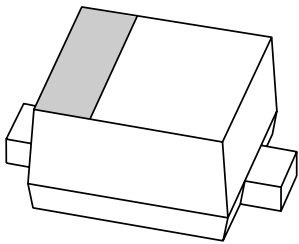


DATA SHEET



BAP70-03 Silicon PIN diode

Preliminary specification

2002 Jun 26

Silicon PIN diode

BAP70-03

FEATURES

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

APPLICATIONS

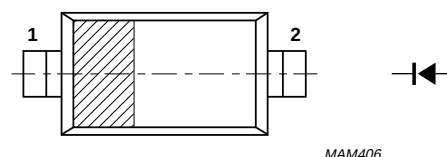
- RF attenuators
- (SAT) TV applications.

DESCRIPTION

Planar PIN diode in a SOD323 small plastic SMD package.

PINNING

PIN	DESCRIPTION
1	cathode
2	anode



MAM406

Marking code: A9

Fig.1 Simplified outline (SOD323) and symbol.

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	$T_s = 90\text{ °C}$	–	500	mW
T_{stg}	storage temperature		–65	+150	°C
T_j	junction temperature		–65	+150	°C

ELECTRICAL CHARACTERISTICS

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

SYMBOL	PARAMETER	CONDITIONS	MIN.	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

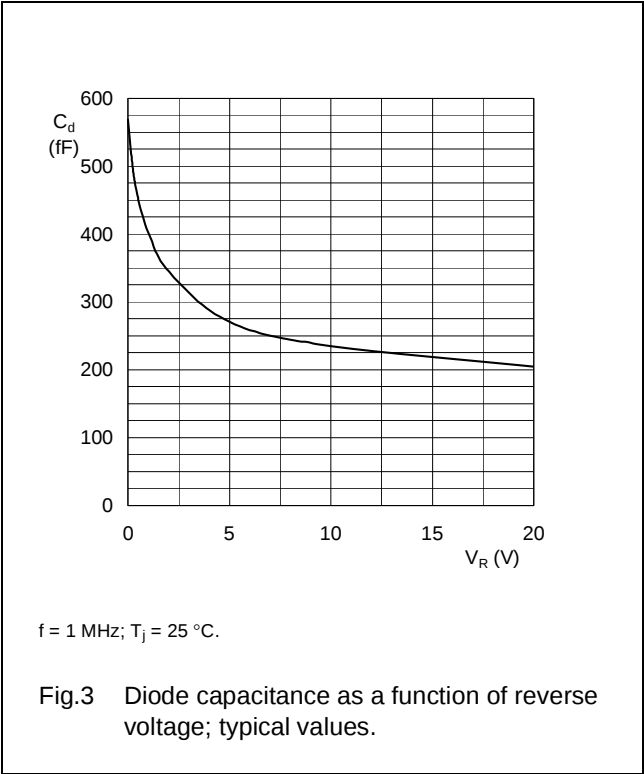
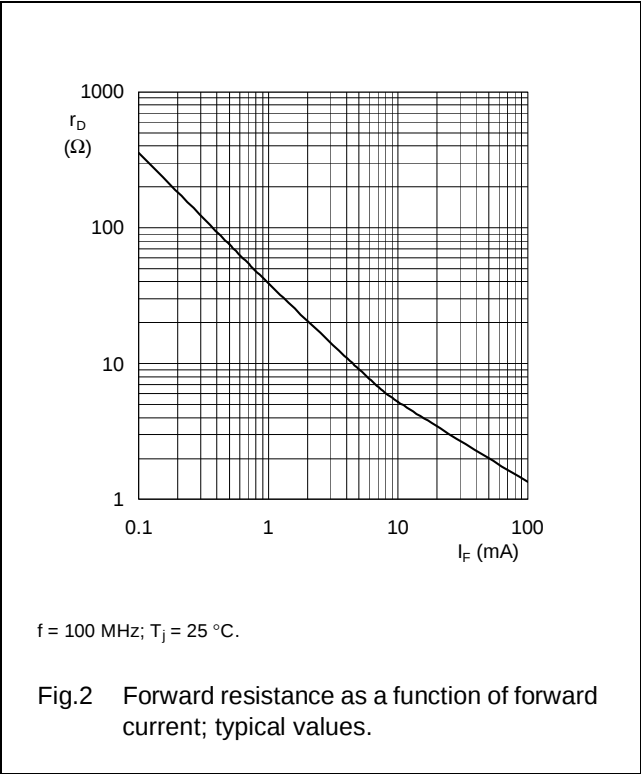
Silicon PIN diode

