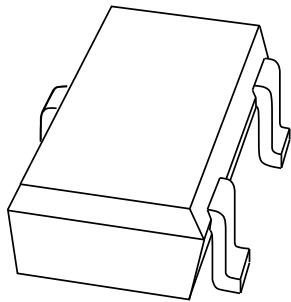


# DATA SHEET



## **BAP64-05W** Silicon PIN diode

Product specification

2000 Jul 13



# Silicon PIN diode

# BAP64-05W

### 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

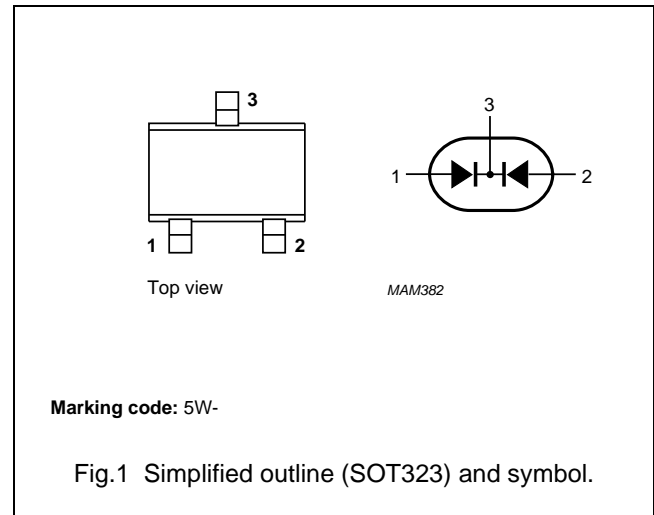
- RF attenuators and switches.

### GENERAL DESCRIPTION

Two planar PIN diodes in common cathode configuration in a SOT323 small SMD plastic package.

### PINNING

PIN	DESCRIPTION
1	anode (a1)
2	anode (a2)
3	common cathode



### 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		–	100	V
$I_F$	continuous forward current		–	100	mA
$P_{tot}$	total power dissipation	$T_s = 90\text{ °C}$	–	240	mW
$T_{stg}$	storage temperature		–65	+150	°C
$T_j$	junction temperature		–65	+150	°C

## Silicon PIN diode

## BAP64-05W

**ELECTRICAL CHARACTERISTICS**

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
<b>Per diode</b>					
$V_F$	forward voltage	$I_F = 50\text{ mA}$	0.95	1.1	V
$I_R$	reverse current	$V_R = 100\text{ V}$	–	10	$\mu\text{A}$
		$V_R = 20\text{ V}$	–	1	$\mu\text{A}$
$C_d$	diode capacitance	$V_R = 0; f = 1\text{ MHz}$	0.52	–	pF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$	0.37	–	pF
		$V_R = 20\text{ V}; f = 1\text{ MHz}$	0.23	0.35	pF
$r_D$	diode forward resistance	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	20	40	$\Omega$
		$I_F = 1\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	10	20	$\Omega$
		$I_F = 10\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	2	3.8	$\Omega$
		$I_F = 100\text{ mA}; f = 100\text{ MHz}; \text{note 1}$	0.7	1.35	$\Omega$
$\tau_L$	charge carrier life time	when switched from $I_F = 10\text{ mA}$ to $I_R = 6\text{ mA}; R_L = 100\ \Omega$ ; measured at $I_R = 3\text{ mA}$	1.55	–	$\mu\text{s}$
$L_S$	series inductance		1.2	–	nH

