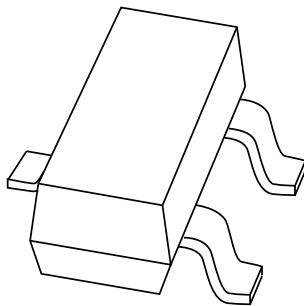


DATA SHEET



BAP50-04

General purpose PIN diode

Product specification
Supersedes data of 1999 May 10

1999 Dec 03



General purpose PIN diode

BAP50-04

FEATURES

- Two elements in series configuration in a small-sized plastic SMD package
- Low diode capacitance
- Low diode forward resistance.

APPLICATIONS

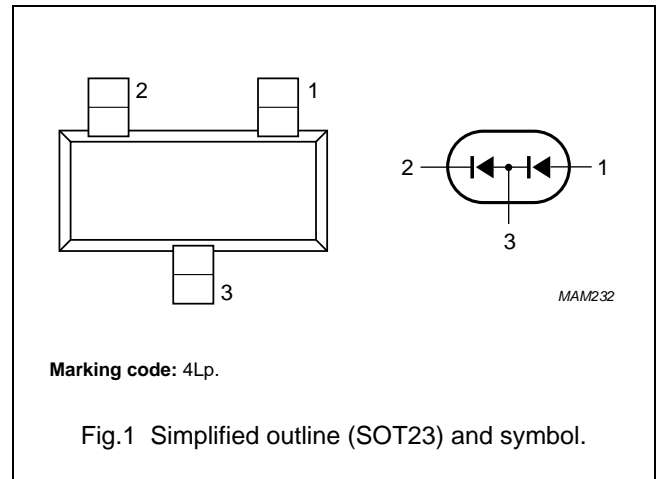
- General RF applications.

DESCRIPTION

Two planar PIN diodes in series configuration in an SOT23 small plastic SMD package.

PINNING

| PIN | DESCRIPTION |
|-----|-------------------|
| 1 | anode |
| 2 | cathode |
| 3 | common connection |



LIMITING VALUES

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

| SYMBOL | PARAMETER | CONDITIONS | MIN. | MAX. | UNIT |
|------------------|----------------------------|----------------------|------|------|------|
| Per diode | | | | | |
| V_R | continuous reverse voltage | | – | 50 | V |
| I_F | continuous forward current | | – | 50 | mA |
| P_{tot} | total power dissipation | $T_s = 90\text{ °C}$ | – | 250 | mW |
| T_{stg} | storage temperature | | –65 | +150 | °C |
| T_j | junction temperature | | –65 | +150 | °C |

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ELECTRICAL CHARACTERISTICS $T_j = 25\text{ °C}$ unless otherwise specified.

| SYMBOL | PARAMETER | CONDITIONS | MIN. | TYP. | MAX. | UNIT |
|------------------|--------------------------|---|------|------|------|---------------|
| Per diode | | | | | | |
| V_F | forward voltage | $I_F = 50\text{ mA}$ | – | 0.95 | 1.1 | V |
| V_R | reverse voltage | $I_R = 10\text{ }\mu\text{A}$ | 50 | – | – | V |
| I_R | reverse current | $V_R = 50\text{ V}$ | – | – | 100 | nA |
| C_d | diode capacitance | $V_R = 0; f = 1\text{ MHz}$ | – | 0.45 | – | pF |
| | | $V_R = 1\text{ V}; f = 1\text{ MHz}$ | – | 0.35 | 0.6 | pF |
| | | $V_R = 5\text{ V}; f = 1\text{ MHz}$ | – | 0.3 | 0.5 | pF |
| r_D | diode forward resistance | $I_F = 0.5\text{ mA}; f = 100\text{ MHz}; \text{note 1}$ | – | 25 | 40 | Ω |
| | | $I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$ | – | 14 | 25 | Ω |
| | | $I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$ | – | 3 | 5 | Ω |
| τ_L | charge carrier life time | when switched from $I_F 10\text{ mA}$ to $I_R 6\text{ mA}$; $R_L 100\text{ }\Omega$; measured at $I_R 3\text{ mA}$ | – | 1.05 | – | μs |
| L_S | series inductance | | – | 1.4 | – | nH |

