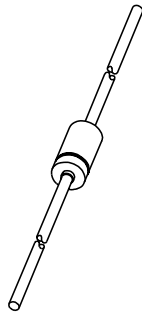


# DATA SHEET



## **BAT85** Schottky barrier diode

Product specification  
Supersedes data of 1996 Mar 20

2000 May 25

# Schottky barrier diode

# BAT85

## FEATURES

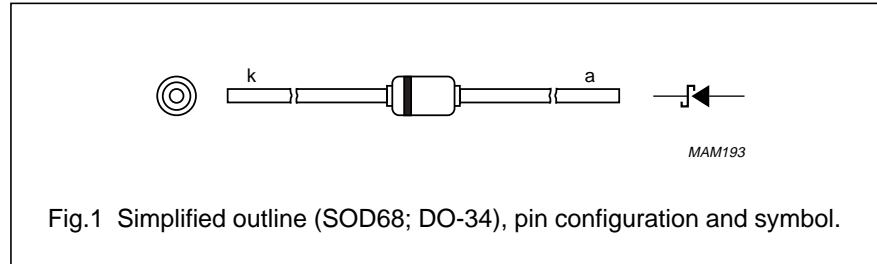
- Low forward voltage
- Guard ring protected
- Hermetically-sealed leaded glass package.

## APPLICATIONS

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

## DESCRIPTION

Planar Schottky barrier diode with an integrated protection ring against static discharges, encapsulated in a hermetically-sealed subminiature SOD68 (DO-34) package. The diode is suitable for mounting on a 2 E (5.08 mm) pitch.



## 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	PCB mounting, lead length = 4 mm; $V_{RWM} = 25\text{ V}$ ; $a = 1.57$ ; $\delta = 0.5$ ; $T_{amb} = 50\text{ }^\circ\text{C}$ ; see Fig.2	–	200	mA
$I_{FRM}$	repetitive peak forward current	$t_p \leq 1\text{ s}$ ; $\delta 0.5$	–	300	mA
$I_{FSM}$	non-repetitive peak forward current	$t_p \leq 10\text{ ms}$	–	5	A
$T_{stg}$	storage temperature		–65	+150	$^\circ\text{C}$
$T_j$	junction temperature		–	125	$^\circ\text{C}$
$T_{amb}$	operating ambient temperature		–65	+125	$^\circ\text{C}$

## Schottky barrier diode

## BAT85

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
$V_F$	forward voltage	see Fig.3		
		$I_F = 0.1\text{ mA}$	240	mV
		$I_F = 1\text{ mA}$	320	mV
		$I_F = 10\text{ mA}$	400	mV
		$I_F = 30\text{ mA}$	500	mV
		$I_F = 100\text{ mA}$	800	mV
$I_R$	reverse current	$V_R = 25\text{ V}$ ; see Fig.4	2	$\mu\text{A}$
$t_{rr}$	reverse recovery time	when switched from $I_F = 10\text{ mA}$ to $I_R = 10\text{ mA}$ ; $R_L = 100\ \Omega$ ; measured at $I_R = 1\text{ mA}$ ; see Fig.6	4	ns
$C_d$	diode capacitance	$f = 1\text{ MHz}$ ; $V_R = 1\text{ V}$ ; see Fig.5	10	pF

**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th\ j-a}$	thermal resistance from junction to ambient	note 1	320	K/W