**Note**

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

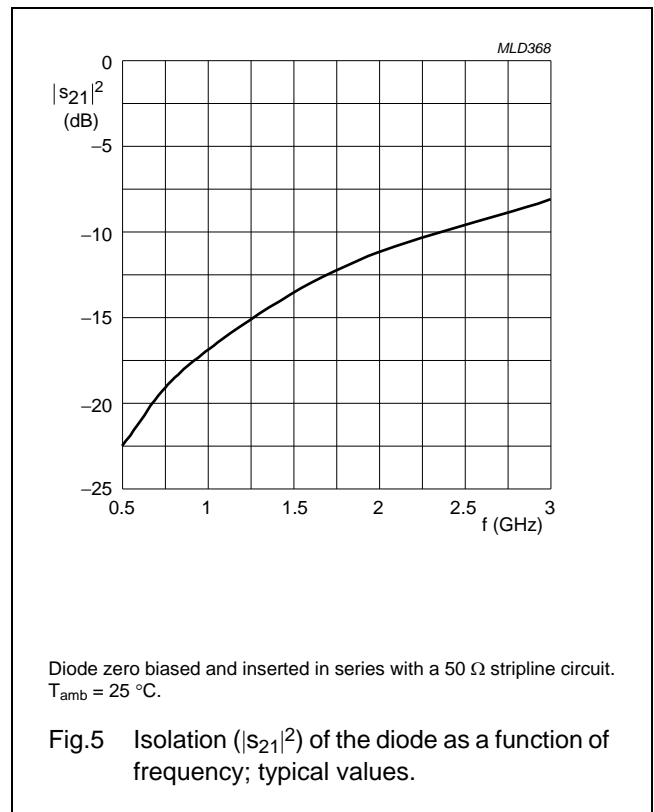
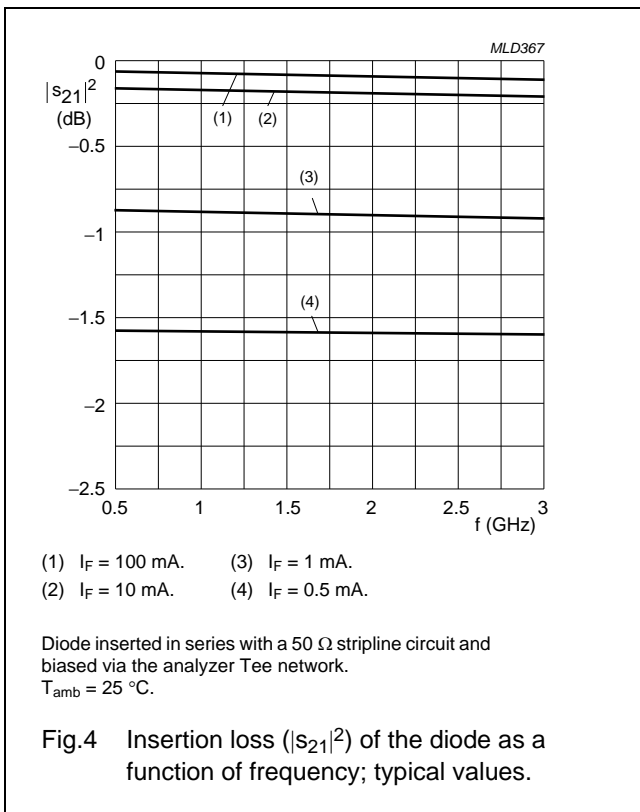
