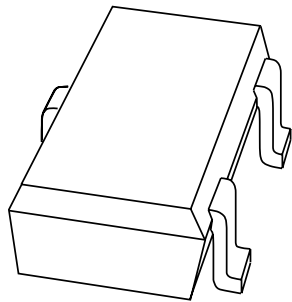


DATA SHEET



BAP64-06W Silicon PIN diode

Product specification
Supersedes data of 2001 Feb 02

2001 Apr 17

Silicon PIN diode

BAP64-06W

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

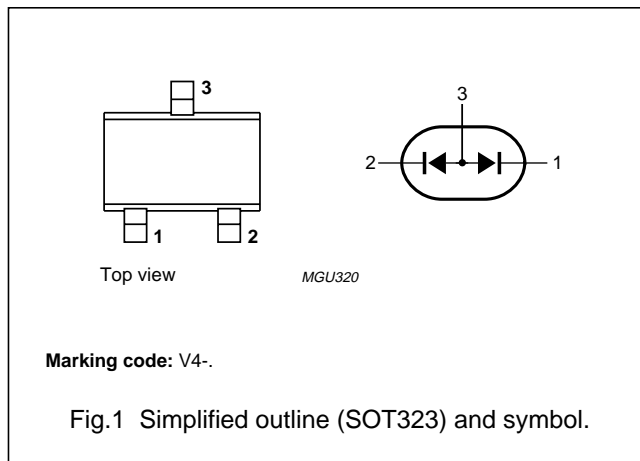
- RF attenuators and switches.

DESCRIPTION

Two planar PIN diodes in common anode configuration in a SOT323 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
Per diode					
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

BAP64-06W

ELECTRICAL CHARACTERISTICST_j = 25 °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
Per diode					
V _F	forward voltage	I _F = 50 mA	0.95	1.1	V
I _R	reverse current	V _R = 100 V	–	10	μA
		V _R = 20 V	–	1	μA
C _d	diode capacitance	V _R = 0; f = 1 MHz	0.52	–	pF
		V _R = 1 V; f = 1 MHz	0.37	–	pF
		V _R = 20 V; f = 1 MHz	0.23	0.35	pF
r _D	diode forward resistance	I _F = 0.5 mA; f = 100 MHz; note 1	20	40	Ω
		I _F = 1 mA; f = 100 MHz; note 1	10	20	Ω
		I _F = 10 mA; f = 100 MHz; note 1	2	3.8	Ω
		I _F = 100 mA; f = 100 MHz; note 1	0.7	1.35	Ω
S ₂₁ ²	isolation	V _R = 0; f = 900 MHz	18.5	–	dB
		V _R = 0; f = 1800 MHz	13.5	–	dB
		V _R = 0; f = 2450 MHz	10.9	–	dB
S ₂₁ ²	insertion loss	I _F = 0.5 mA; f = 900 MHz	1.86	–	dB
		I _F = 0.5 mA; f = 1800 MHz	2.06	–	dB
		I _F = 0.5 mA; f = 2450 MHz	2.23	–	dB
S ₂₁ ²	insertion loss	I _F = 1 mA; f = 900 MHz	1.01	–	dB
		I _F = 1 mA; f = 1800 MHz	1.06	–	dB
		I _F = 1 mA; f = 2450 MHz	1.10	–	dB
S ₂₁ ²	insertion loss	I _F = 10 mA; f = 900 MHz	0.19	–	dB
		I _F = 10 mA; f = 1800 MHz	0.21	–	dB
		I _F = 10 mA; f = 2450 MHz	0.27	–	dB
S ₂₁ ²	insertion loss	I _F = 100 mA; f = 900 MHz	0.08	–	dB
		I _F = 100 mA; f = 1800 MHz	0.10	–	dB
		I _F = 100 mA; f = 2450 MHz	0.16	–	dB
τ _L	charge carrier life time	when switched from I _F = 10 mA to I _R = 6 mA; R _L = 100 Ω; measured at I _R = 3 mA	1.55	–	μs
L _S	series inductance	I _F = 100 mA; f = 100 MHz	1.6	–	nH