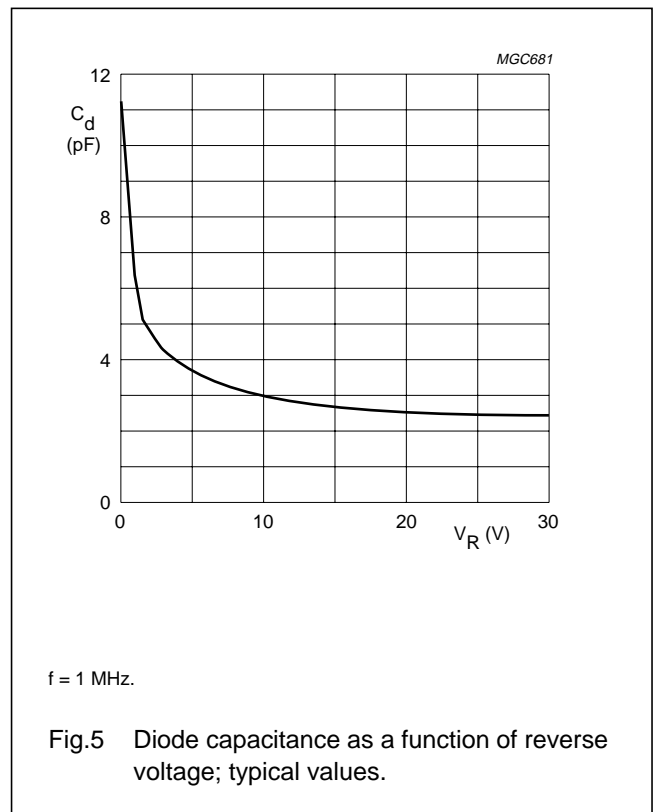
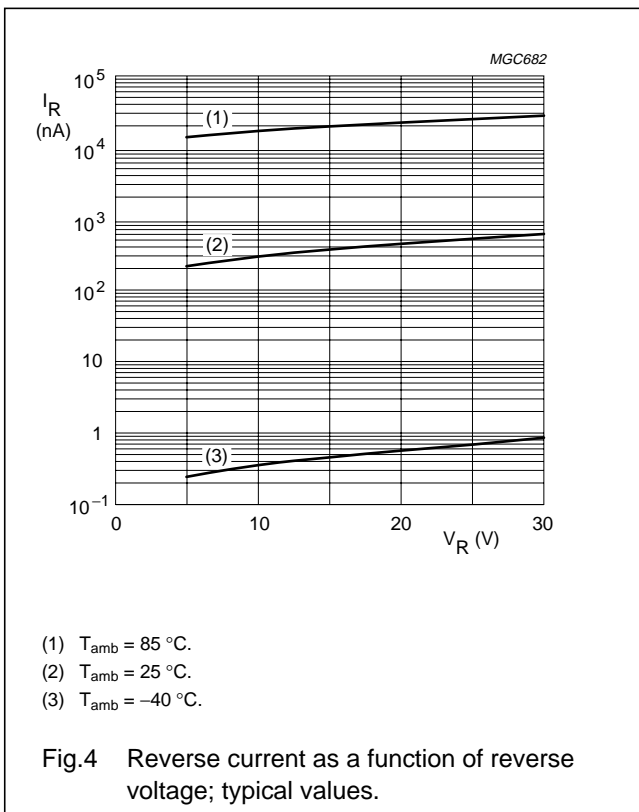
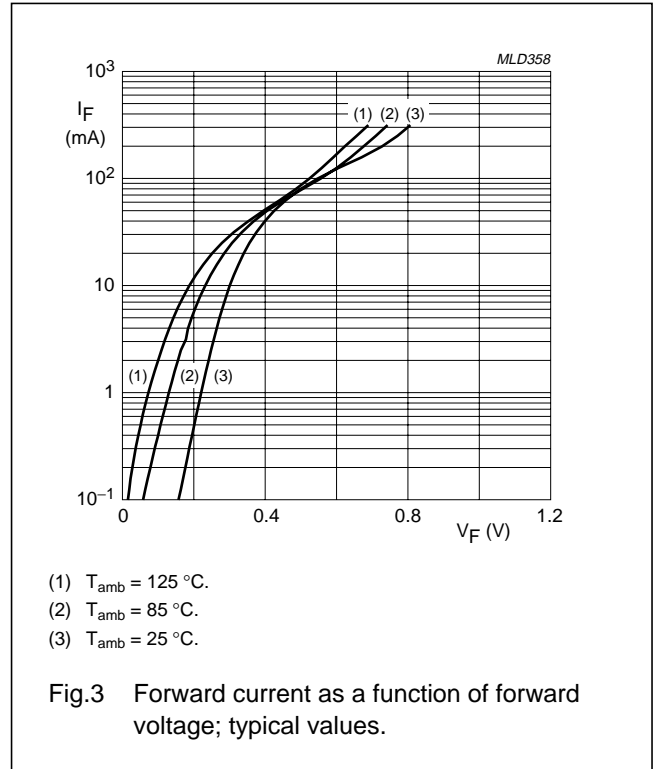
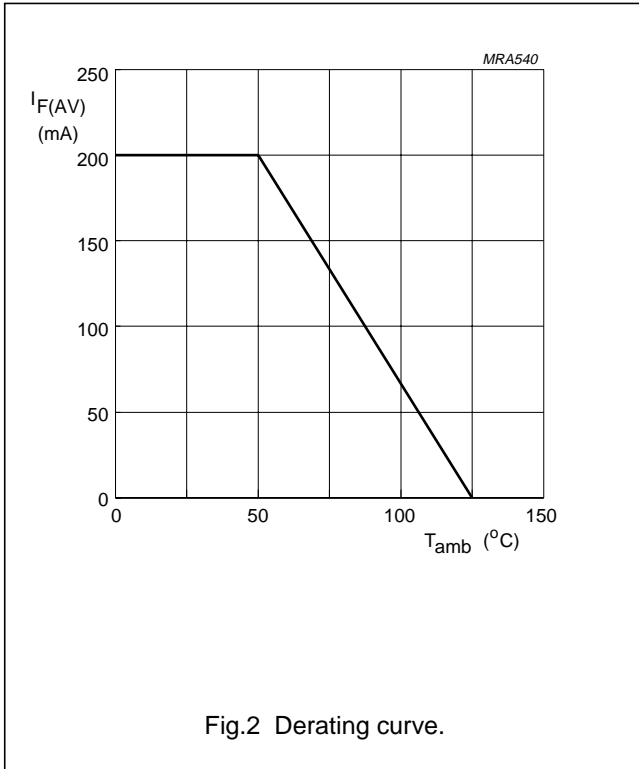
**Note**

