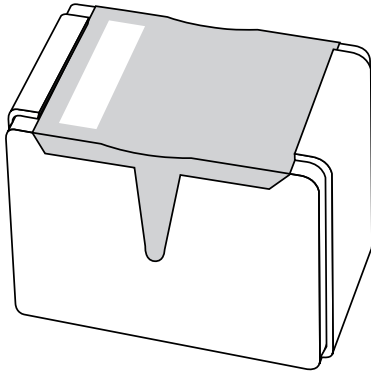


DATA SHEET



BAS270 Schottky barrier diode

Product specification

2001 Feb 05

Schottky barrier diode

BAS270

FEATURES

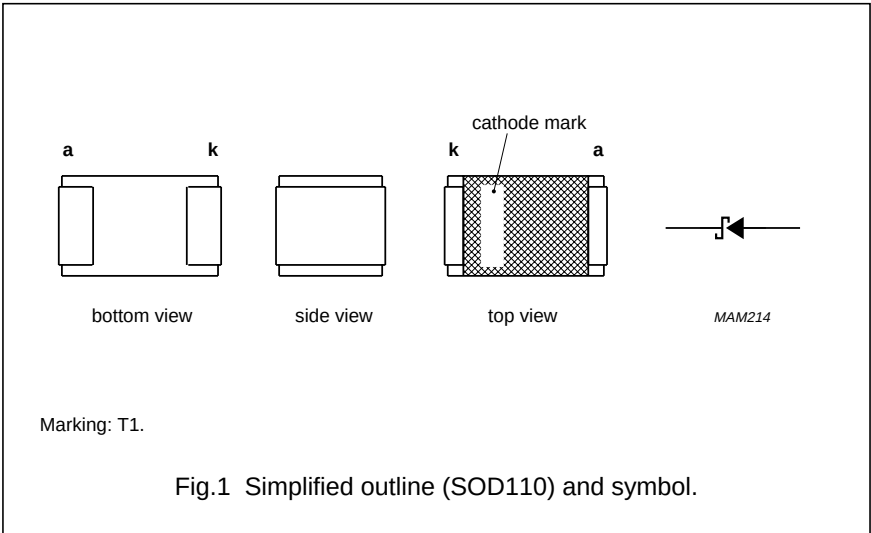
- Low forward voltage
- High breakdown voltage
- Guard ring protected
- Very small SMD ceramic package
- Low diode capacitance.

APPLICATIONS

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

DESCRIPTION

Planar Schottky barrier diode with an integrated guard ring for stress protection.



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V_R	continuous reverse voltage		–	70	V
I_F	continuous forward current		–	70	mA
I_{FRM}	repetitive peak forward current	$t_p \leq 1 \text{ s}; \delta \leq 0.5$	–	70	mA
I_{FSM}	non-repetitive peak forward current	$t_p < 10 \text{ ms}$	–	100	mA
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–	150	°C
T_{amb}	operating ambient temperature		–65	+150	°C

Schottky barrier diode

BAS270

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MAX.	UNIT
V_F	forward voltage	see Fig.2		
		$I_F = 1\text{ mA}$	410	mV
		$I_F = 10\text{ mA}$	750	mV
		$I_F = 15\text{ mA}$	1	V
I_R	reverse current	$V_R = 50\text{ V}$; note 1; see Fig.3	100	μA
		$V_R = 70\text{ V}$; note 1; see Fig.3	10	μA
C_d	diode capacitance	$f = 1\text{ MHz}$; $V_R = 0\text{ V}$; see Fig.5	2	pF

