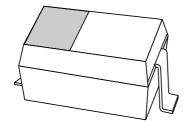
DISCRETE SEMICONDUCTORS

DATA SHEET



BAP70-03 Silicon PIN diode

Product specification Supersedes data of 2002 Jul 02 2002 Aug 06





Silicon PIN diode BAP70-03

FEATURES

- High voltage, current controlled RF resistor for attenuators
- Low diode capacitance
- · Very low series inductance.

APPLICATIONS

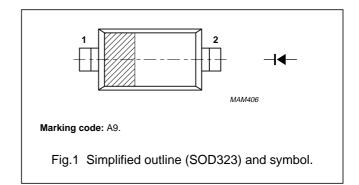
- RF attenuators
- (SAT)TV
- Car radio.

DESCRIPTION

Planar PIN diode in a SOD323 small SMD plastic package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



LIMITING VALUES

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	MAX.	UNIT
V _R	continuous reverse voltage		_	50	V
IF	continuous forward current		_	100	mA
P _{tot}	total power dissipation	T _s = 90 °C	_	500	mW
T _{stg}	storage temperature		-65	+150	°C
Tj	junction temperature		-65	+150	°C

ELECTRICAL CHARACTERISTICS

 $T_i = 25$ °C unless otherwise specified.

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V _F	forward voltage	I _F = 50 mA	0.9	1.1	V
I _R	reverse leakage current	V _R = 30 V	_	20	nA
C _d	diode capacitance	V _R = 0 V; f = 1 MHz	570	_	fF
		V _R = 1 V; f = 1 MHz	400	_	fF
		V _R = 5 V; f = 1 MHz	270	_	fF
		V _R = 20 V; f = 1 MHz	200	250	fF
r _D	diode forward resistance	I _F = 0.5 mA; f = 100 MHz	77	100	Ω
		I _F = 1 mA; f = 100 MHz	40	50	Ω
		I _F = 10 mA; f = 100 MHz	5.4	7	Ω
		I _F = 100 mA; f = 100 MHz	1.4	1.9	Ω
τ∟	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	1.25	_	μs
L _S	series inductance	I _F = 100 mA; f = 100 MHz	1.5	_	nH

Silicon PIN diode BAP70-03

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	VALUE	UNIT
R _{th j-s}	thermal resistance from junction to soldering point	120	K/W

GRAPHICAL DATA

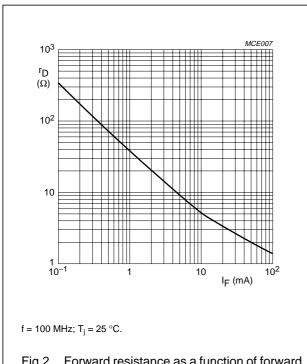


Fig.2 Forward resistance as a function of forward current; typical values.

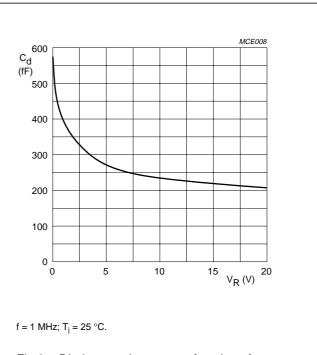


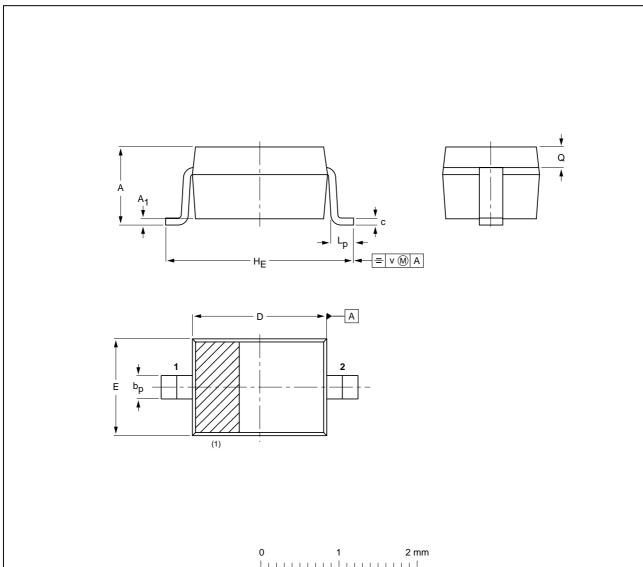
Fig.3 Diode capacitance as a function of reverse voltage; typical values.

Silicon PIN diode BAP70-03

PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	bp	С	D	E	HE	Lp	Q	v
mm	1.1 0.8	+ 0.05 - 0.05		0.25 0.10	1.8 1.6	1.35 1.15	2.7 2.3	0.45 0.15	0.25 0.15	0.2

Note

1. The marking bar indicates the cathode.

OUTLINE	NE REFERENCES				EUROPEAN	ISSUE DATE	
VERSION	IEC	JEDEC	EIAJ		PROJECTION ISSUE DATE		
SOD323			SC-76			98-09-14 99-09-13	

scale

Silicon PIN diode BAP70-03

DATA SHEET STATUS

DATA SHEET STATUS(1)	PRODUCT STATUS ⁽²⁾	DEFINITIONS
Objective data	Development	This data sheet contains data from the objective specification for product development. Philips Semiconductors reserves the right to change the specification in any manner without notice.
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Silicon PIN diode BAP70-03

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Silicon PIN diode BAP70-03

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Printed in The Netherlands

613516/03/pp8

Date of release: 2002 Aug 06

Document order number: 9397 750 10094

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