Note

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

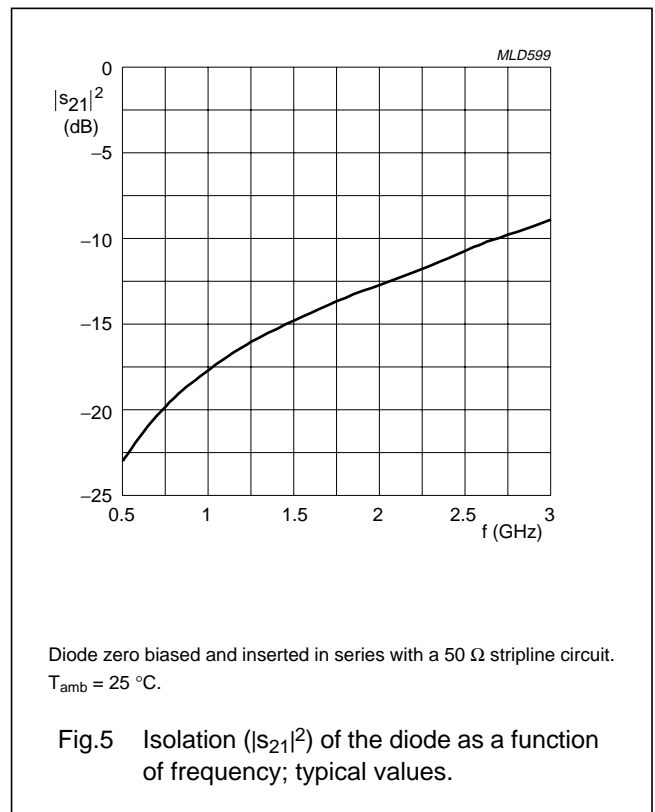
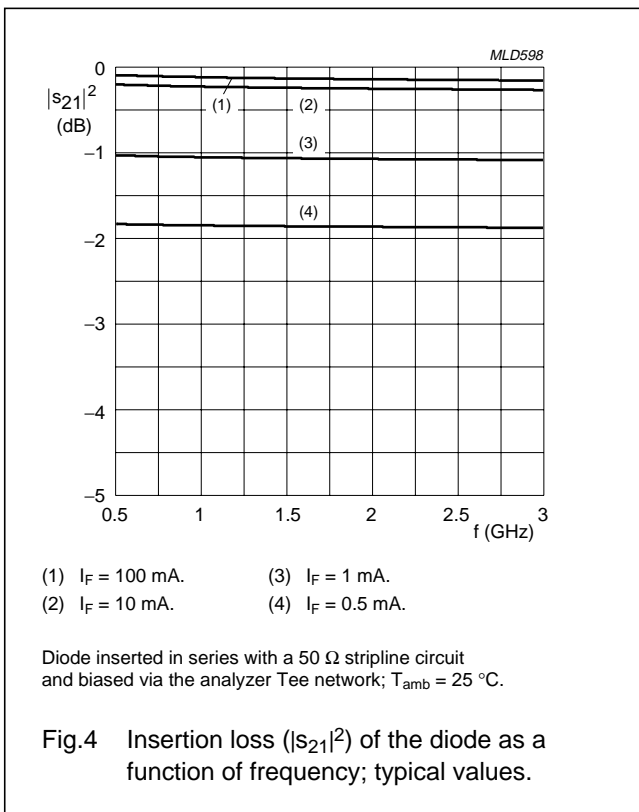
