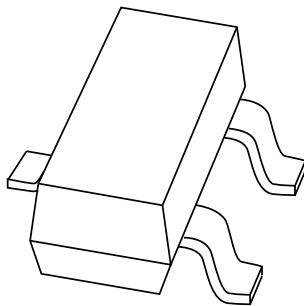


DATA SHEET



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

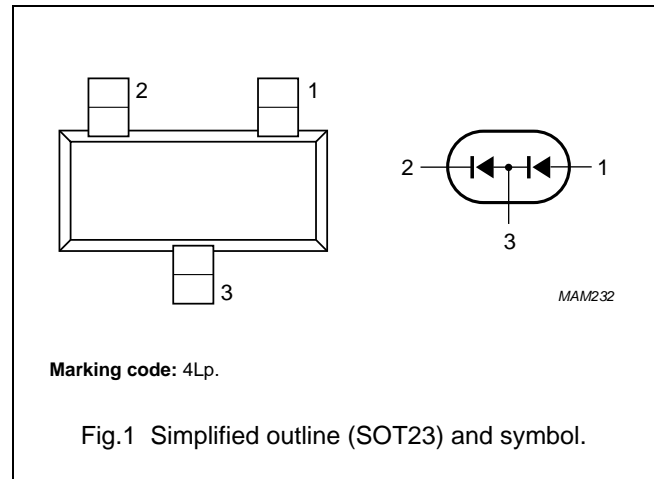
- General RF applications.

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

General purpose PIN diode

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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.

