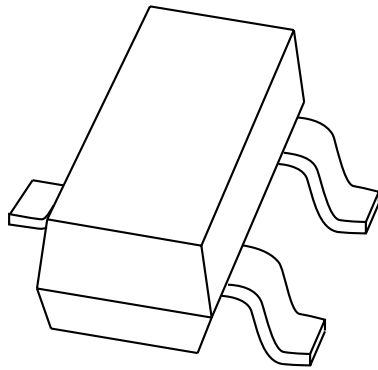


DATA SHEET



PSSI3120CA PECL termination

Product specification

2001 Jul 19

PECL termination

PSSI3120CA

FEATURES

- Single channel PECL termination in a three pin SOT23 package
- ESD protection >2 kV
- Undershoot protection
- High capacitance range.

APPLICATIONS

Enhanced high speed clock line signal integrity for the following:

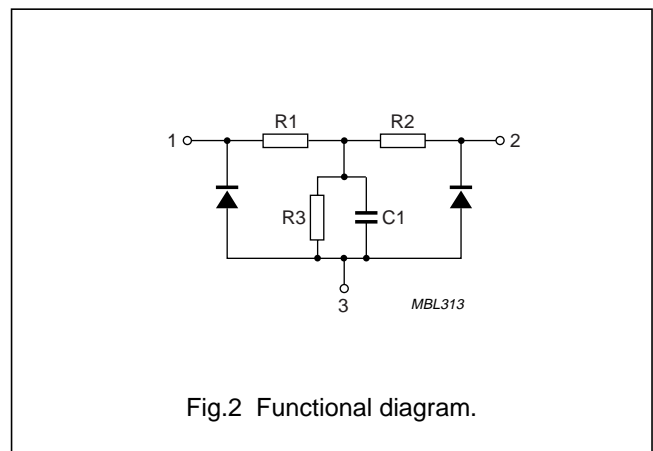
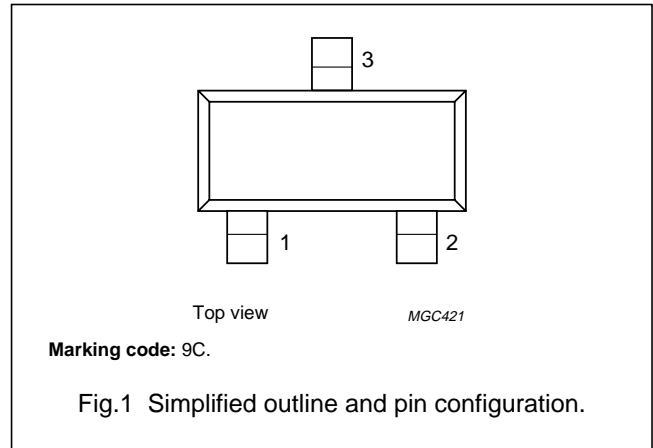
- Workstations
- Desktop PCs
- Notebook PCs.

DESCRIPTION

Single channel, RC-type positive emitter-coupled logic (PECL) clock termination with integrated diodes, providing electrostatic discharge (ESD) protection up to 2 kV. Using thin film-on-silicon technology the PSSI3120CA integrates three resistors, one capacitor and two diodes in a SOT23 package. The capacitor is protected from damage due to ESD by the diodes. The product is designed to enhance signal integrity in clock distribution networks. Additionally, it can be used as a termination in digital transmission lines where its inherent ESD protection helps maintain signal integrity by reducing undershoots.

PINNING - SOT23

PIN	DESCRIPTION
1	input/output
2	input/output
3	ground



PECL termination

PSSI3120CA

LIMITING VALUES

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

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
V	operating voltage	0	5	V
I _F	continuous forward current	–	10	mA
I _{FRM}	repetitive peak forward current	–	50	mA
T _{stg}	storage temperature	–65	+150	°C
T _j	junction temperature	–	150	°C

ELECTRICAL CHARACTERISTICS

T_{amb} = 25 °C unless other specified.