1. Refer to SOD68 standard mounting conditions.

Schottky barrier diode

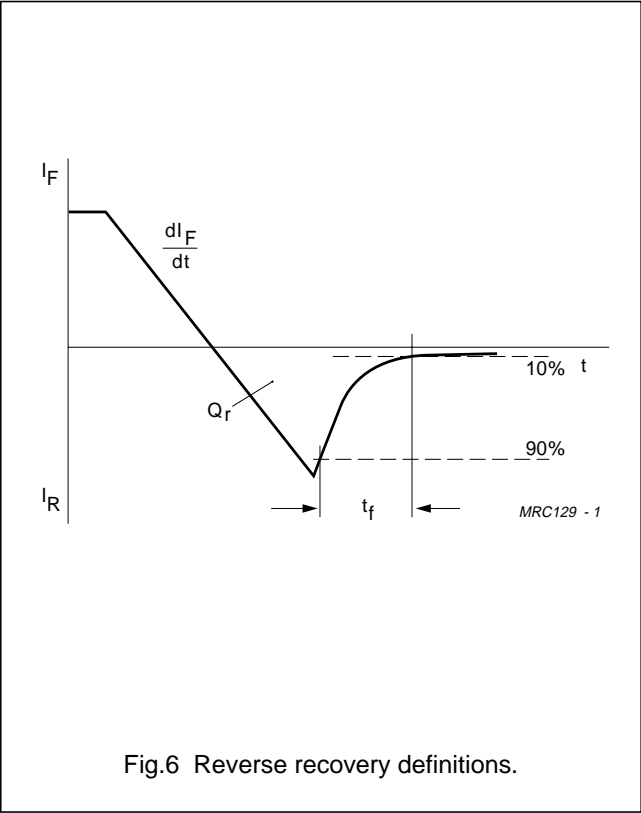
BAT85

GRAPHICAL DATA



Schottky barrier diode

BAT85



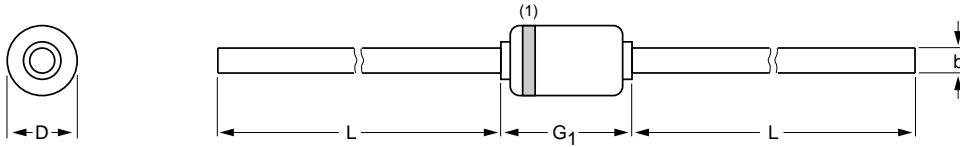
Schottky barrier diode

BAT85

PACKAGE OUTLINE

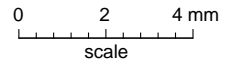
Hermetically sealed glass package; axial leaded; 2 leads

SOD68



DIMENSIONS (mm are the original dimensions)

UNIT	b max.	D max.	G <sub>1</sub> max.	L min.
mm	0.55	1.6	3.04	25.4



Note

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD68		DO-34				97-06-09

## Schottky barrier diode

BAT85

## 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.

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