

Silicon Diode

BYX133G

3kV/50mA

DATASHEET

OEM – Philips

Source: Philips Databook 1999

High-voltage car ignition diodes

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.

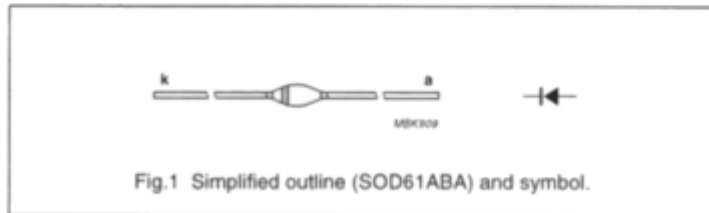
DESCRIPTION

Rugged glass package, using a high temperature alloyed construction.

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.

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



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; $T_{j \text{ max}}$ 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	$I_R = 100 \mu\text{A}$	4.0	5.5	kV
I_R	reverse current	$V_R = V_{RWM \text{ max}}; T_j = 175 \text{ °C}$	–	30	μA

THERMAL CHARACTERISTICS

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