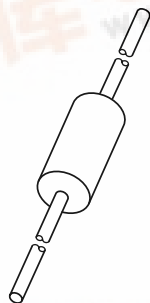


DISCRETE SEMICONDUCTORS

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

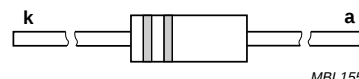
- Car ignition systems
- Automotive applications with extreme temperature requirements.

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.



Cathode indicated by a brown band.

Fig.1 Simplified outline (SOD125A) 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	+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	μA

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

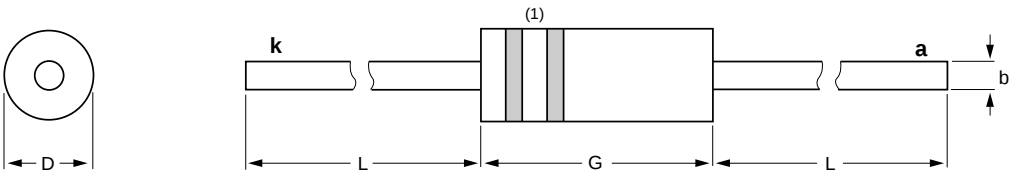
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PACKAGE OUTLINE

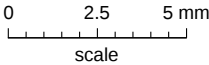
Hermetically sealed plastic package; axial leaded; 2 leads

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 ⁽¹⁾	PRODUCT STATUS ⁽²⁾	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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