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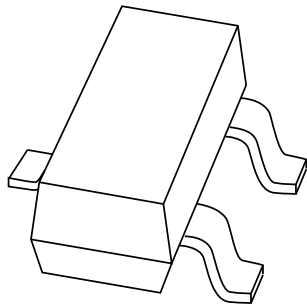
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# DATA SHEET



**BAP50-05**

General purpose PIN diode

Product specification  
Supersedes data of 1999 Feb 01

1999 May 10



# General purpose PIN diode

# BAP50-05

## FEATURES

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

## APPLICATIONS

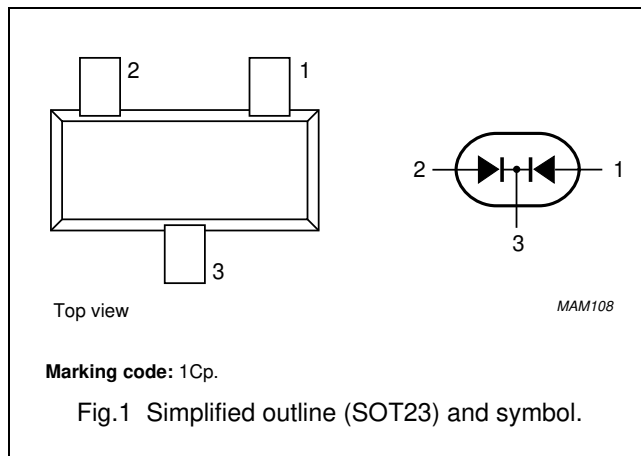
- General RF applications.

## DESCRIPTION

Two planar PIN diodes in common cathode configuration in a SOT23 small plastic SMD package.

## PINNING

PIN	DESCRIPTION
1	anode
2	anode
3	common cathode



## LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
$V_R$	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

BAP50-05

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	TYP.	MAX.	UNIT
<b>Per diode</b>						
$V_F$	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	$I_F = 0.5\text{ mA}$ ; $f = 100\text{ MHz}$ ; note 1	–	25	40	$\Omega$
		$I_F = 1\text{ mA}$ ; $f = 100\text{ MHz}$ ; note 1	–	14	25	$\Omega$
		$I_F = 10\text{ mA}$ ; $f = 100\text{ MHz}$ ; note 1	–	3	5	$\Omega$