Note

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

THERMAL CHARACTERISTICS

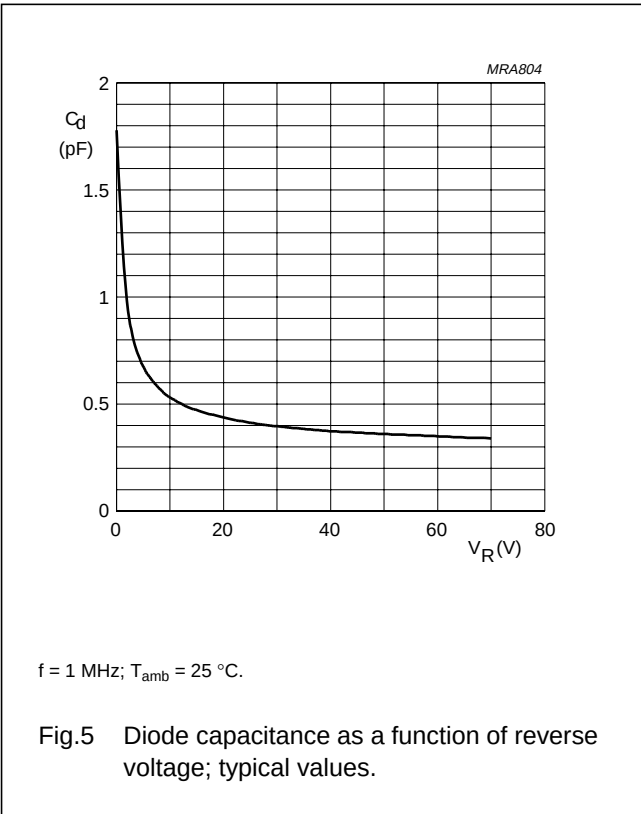
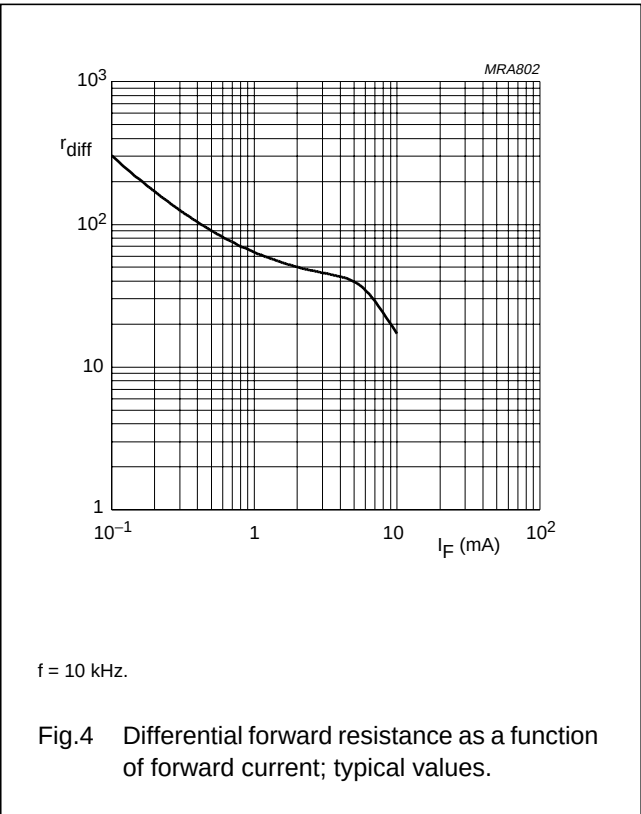
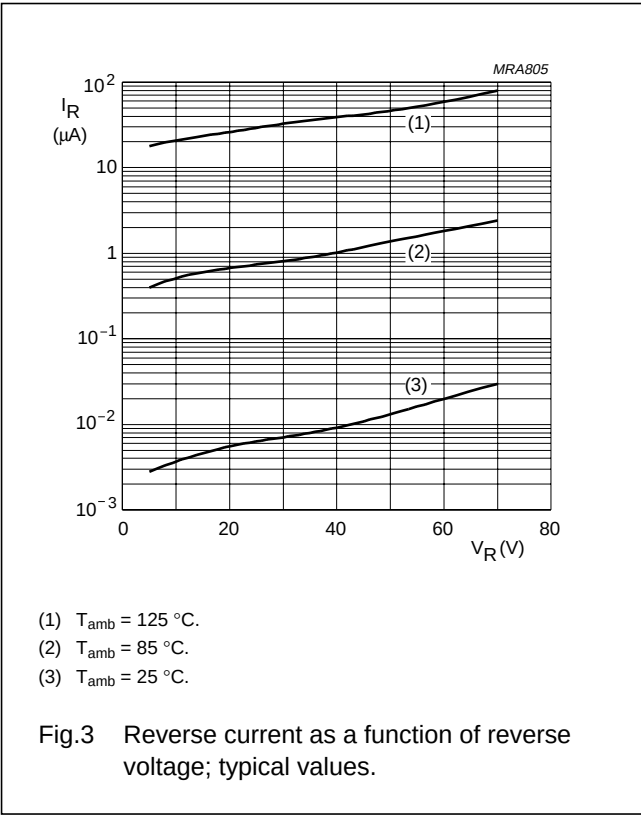
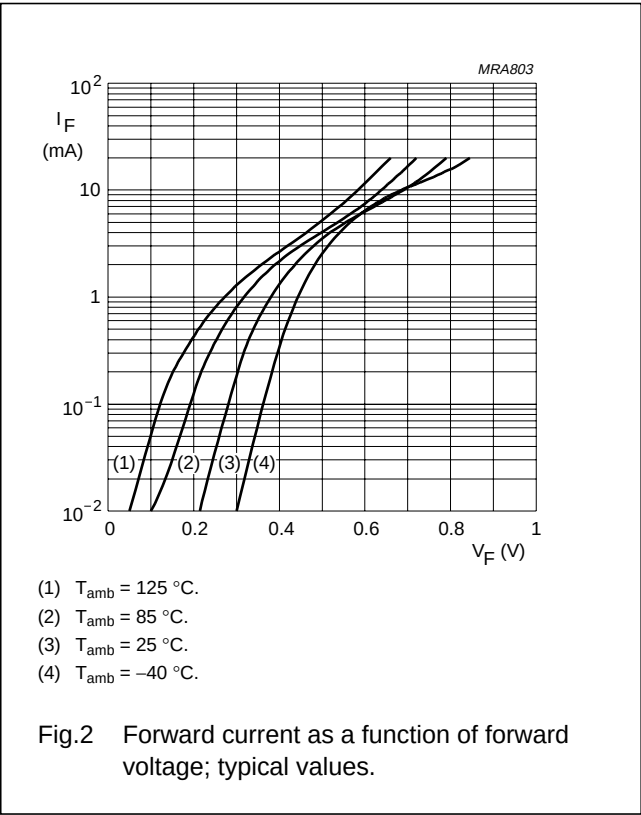
SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{\text{th j-a}}$	thermal resistance from junction to ambient	note 1	315	K/W

