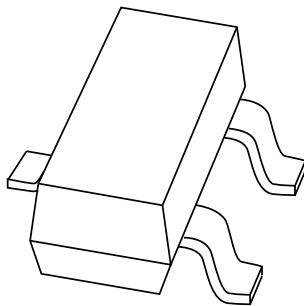


# DATA SHEET



## **BAP64-06** Silicon PIN diode

Product specification  
Supersedes data of 2000 Mar 22

2001 Feb 27



# Silicon PIN diode

# BAP64-06

## FEATURES

- High voltage, current controlled
- RF resistor for RF attenuators and switches
- Low diode capacitance
- Low diode forward resistance
- Low series inductance
- For applications up to 3 GHz.

## APPLICATIONS

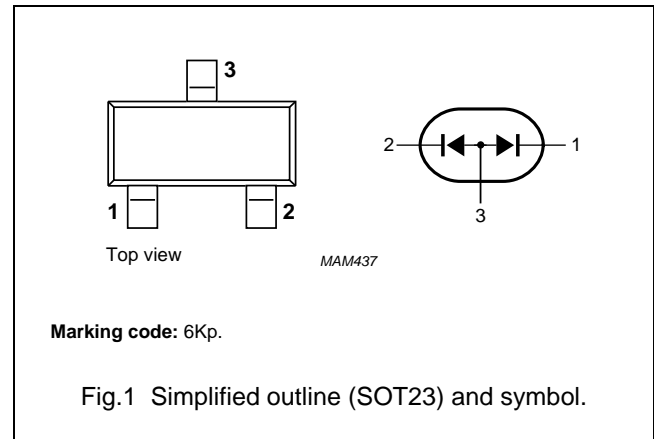
- RF attenuators and switches.

## DESCRIPTION

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

## PINNING

PIN	DESCRIPTION
1	cathode 1
2	cathode 2
3	common connection



## LIMITING VALUES

In accordance with the Absolute Maximum Rating System (IEC 60134).

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
<b>Per diode</b>					
$V_R$	continuous reverse voltage		–	175	V
$I_F$	continuous forward current		–	100	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

## Silicon PIN diode

## BAP64-06

**ELECTRICAL CHARACTERISTICS**T<sub>j</sub> = 25 °C; unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
<b>Per diode</b>					
V <sub>F</sub>	forward voltage	I <sub>F</sub> = 50 mA	0.95	1.1	V
I <sub>R</sub>	reverse current	V <sub>R</sub> = 175 V	–	10	μA
		V <sub>R</sub> = 20 V	–	1	μA
C <sub>d</sub>	diode capacitance	f = 1 MHz V <sub>R</sub> = 0	0.52	–	pF
		V <sub>R</sub> = 1 V	0.37	–	pF
		V <sub>R</sub> = 20 V	0.23	0.35	pF
r <sub>D</sub>	diode forward resistance	f = 100 MHz; note 1			
		I <sub>F</sub> = 0.5 mA	20	40	Ω
		I <sub>F</sub> = 1 mA	10	20	Ω
		I <sub>F</sub> = 10 mA	2	3.8	Ω
		I <sub>F</sub> = 100 mA	0.7	1.35	Ω
τ <sub>L</sub>	charge carrier life time	when switched from I <sub>F</sub> = 10 mA to I <sub>R</sub> = 6 mA; R <sub>L</sub> = 100 Ω; measured at I <sub>R</sub> = 3 mA	1.55	–	μs
L <sub>S</sub>	series inductance		1.4	–	nH

