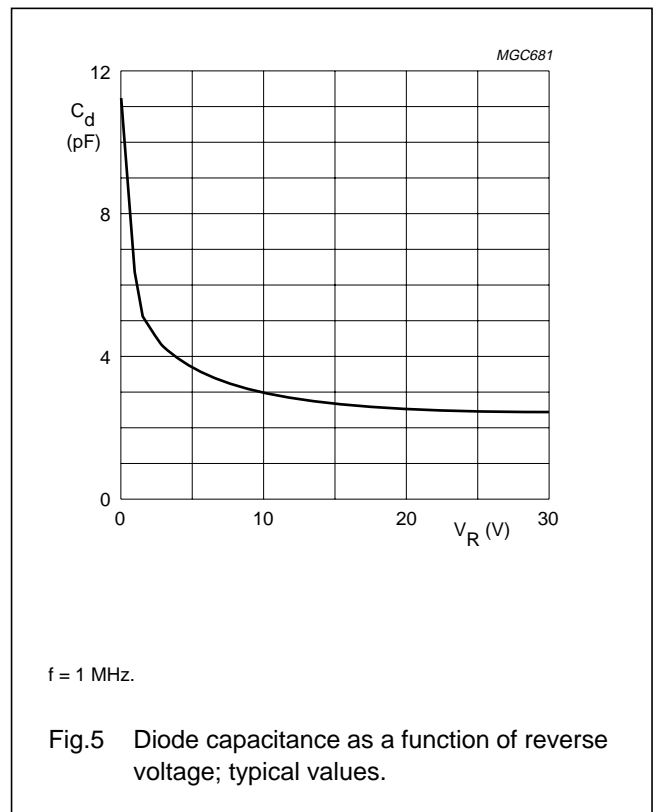
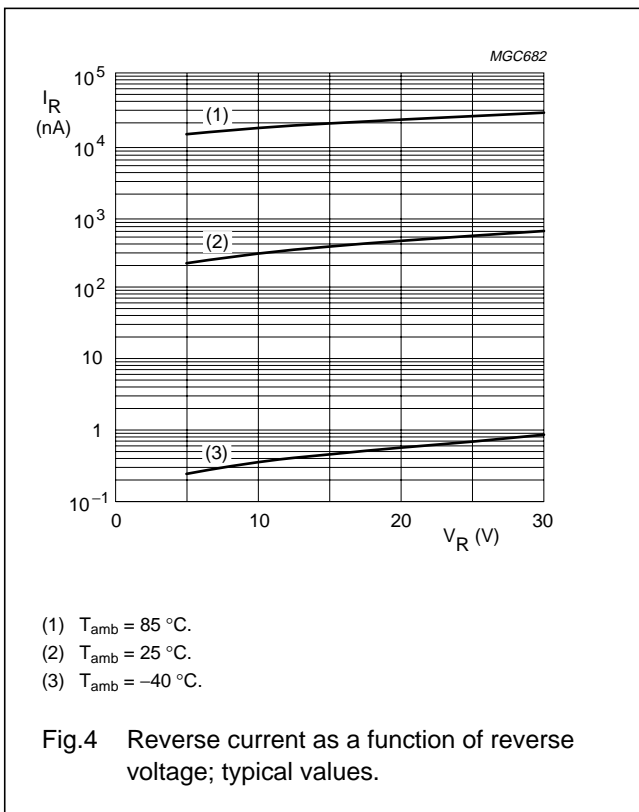
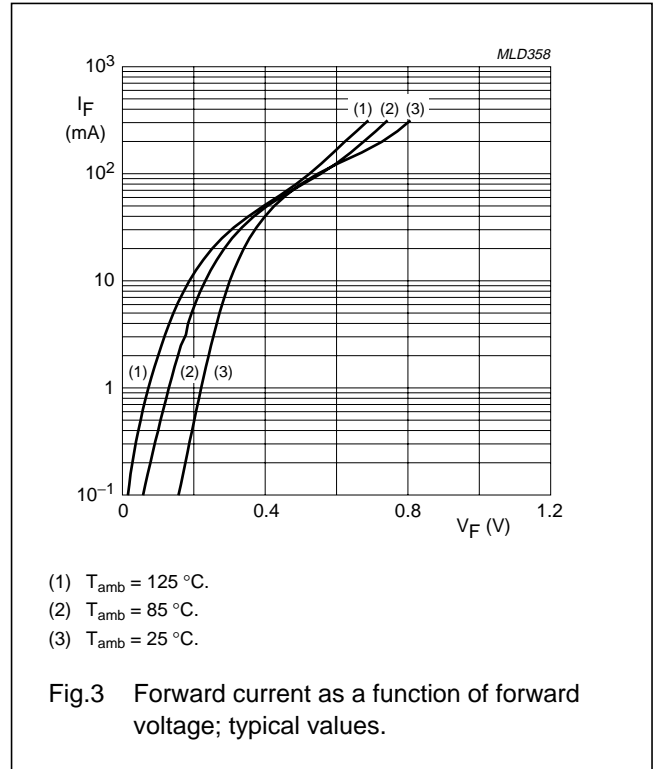
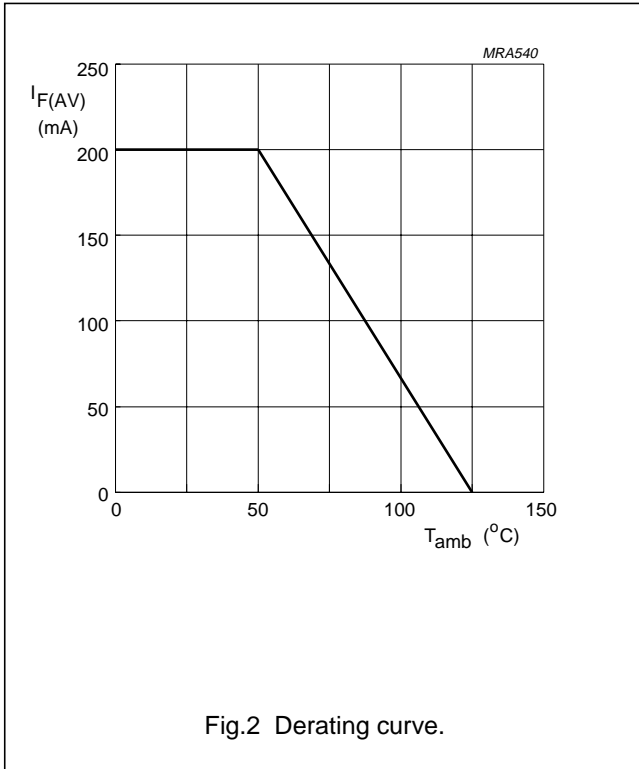
**Note**