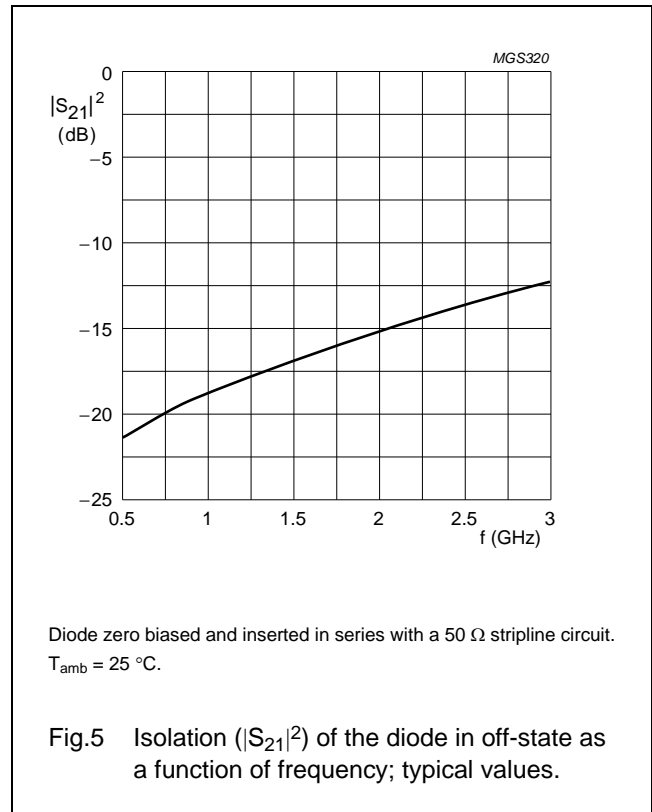
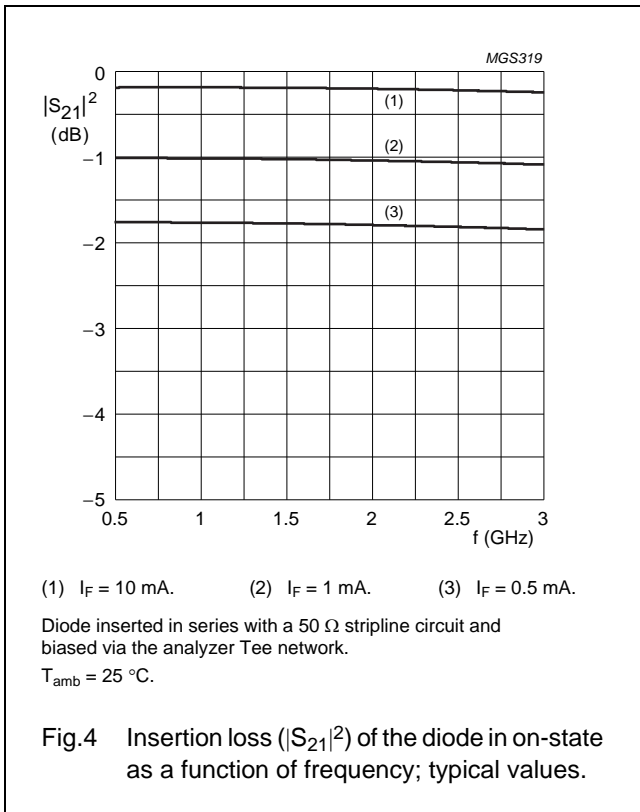
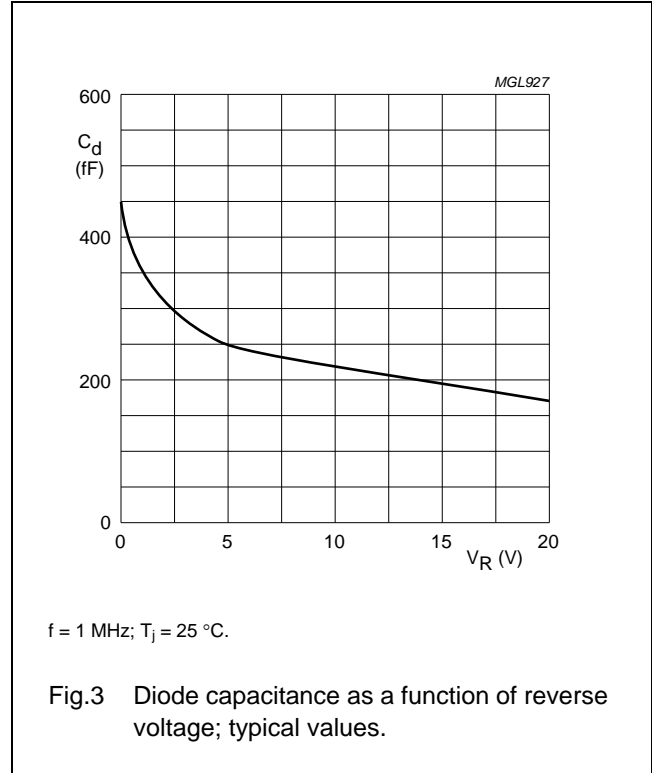
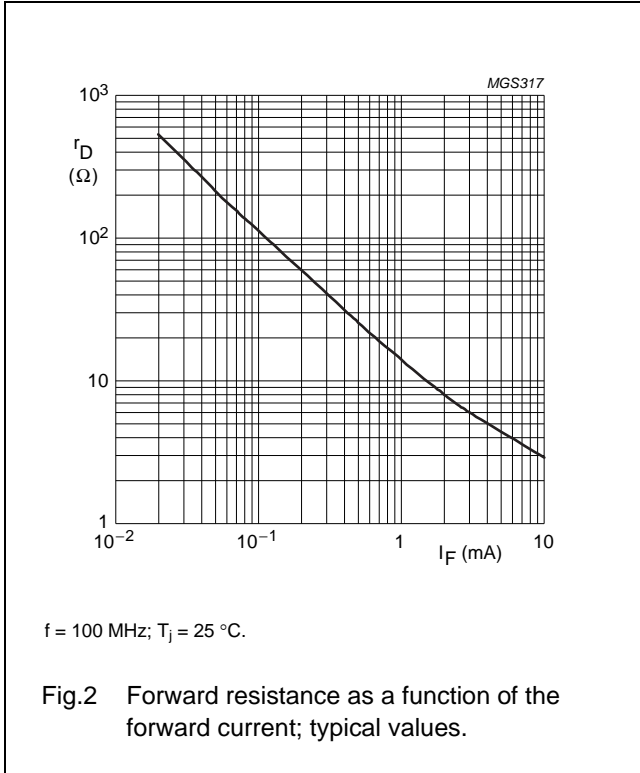
THERMAL CHARACTERISTICS