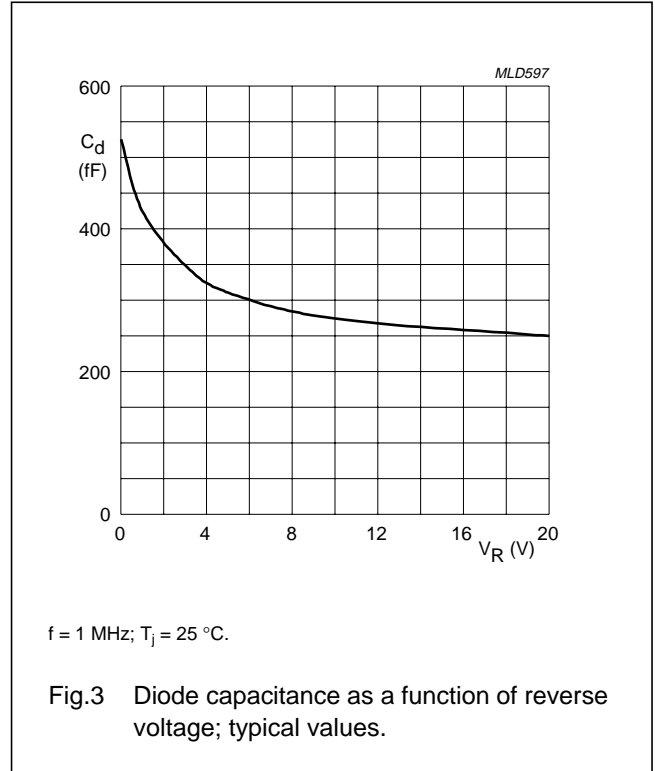
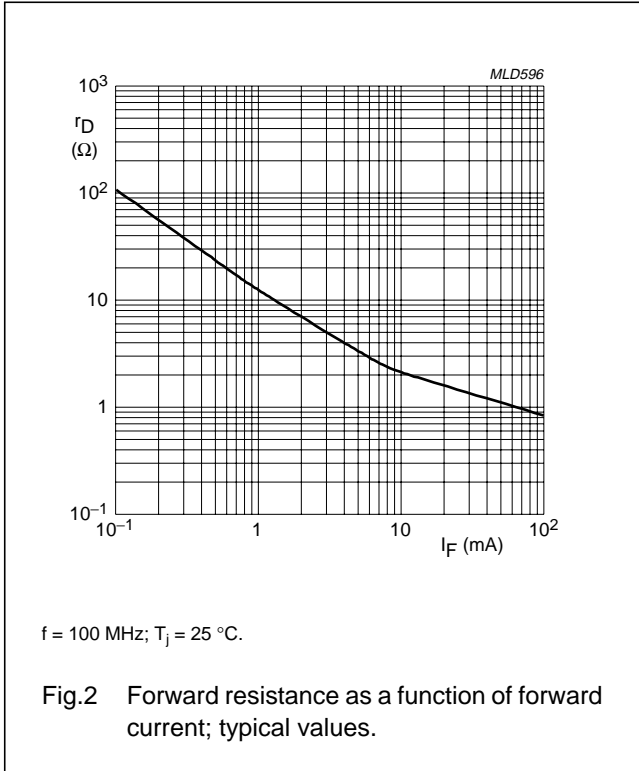
THERMAL CHARACTERISTICS

