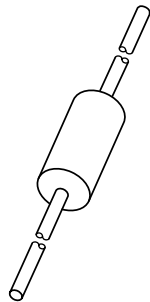


DATA SHEET



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

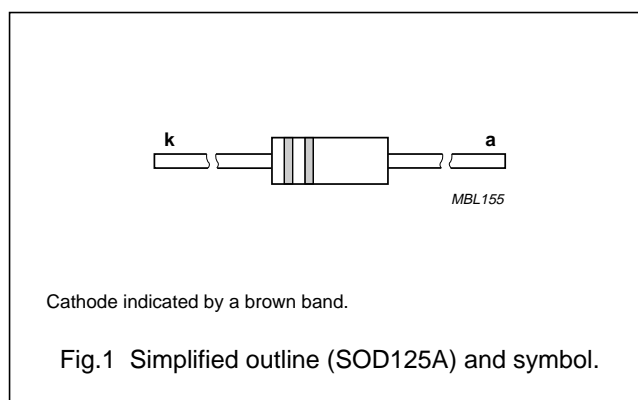
- Car ignition systems
- Automotive applications with extreme temperature requirements.

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 | $t = 100 \mu\text{s}$ 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 | $I_R = 100 \mu\text{A}$ | 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 |

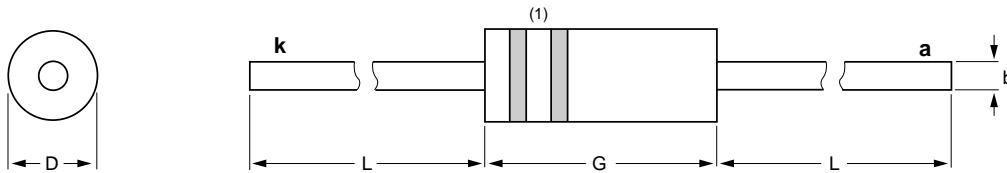
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PACKAGE OUTLINE

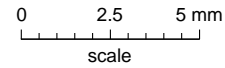
Hermetically sealed plastic package; axial leaded; 2 leads

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 |
|----------------------------------|-------------------------------|--|
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