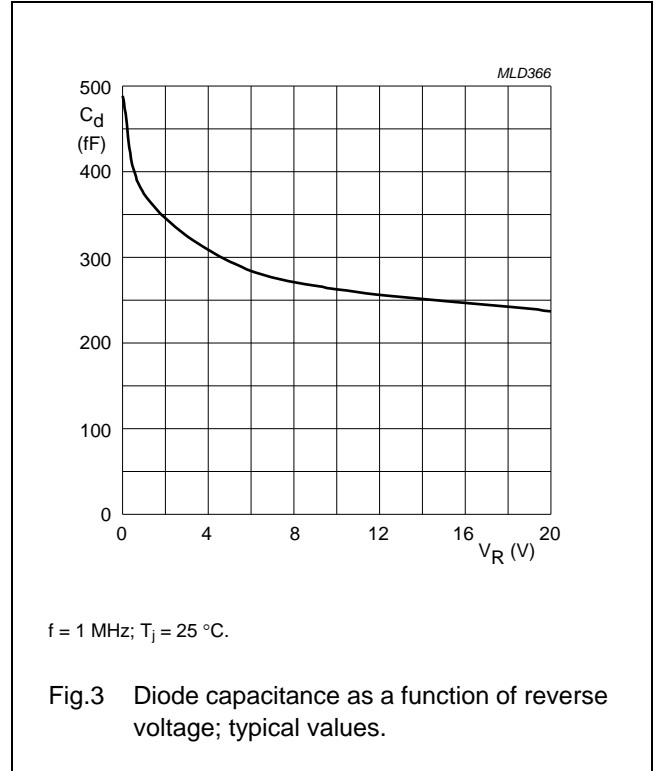
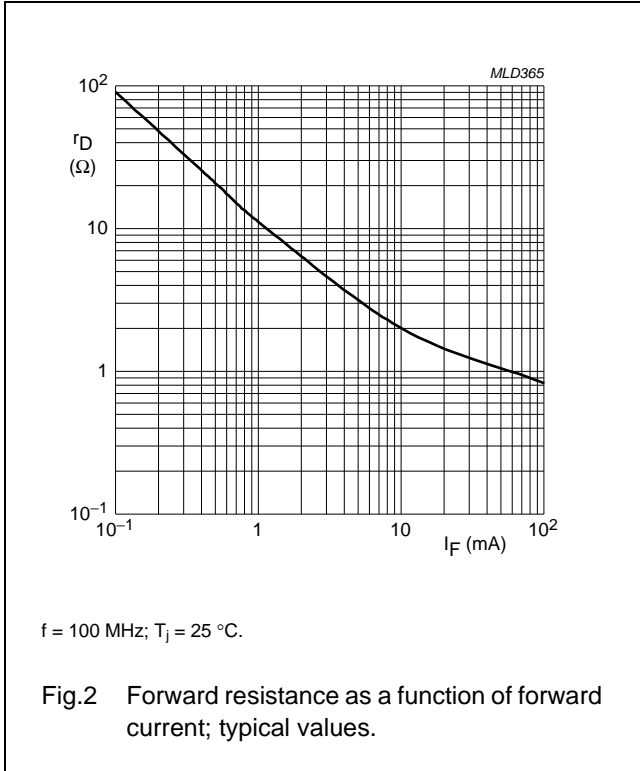
**THERMAL CHARACTERISTICS**