**Note**

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

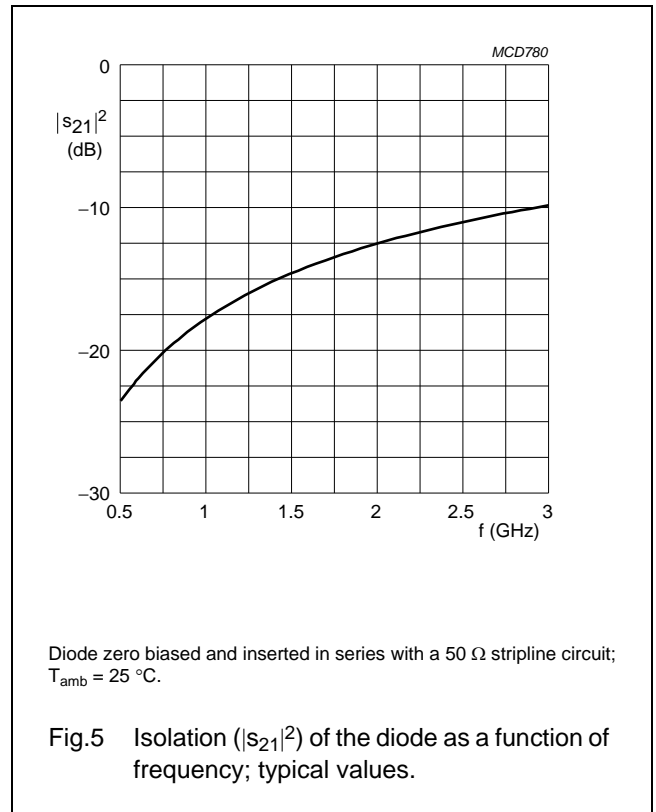
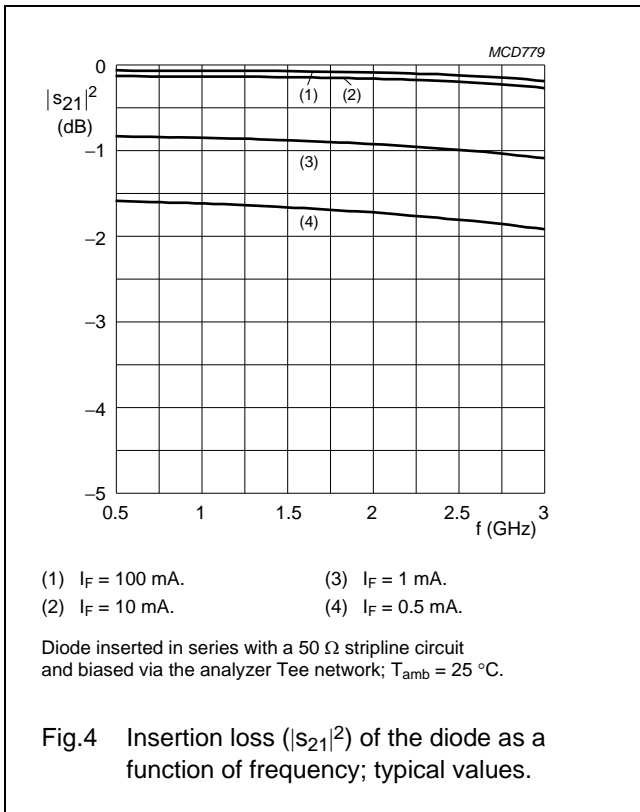
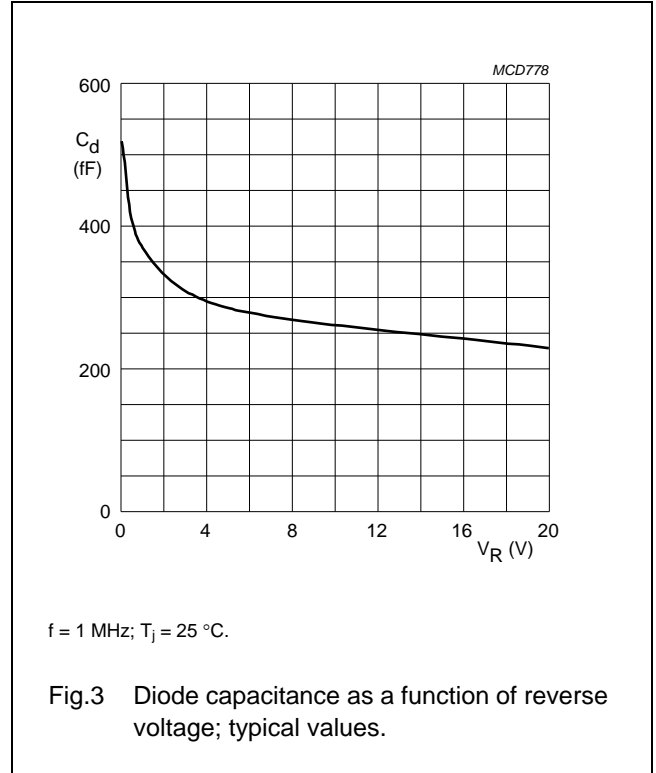
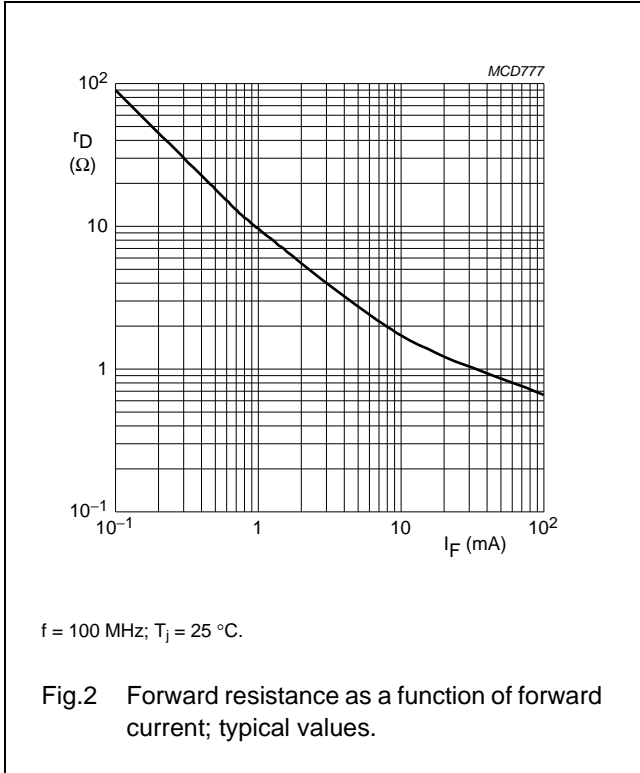
**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
R <sub>th j-s</sub>	thermal resistance from junction to soldering point	220	K/W