**Note**

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

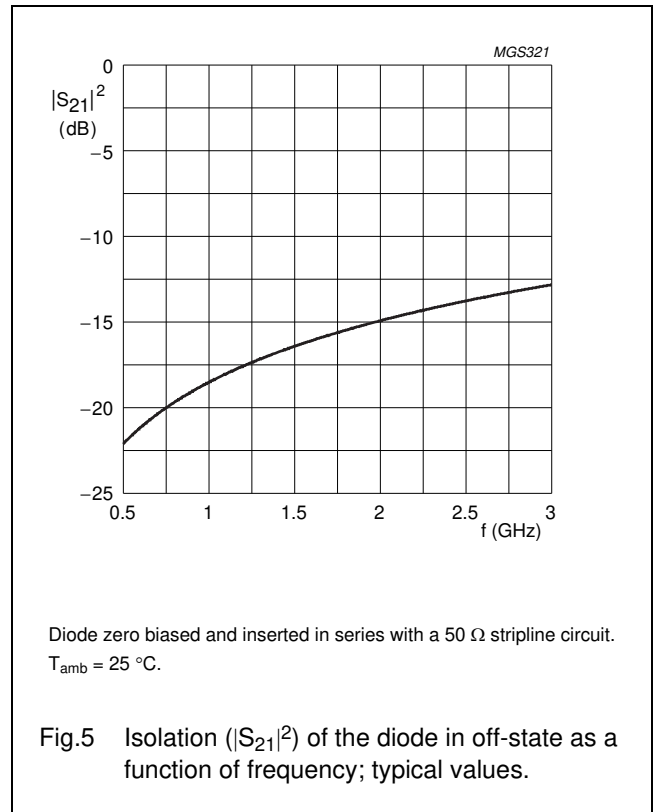
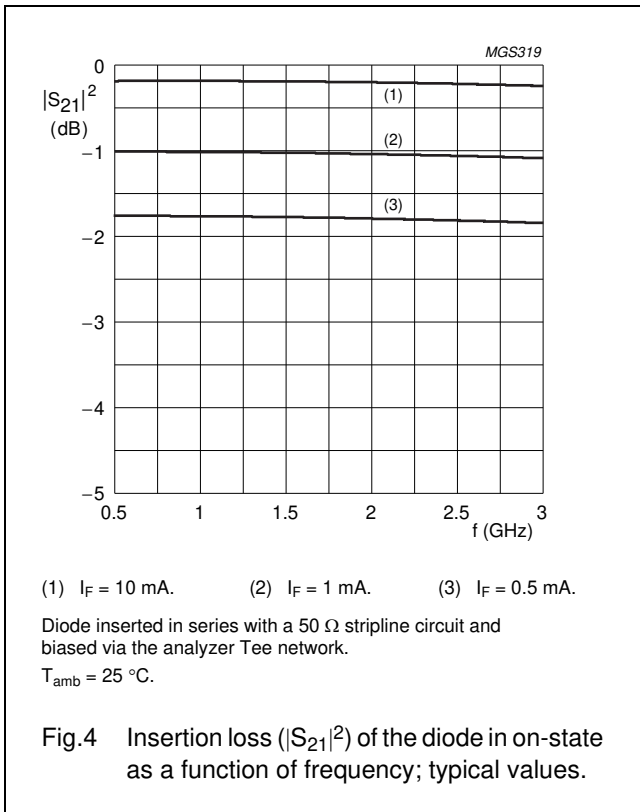
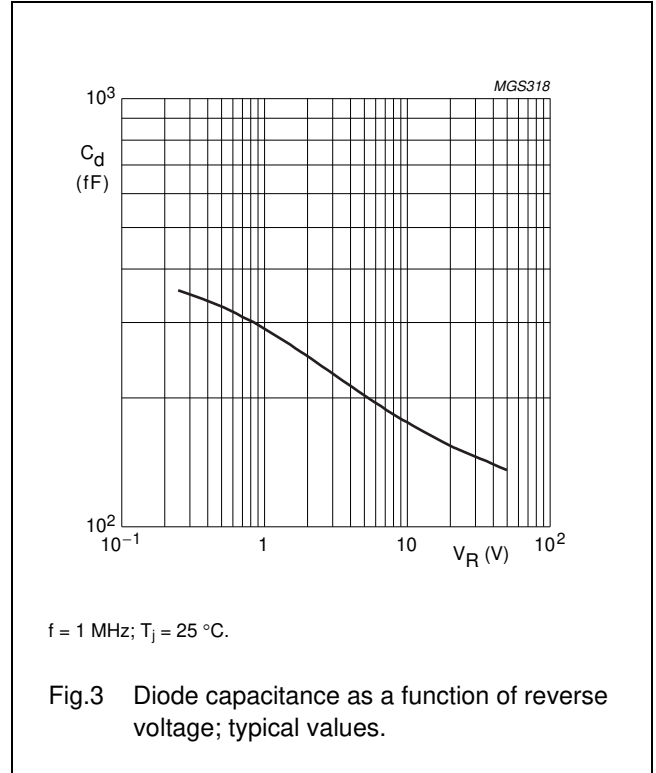
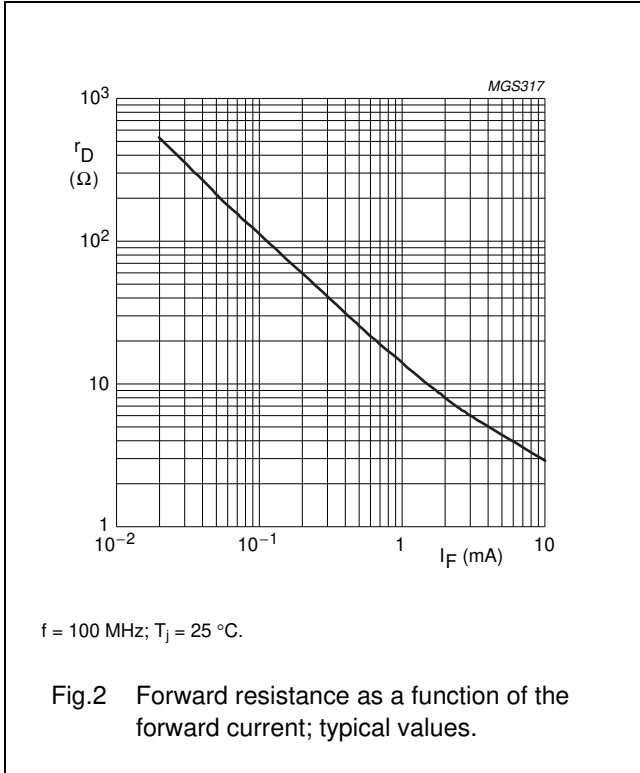
**THERMAL CHARACTERISTICS**

