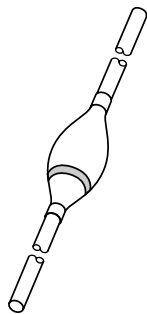


# DATA SHEET



**BYX133G**

High-voltage car ignition diode

Product specification  
Supersedes data of 2000 Feb 29

2001 Oct 02

# High-voltage car ignition diode

# BYX133G

## FEATURES

- 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

Rugged glass package, using a high temperature alloyed construction.

The SOD61AB2 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.

The BYX133G is marked with a brown cathode band on the body.

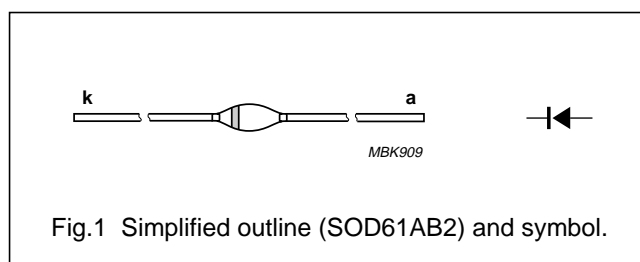


Fig.1 Simplified outline (SOD61AB2) and symbol.

## 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	+200	°C
$T_j$	junction temperature	continuous	–	175	°C
$T_j$	junction temperature	max. 30 min.	–	200	°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	$V_R = V_{RWM \max}; T_j = 175 \text{ °C}$	–	30	$\mu A$

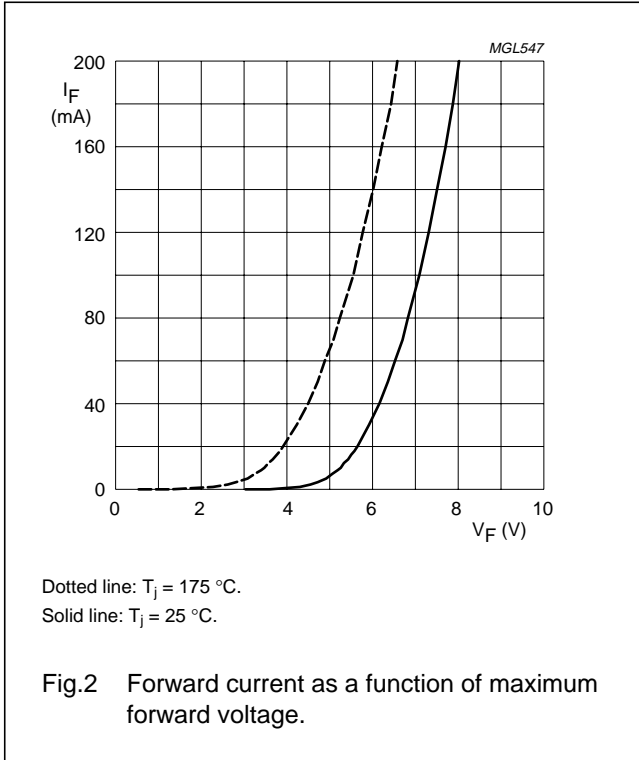
## THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
$R_{th \text{ j-a}}$	thermal resistance from junction to ambient	$T_{amb} = T_{leads}$ ; lead length = 10 mm	90	K/W

# High-voltage car ignition diode

# BYX133G

## GRAPHICAL DATA



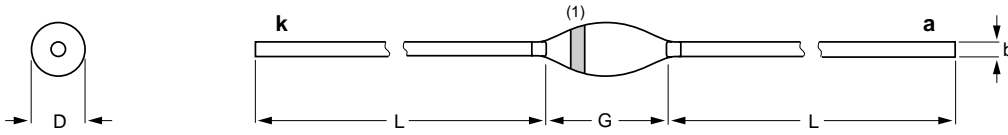
# High-voltage car ignition diode

BYX133G

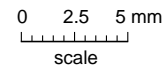
## PACKAGE OUTLINE

Hermetically sealed glass package; axial leaded; 2 leads

SOD61AB2



DIMENSIONS (mm are the original dimensions)



UNIT	b	D max.	G max.	L min.
mm	0.6	2.5	5.5	31.8

**Note**

1. The marking band indicates the cathode.

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD61AB2						98-12-04

## 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.
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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**NOTES**

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**NOTES**

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