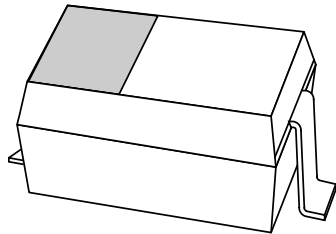


DATA SHEET



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

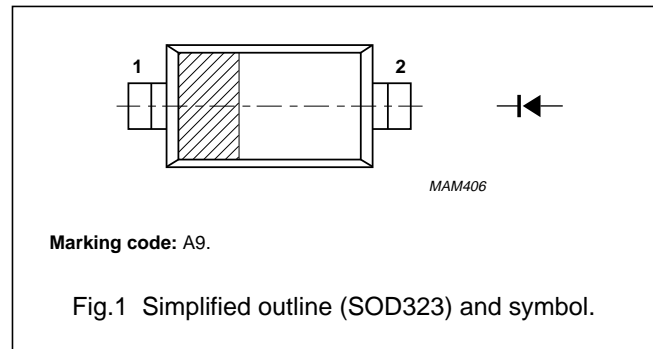
- RF attenuators
- (SAT)TV
- Car radio.

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
I_F	continuous forward current		–	100	mA
P_{tot}	total power dissipation	$T_s = 90\text{ }^\circ\text{C}$	–	500	mW
T_{stg}	storage temperature		–65	+150	$^\circ\text{C}$
T_j	junction temperature		–65	+150	$^\circ\text{C}$

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	TYP.	MAX.	UNIT
V_F	forward voltage	$I_F = 50\text{ mA}$	0.9	1.1	V
I_R	reverse leakage current	$V_R = 30\text{ V}$	–	20	nA
C_d	diode capacitance	$V_R = 0\text{ V}; f = 1\text{ MHz}$	570	–	fF
		$V_R = 1\text{ V}; f = 1\text{ MHz}$	400	–	fF
		$V_R = 5\text{ V}; f = 1\text{ MHz}$	270	–	fF
		$V_R = 20\text{ V}; f = 1\text{ MHz}$	200	250	fF
r_D	diode forward resistance	$I_F = 0.5\text{ mA}; f = 100\text{ MHz}$	77	100	Ω
		$I_F = 1\text{ mA}; f = 100\text{ MHz}$	40	50	Ω
		$I_F = 10\text{ mA}; f = 100\text{ MHz}$	5.4	7	Ω
		$I_F = 100\text{ mA}; f = 100\text{ MHz}$	1.4	1.9	Ω
τ_L	charge carrier life time	when switched from $I_F = 10\text{ mA}$ to $I_R = 6\text{ mA}; R_L = 100\text{ }\Omega$; measured at $I_R = 3\text{ mA}$	1.25	–	μs
L_S	series inductance	$I_F = 100\text{ mA}; f = 100\text{ MHz}$	1.5	–	nH