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

General purpose PIN diode

BAP50-05

GRAPHICAL DATA



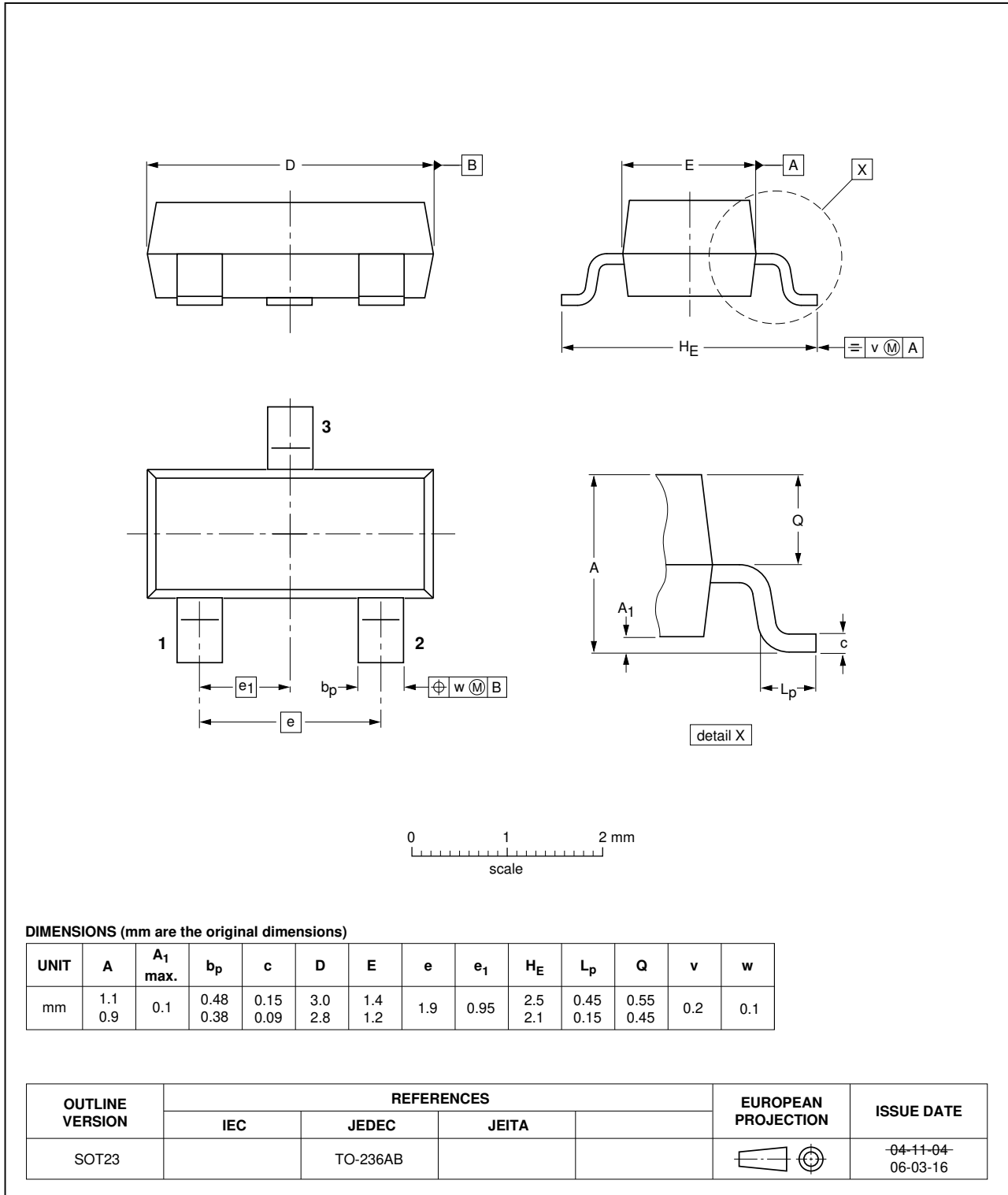
General purpose PIN diode

BAP50-05

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



## General purpose PIN diode

BAP50-05

## DATA SHEET STATUS

DOCUMENT STATUS <sup>(1)</sup>	PRODUCT STATUS <sup>(2)</sup>	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

## BAP50-05

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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**

For additional information please visit: <http://www.nxp.com>

For sales offices addresses send e-mail to: [salesaddresses@nxp.com](mailto:salesaddresses@nxp.com)

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