Note

1. Guaranteed on AQL basis: inspection level S4, AQL 1.0.

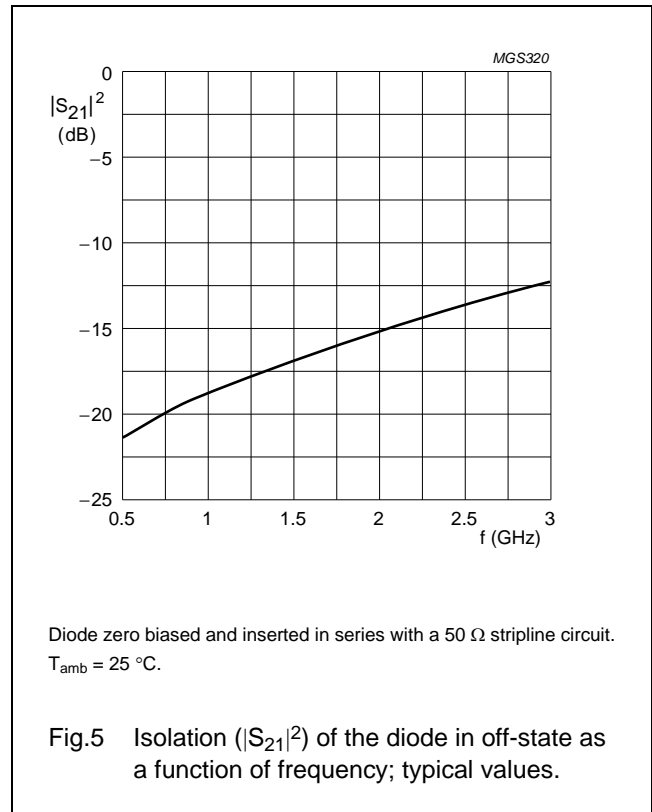
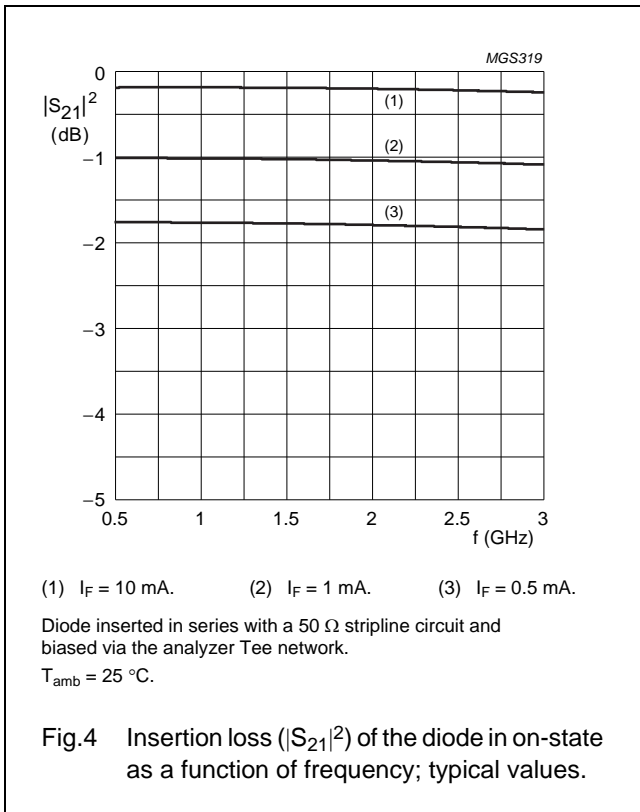