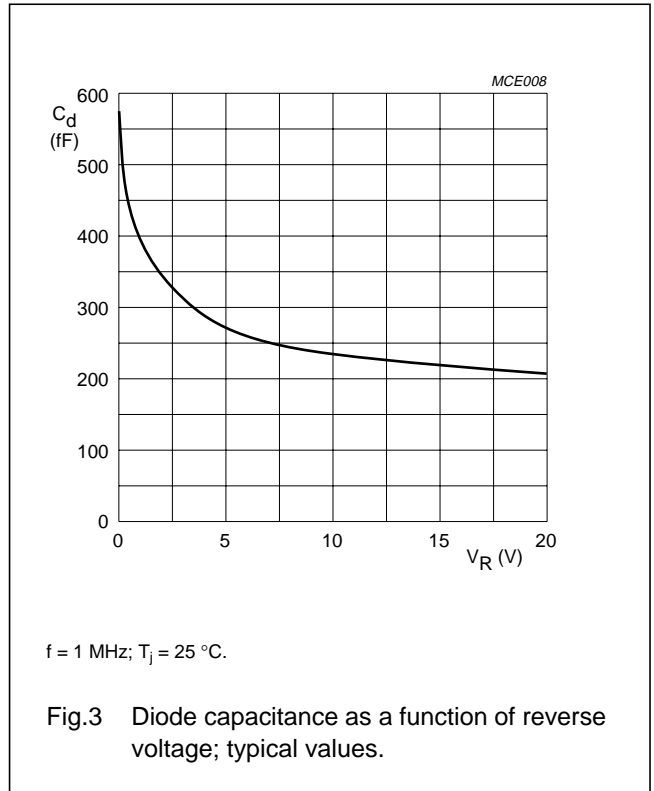
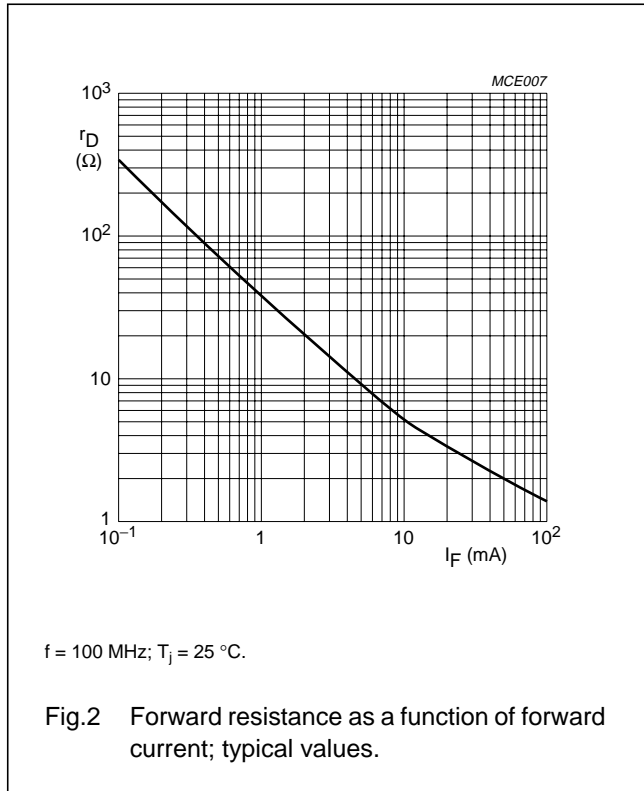
Silicon PIN diode

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THERMAL CHARACTERISTICS

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

GRAPHICAL DATA



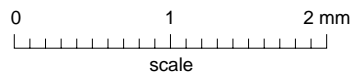
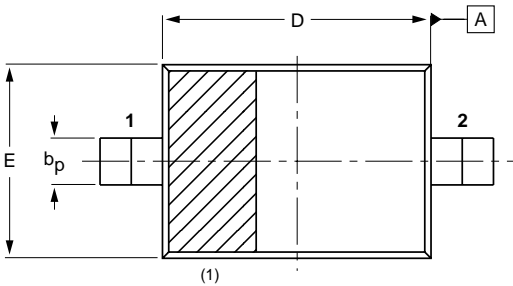
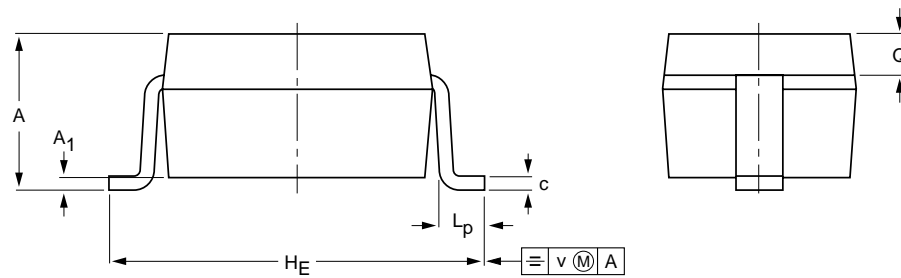
Silicon PIN diode

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PACKAGE OUTLINE

Plastic surface mounted package; 2 leads

SOD323



DIMENSIONS (mm are the original dimensions)

UNIT	A	A ₁ max.	b _p	c	D	E	H _E	L _p	Q	v
mm	1.1 0.8	+0.05 -0.05	0.40 0.25	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 VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOD323			SC-76			98-09-14 99-09-13

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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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NOTES

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NOTES

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