Note

1. Refer to SOD110 standard mounting conditions.

Schottky barrier diode

BAS270



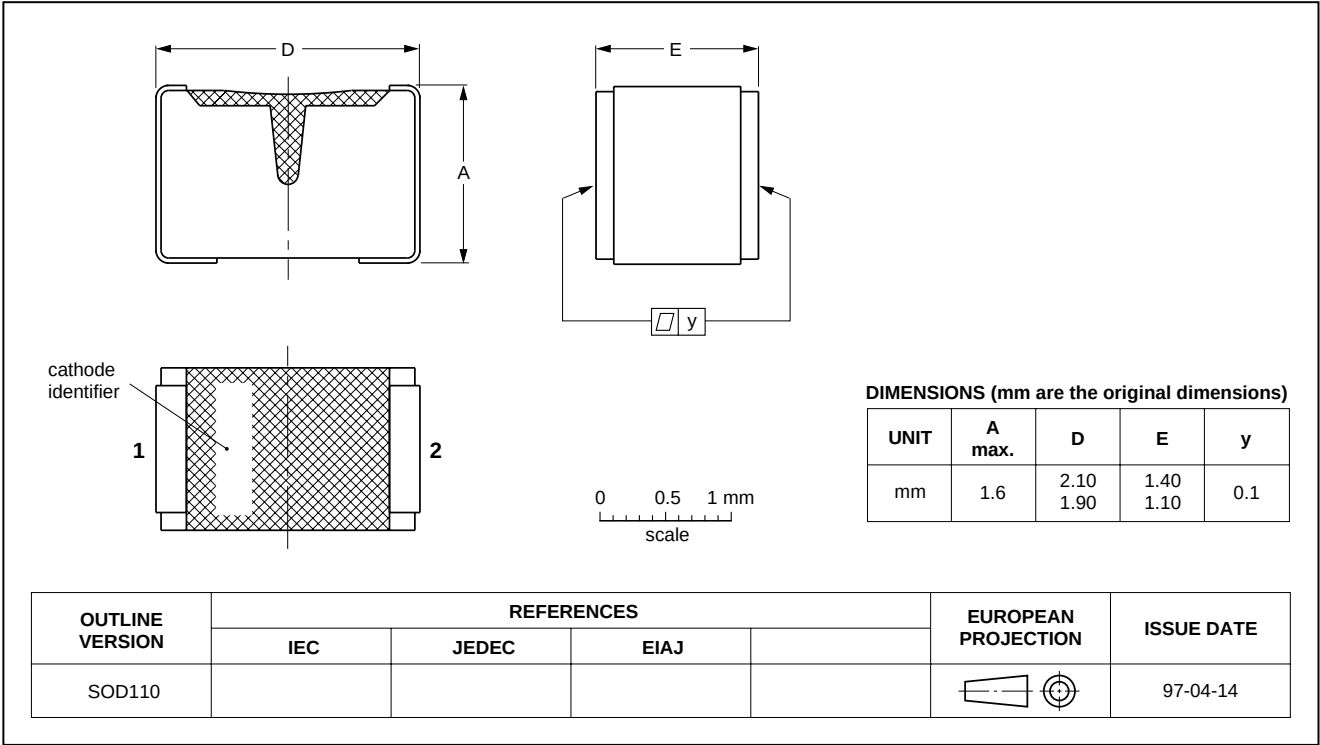
Schottky barrier diode

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PACKAGE OUTLINE

Very small ceramic rectangular surface mounted package

SOD110



Schottky barrier diode

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DATA SHEET STATUS

DATA SHEET STATUS	PRODUCT STATUS	DEFINITIONS ⁽¹⁾
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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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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Schottky barrier diode

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Printed in The Netherlands

613514/01/pp8

Date of release: 2001 Feb 05

Document order number: 9397 750 07766

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