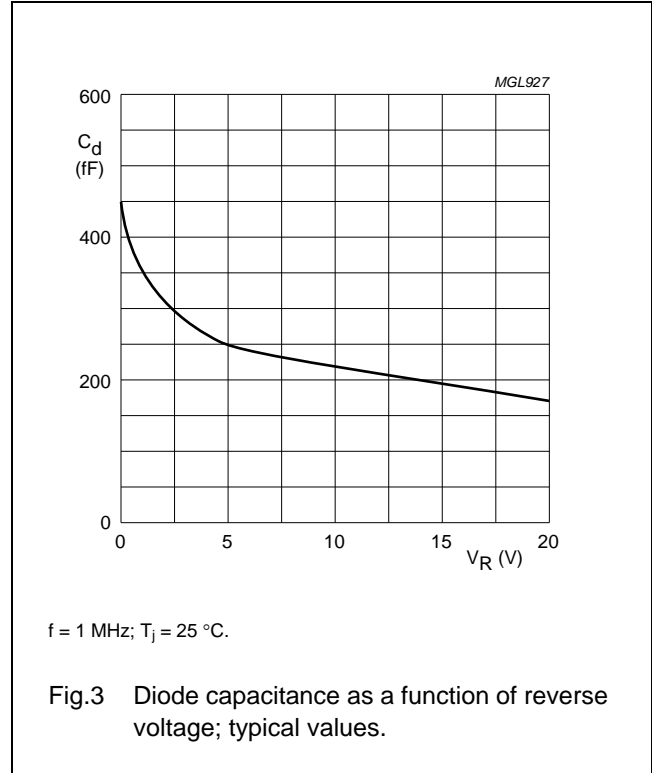
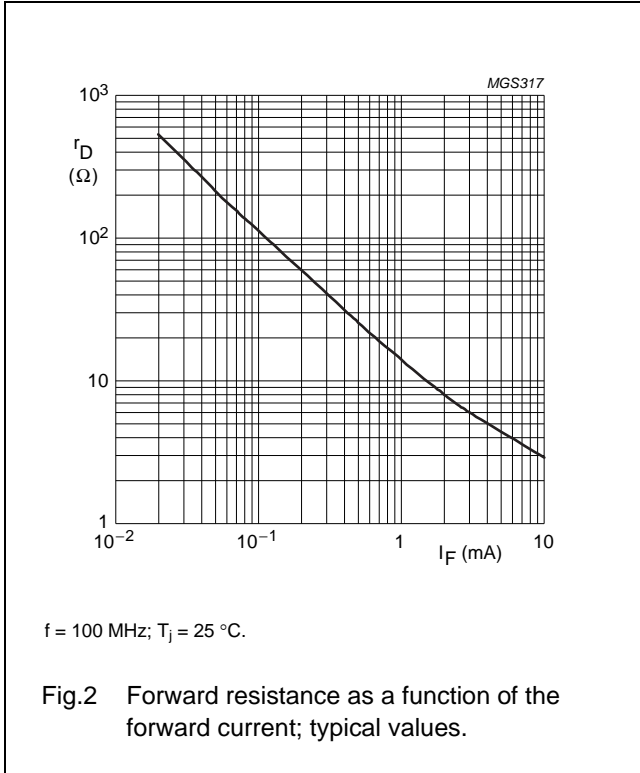
THERMAL CHARACTERISTICS

