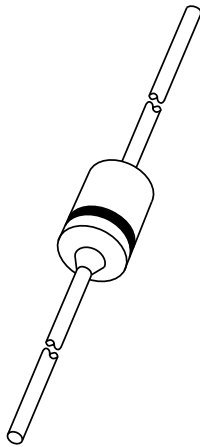


DATA SHEET



BYV10 series Schottky barrier diodes

Product specification
Supersedes data of April 1992
File under Discrete Semiconductors, SC01

1996 May 13

Schottky barrier diodes

BYV10 series

FEATURES

- Low switching losses
- Fast recovery time
- Guard ring protected
- Hermetically sealed leaded glass package.

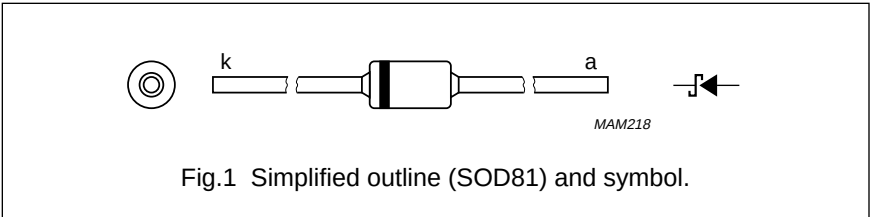
APPLICATIONS

- Low power, switched-mode power supplies
- Rectifying
- Polarity protection.

DESCRIPTION

The BYV10-20 to BYV10-40 types are Schottky barrier diodes fabricated in planar technology, and encapsulated in SOD81 hermetically sealed glass packages incorporating ImplotecTM(1) technology.

(1) Implotec is a trademark of Philips.



LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _{RRM}	repetitive peak reverse voltage				
	BYV10-20		–	20	V
	BYV10-30		–	30	V
	BYV10-40		–	40	V
I _{F(AV)}	average forward current	note 1	–	1	A
T _{stg}	storage temperature		–65	+150	°C
T _j	junction temperature		–	125	°C

Note

1. Refer to SOD81 standard mounting conditions.

Schottky barrier diodes

BYV10 series

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
V_F	forward voltage	$I_F = 0.1\text{ A}$	–	–	390	mV
		$I_F = 1\text{ A}$	–	–	550	mV
		$I_F = 3\text{ A}$	–	–	850	mV
I_R	reverse current	$V_R = V_{RRM\text{max}}$; note 1	–	–	1	mA
C_d	diode capacitance	$V_R = 0\text{ V}$; $f = 1\text{ MHz}$	–	220	–	pF

Note

1. Pulsed 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	100	K/W

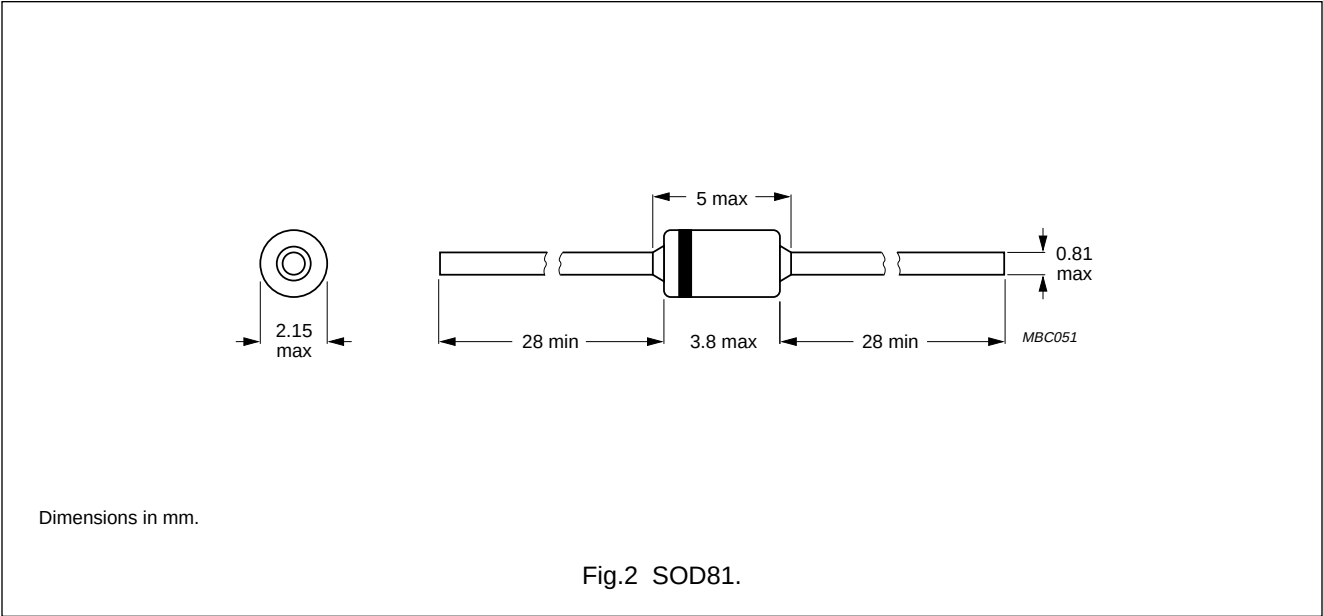
Note

1. Refer to SOD81 standard mounting conditions.

Schottky barrier diodes

BYV10 series

PACKAGE OUTLINE



DEFINITIONS

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

LIFE SUPPORT APPLICATIONS

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so at their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.