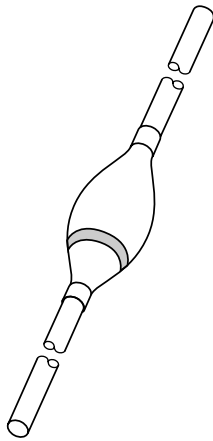


# DATA SHEET



**BYX133G**

High-voltage car ignition diode

Product specification  
Supersedes data of 1998 Nov 27

1998 Dec 04

## 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 black cathode band on the body.

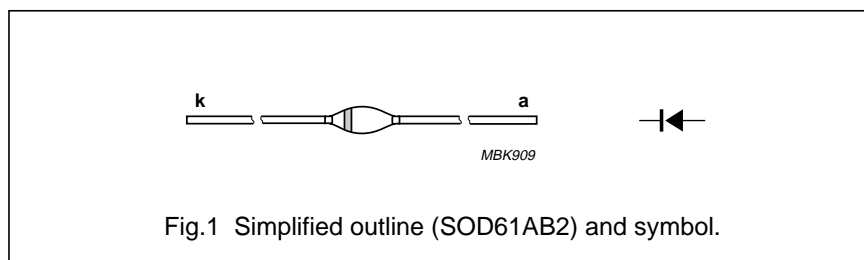


Fig.1 Simplified outline (SOD61AB2) and symbol.

## LIMITING VALUES

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

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
$I_{RSM}$	non-repetitive peak reverse current	$t = 100 \mu\text{s}$ 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

$T_j = 25 \text{ }^\circ\text{C}$  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	$I_R = 100 \mu\text{A}$	4.0	5.5	kV
$I_R$	reverse current	$V_R = V_{RWM \max}$ ; $T_j = 175 \text{ }^\circ\text{C}$	–	30	$\mu\text{A}$

## 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

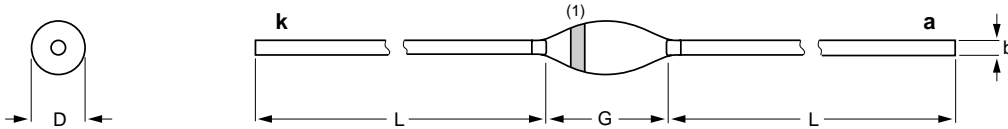
# High-voltage car ignition diode

BYX133G

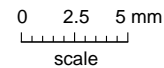
## PACKAGE OUTLINE

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

## 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.

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