BAP70-03

THERMAL CHARACTERISTICS

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

GRAPHICAL DATA



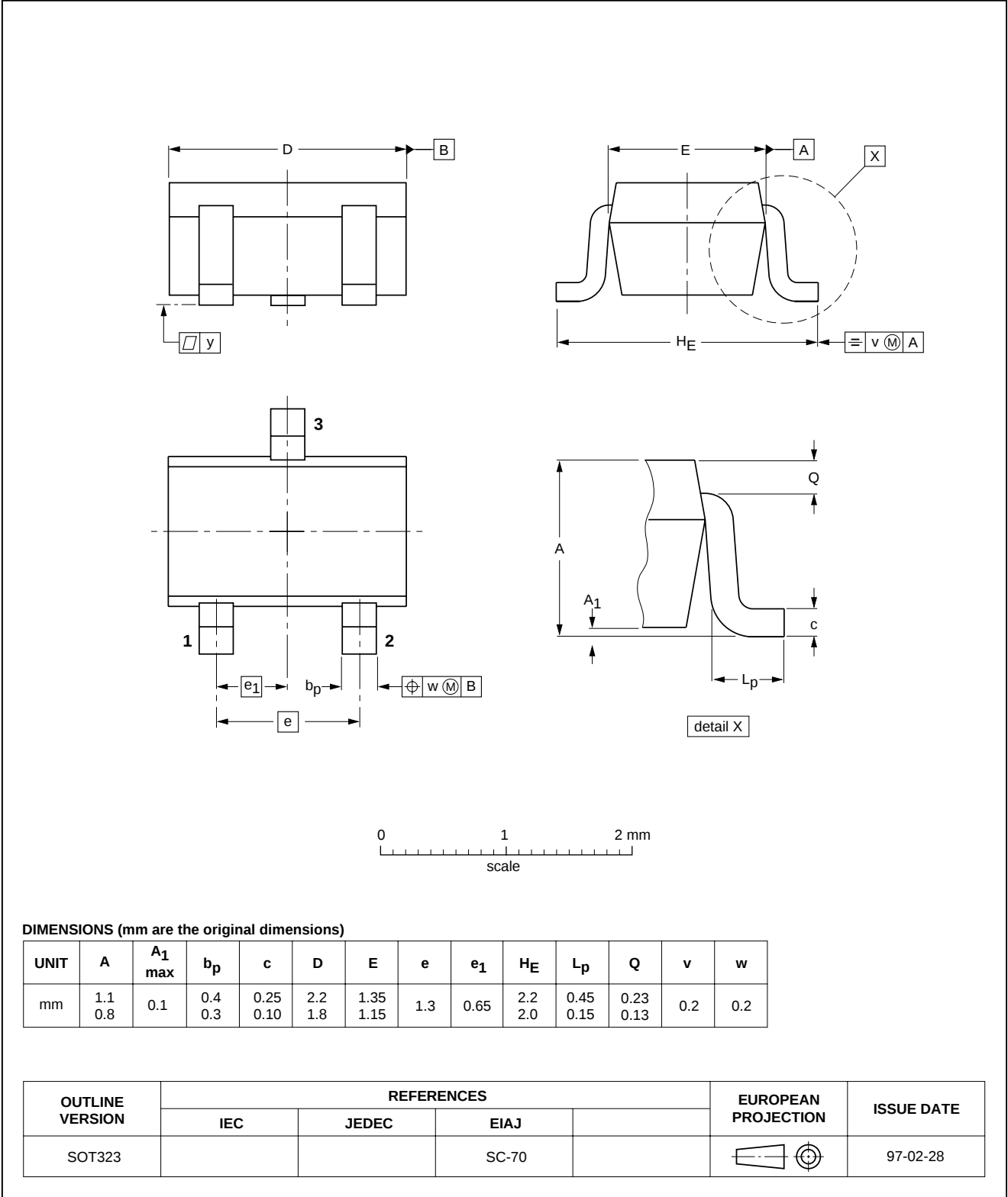
Silicon PIN diode

BAP70-03

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT323



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.
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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