SYMBOL	PARAMETER	VALUE	UNIT
$R_{th\ j-s}$	thermal resistance from junction to soldering point	250	K/W

Silicon PIN diode

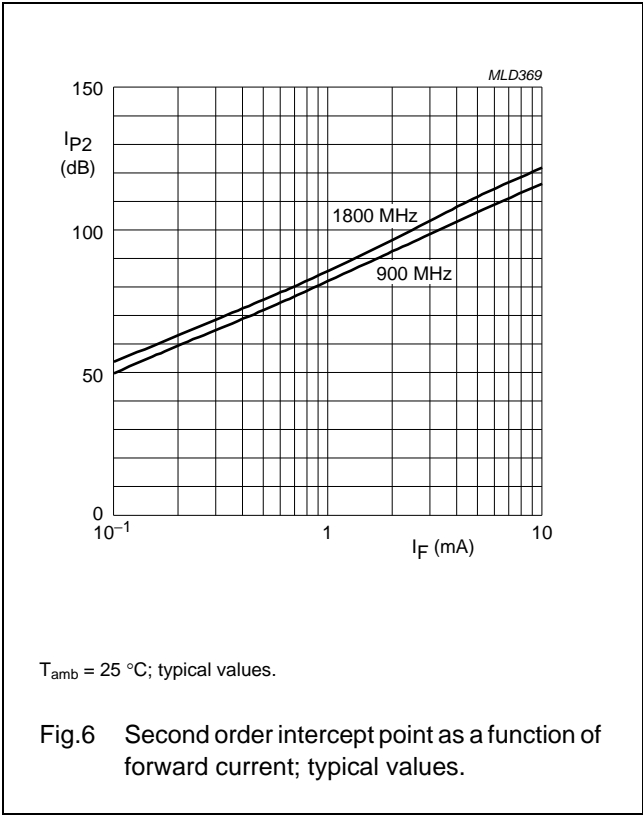
BAP64-05W

GRAPHICAL DATA



Silicon PIN diode

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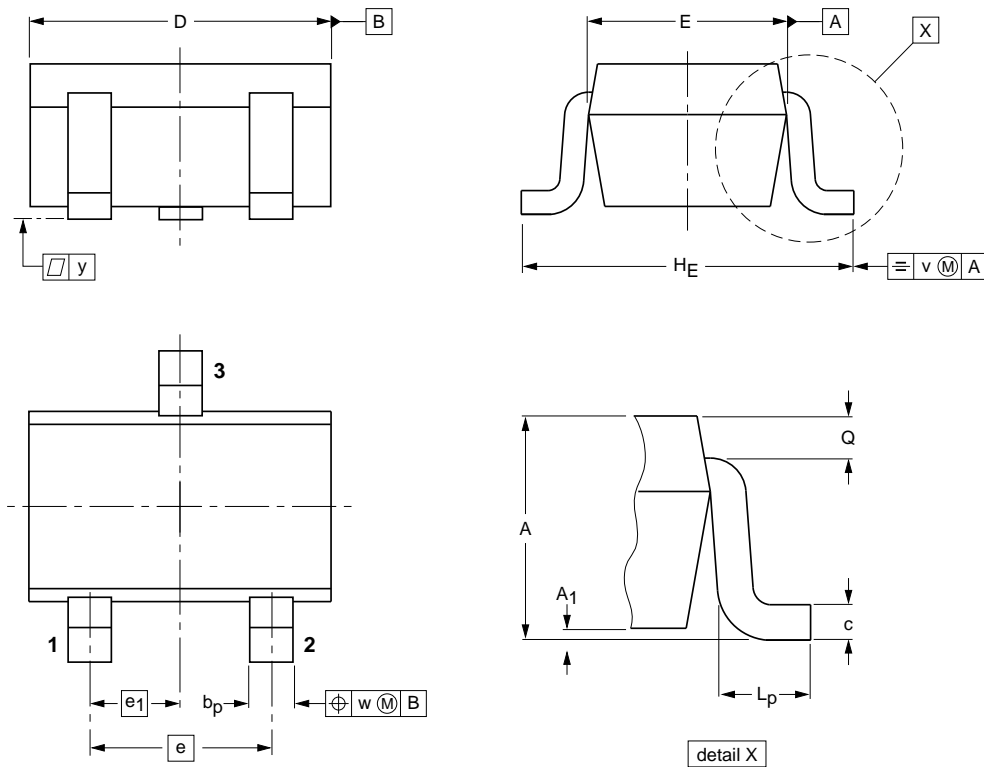
Silicon PIN diode

BAP64-05W

PACKAGE OUTLINE

Plastic surface-mounted package; 3 leads

SOT323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A <sub>1</sub> max	b <sub>p</sub>	c	D	E	e	e <sub>1</sub>	H <sub>E</sub>	L <sub>p</sub>	Q	v	w
mm	1.1 0.8	0.1	0.4 0.3	0.25 0.10	2.2 1.8	1.35 1.15	1.3	0.65	2.2 2.0	0.45 0.15	0.23 0.13	0.2	0.2

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	JEITA			
SOT323			SC-70			<del>04-11-04</del> 06-03-16

## Silicon PIN diode

BAP64-05W

## 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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## Silicon PIN diode

## BAP64-05W

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## **Contact information**

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