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

Silicon PIN diode

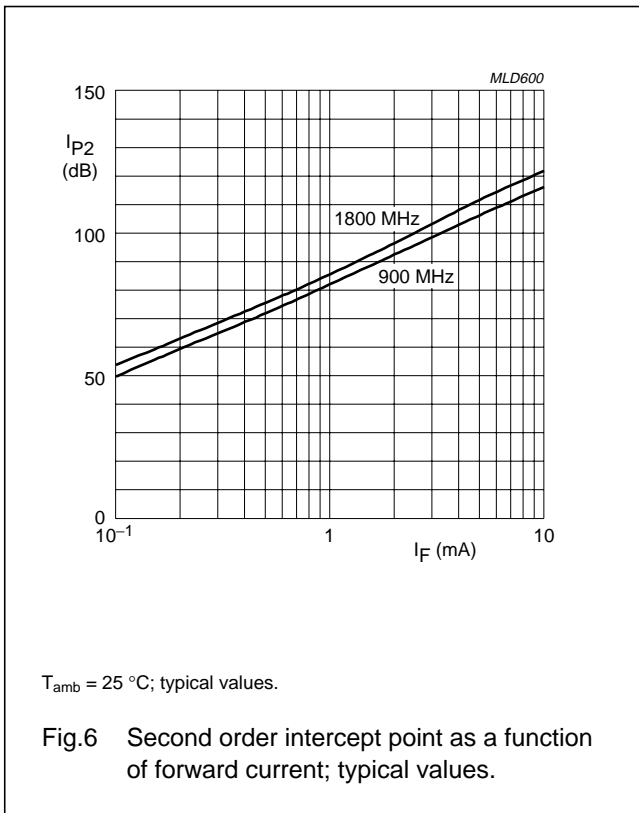
BAP64-06W

GRAPHICAL DATA



Silicon PIN diode

BAP64-06W



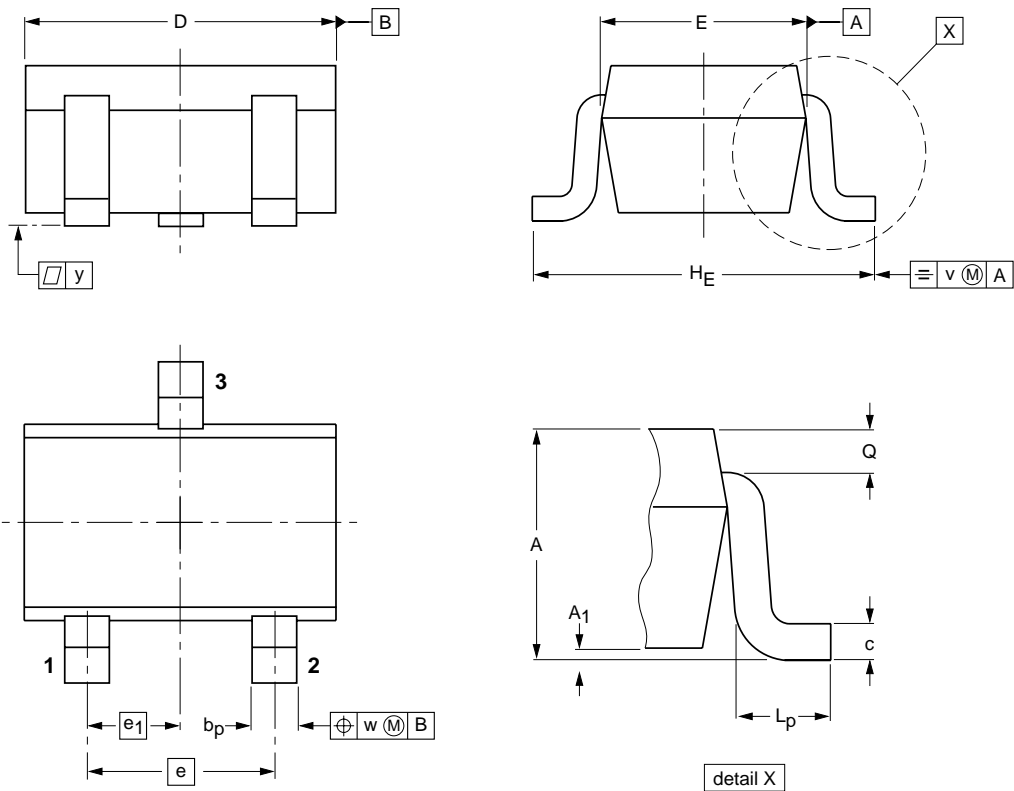
Silicon PIN diode

BAP64-06W

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max	b _p	c	D	E	e	e ₁	H _E	L _p	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	EIAJ			
SOT323			SC-70			97-02-28

Silicon PIN diode

BAP64-06W

DATA SHEET STATUS

DATA SHEET STATUS ⁽¹⁾	PRODUCT STATUS ⁽²⁾	DEFINITIONS
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Preliminary data	Qualification	This data sheet contains data from the preliminary specification. Supplementary data will be published at a later date. Philips Semiconductors reserves the right to change the specification without notice, in order to improve the design and supply the best possible product.
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Printed in The Netherlands

613516/02/pp8

Date of release: 2001 Apr 17

Document order number: 9397 750 08185

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