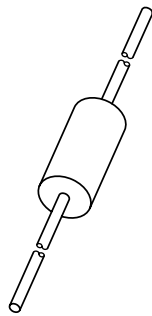


# DATA SHEET



## **BYX133GPS** High-voltage car ignition diode

Product specification

2002 Jan 24

# High-voltage car ignition diode

# BYX133GPS

## FEATURES

- Glass passivated
- High maximum operating temperature
- Low leakage current
- Excellent stability
- Guaranteed avalanche energy absorption capability.

## DESCRIPTION

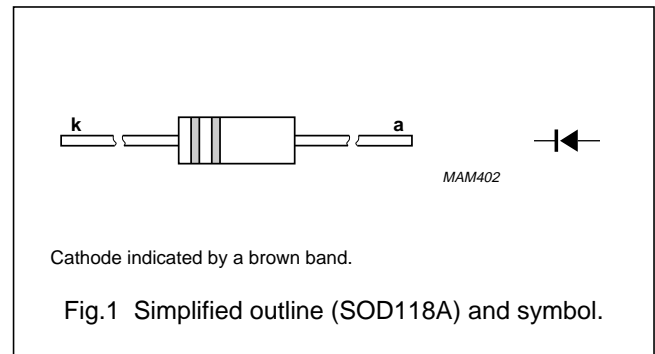
Rugged glass package, using a high temperature alloyed construction.

The SOD118A is hermetically sealed and fatigue free as coefficients of expansion of all used parts are matched.

The package is designed to be used in an insulating medium such as resin, oil or SF6 gas.

## APPLICATIONS

- Car ignition systems
- Automotive applications with extreme temperature requirements.



## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_{RRM}$	repetitive peak reverse voltage		–	3	kV
$V_{RWM}$	crest working reverse voltage		–	3	kV
$I_{F(AV)}$	average forward current		–	50	mA
$I_{FRM}$	repetitive peak forward current		–	1	A
$I_{RSM}$	non-repetitive peak reverse current	$t = 100 \mu s$ triangular pulse; $T_{jmax}$ prior to surge	–	50	mA
$T_{stg}$	storage temperature		–65	+175	°C
$T_j$	junction temperature	continuous	–	175	°C

## CHARACTERISTICS

$T_j = 25 \text{ °C}$  unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
$V_F$	forward voltage	$I_F = 10 \text{ mA}$	3.75	5.25	V
$V_{(BR)R}$	reverse avalanche breakdown voltage	$I_R = 100 \mu A$	4	5.5	kV
$I_R$	reverse current	$V_R = V_{RWMmax}; T_j = 165 \text{ °C}$	–	30	$\mu A$

## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th j-a}$	thermal resistance from junction to ambient	$T_{amb} = T_{leads}$ ; lead length = 10 mm; in oil	100	K/W

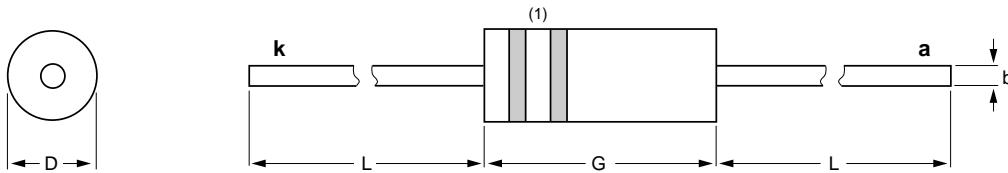
# High-voltage car ignition diode

BYX133GPS

## PACKAGE OUTLINE

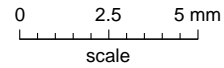
Hermetically sealed plastic package; axial leaded; 2 leads

SOD118A



**DIMENSIONS (mm are the original dimensions)**

UNIT	b	D	G	L min.
mm	0.5	2.6 2.4	6.7 6.3	31



**Note**

1. The marking bands indicate the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD118A						98-05-28

## High-voltage car ignition diode

BYX133GPS

## DATA SHEET STATUS

DATA SHEET STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Changes will be communicated according to the Customer Product/Process Change Notification (CPCN) procedure SNW-SQ-650A.

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2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.

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**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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High-voltage car ignition diode

BYX133GPS

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**NOTES**

High-voltage car ignition diode

BYX133GPS

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**NOTES**

High-voltage car ignition diode

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**NOTES**

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