| SYMBOL | PARAMETER | VALUE | UNIT |
|---------------|---|-------|------|
| $R_{th\ j-s}$ | thermal resistance from junction to soldering point | 220 | K/W |

General purpose PIN diode

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GRAPHICAL DATA



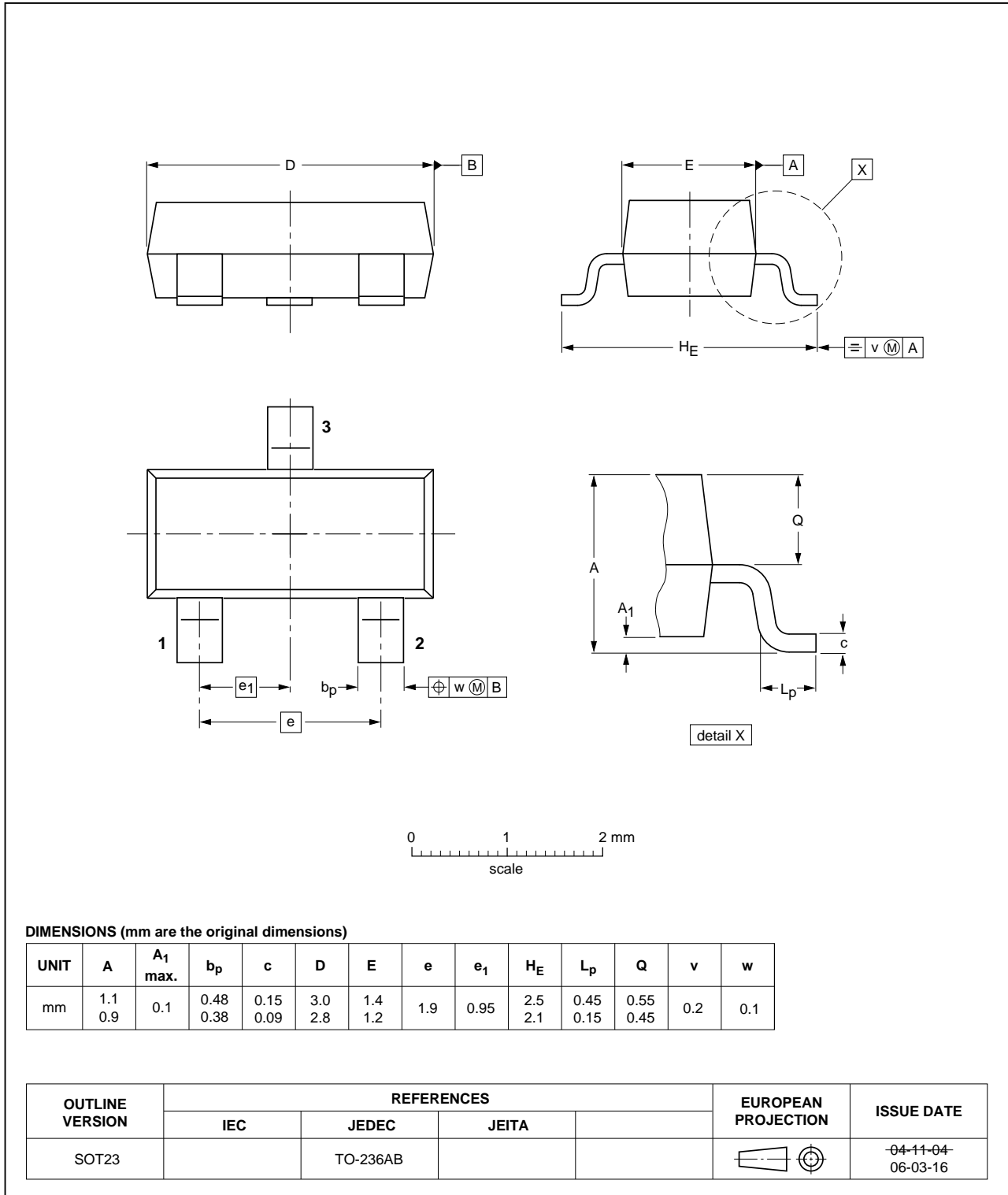
General purpose PIN diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



General purpose PIN diode

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DATA SHEET STATUS

| DOCUMENT STATUS ⁽¹⁾ | PRODUCT STATUS ⁽²⁾ | DEFINITION |
|--------------------------------|-------------------------------|---|
| Objective data sheet | Development | This document contains data from the objective specification for product development. |
| Preliminary data sheet | Qualification | This document contains data from the preliminary specification. |
| Product data sheet | Production | This document contains the product specification. |

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General purpose PIN diode

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Contact information

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