1. Refer to SOD80 standard mounting conditions.

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GRAPHICAL DATA



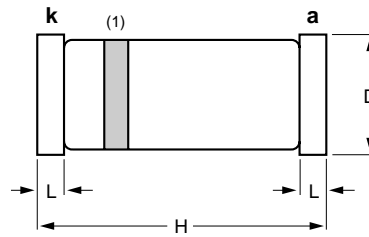
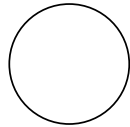
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PACKAGE OUTLINE

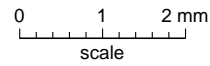
Hermetically sealed glass surface mounted package; 2 connectors

SOD80C



DIMENSIONS (mm are the original dimensions)

UNIT	D	H	L
mm	1.60 1.45	3.7 3.3	0.3



Note

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD80C	100H01					97-06-20

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## DATA SHEET STATUS

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS <sup>(1)</sup>
Objective specification	Development	This data sheet contains the design target or goal specifications for product development. Specification may change in any manner without notice.
Preliminary specification	Qualification	This data sheet contains preliminary data, and supplementary data will be published at a later date. Philips Semiconductors reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.
Product specification	Production	This data sheet contains final specifications. Philips Semiconductors reserves the right to make changes at any time without notice in order to improve design and supply the best possible product.

## Note

1. Please consult the most recently issued data sheet before initiating or completing a design.

## DEFINITIONS

**Short-form specification** — The data in a short-form specification is extracted from a full data sheet with the same type number and title. For detailed information see the relevant data sheet or data handbook.

**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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