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

General purpose PIN diode

BAP50-04

GRAPHICAL DATA



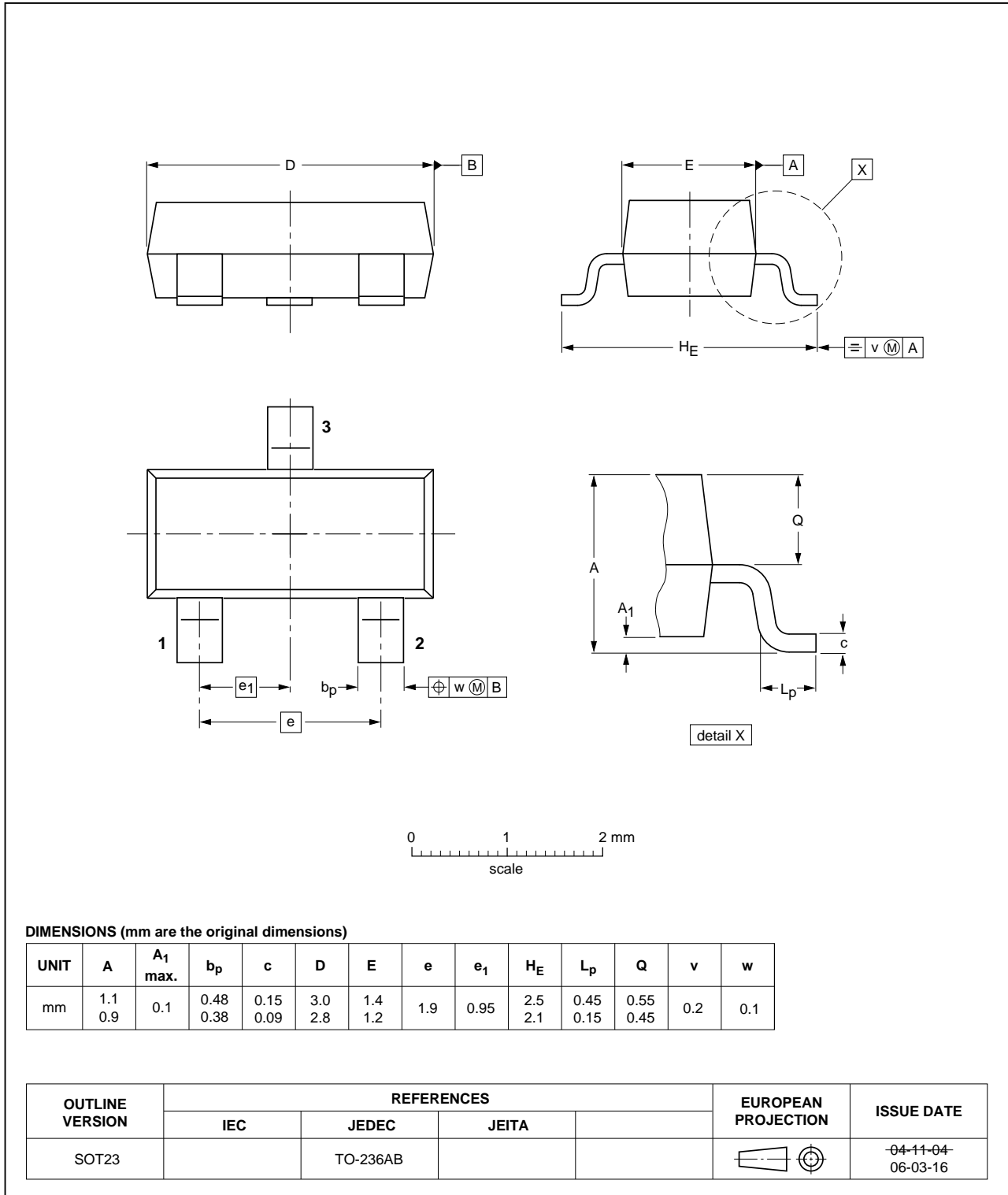
General purpose PIN diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



General purpose PIN diode

BAP50-04

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.

Notes

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General purpose PIN diode

BAP50-04

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Customer notification

This data sheet was changed to reflect the new company name NXP Semiconductors, including new legal definitions and disclaimers. No changes were made to the technical content, except for package outline drawings which were updated to the latest version.

Contact information

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