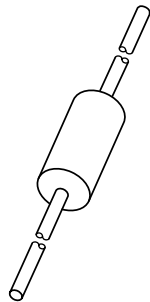


# DATA SHEET



## **BYX133GPL** High-voltage car ignition diode

Product specification  
Supersedes data of 2000 Jul 17

2001 Oct 02

# High-voltage car ignition diode

# BYX133GPL

## FEATURES

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

## APPLICATIONS

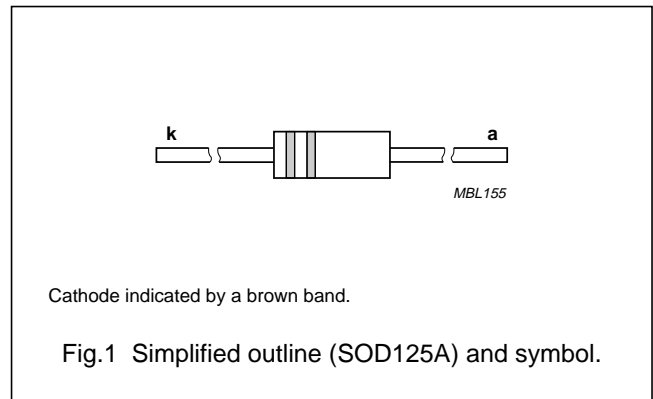
- Car ignition systems
- Automotive applications with extreme temperature requirements.

## DESCRIPTION

Plastic package, using glass passivation and a high temperature alloyed construction.

This package 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.



## 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		–	500	mA
$I_{RSM}$	non-repetitive peak reverse current	$t = 100 \mu s$ triangular pulse; $T_{j(max)}$ prior to surge	–	50	mA
$T_{stg}$	storage temperature		–65	+175	°C
$T_j$	junction temperature	continuous	–	175	°C

## CHARACTERISTICS

$T_j = 25 \text{ }^\circ\text{C}$  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	$I_R = 100 \mu A$	3.5	5.5	kV
$I_R$	reverse current	$V_R = V_{RWMmax}$ ; $T_j = 175 \text{ }^\circ\text{C}$	–	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	90	K/W

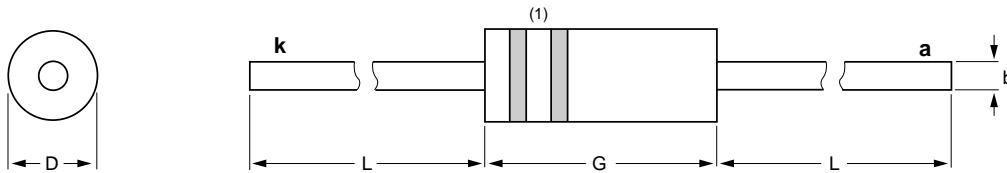
High-voltage car ignition diode

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PACKAGE OUTLINE

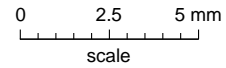
Hermetically sealed plastic package; axial leaded; 2 leads

SOD125A



DIMENSIONS (mm are the original dimensions)

UNIT	b	D	G	L min.
mm	0.8	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			
SOD125A						00-03-06

## High-voltage car ignition diode

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## 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.
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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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**NOTES**

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**NOTES**

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## **Contact information**

For additional information please visit <http://www.semiconductors.philips.com>. Fax: +31 40 27 24825

For sales offices addresses send e-mail to: [sales.addresses@www.semiconductors.philips.com](mailto:sales.addresses@www.semiconductors.philips.com).

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