Silicon PIN diode

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GRAPHICAL DATA



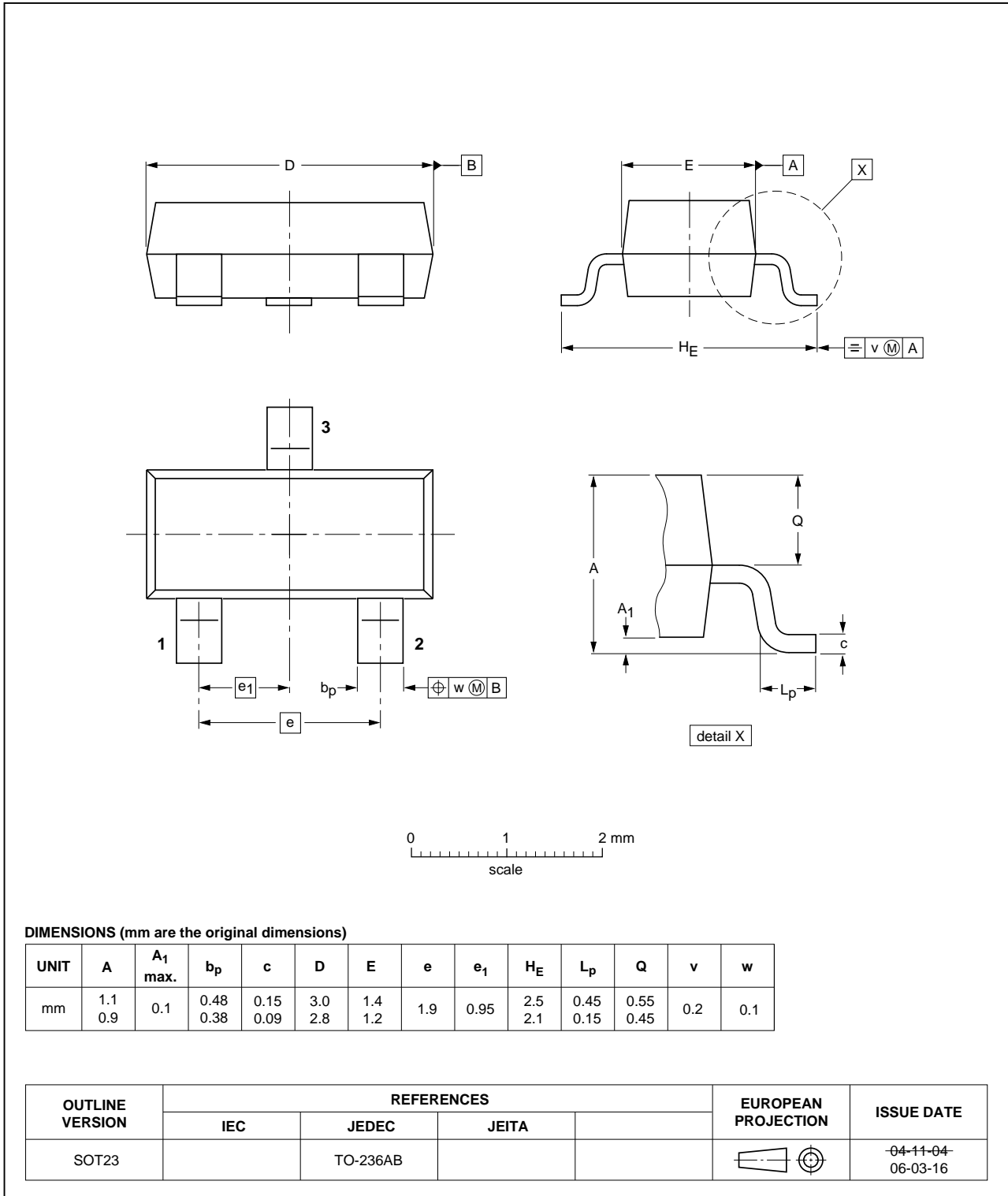
Silicon PIN diode

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PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT23



## Silicon PIN diode

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## 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.

## Notes

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## Silicon PIN diode

## BAP64-06

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## **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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