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
R1, R2	resistance	45	55	Ω
R3	resistance	41.7	51	Ω
C1	capacitance	120	180	pF

THERMAL CHARACTERISTICS

SYMBOL	PARAMETER	CONDITIONS	VALUE	UNIT
R _{th j-a}	thermal resistance from junction to ambient	note 1	500	K/W

Note

1. Refer to SOT23 standard mounting conditions.

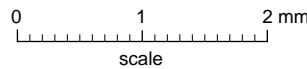
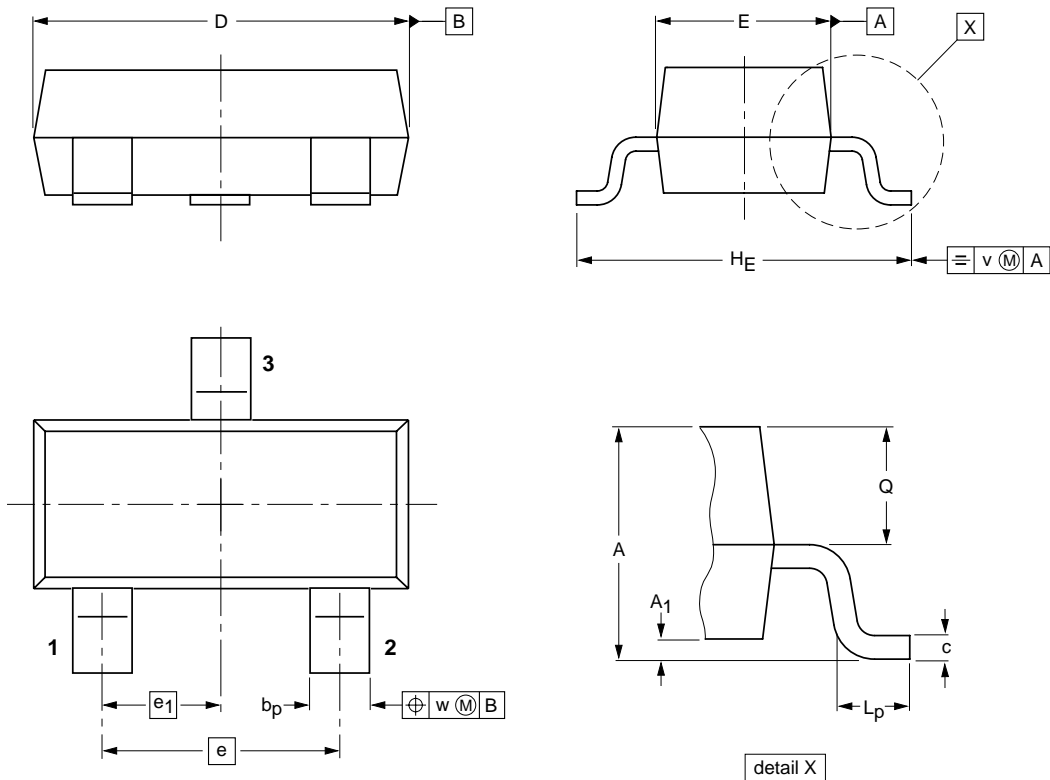
PECL termination

PSSI3120CA

PACKAGE OUTLINE

Plastic surface mounted package; 3 leads

SOT23



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 0.9	0.1	0.48 0.38	0.15 0.09	3.0 2.8	1.4 1.2	1.9	0.95	2.5 2.1	0.45 0.15	0.55 0.45	0.2	0.1

OUTLINE VERSION	REFERENCES				EUROPEAN PROJECTION	ISSUE DATE
	IEC	JEDEC	EIAJ			
SOT23		TO-236AB				97-02-28- 99-09-13

PECL termination

PSSI3120CA

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.
Product data	Production	This data sheet contains data from the product specification. Philips Semiconductors reserves the right to make changes at any time in order to improve the design, manufacturing and supply. Changes will be communicated according to the Customer Product/Process Change Notification (CPCN) procedure SNW-SQ-650A.

Notes

1. Please consult the most recently issued data sheet before initiating or completing a design.
2. The product status of the device(s) described in this data sheet may have changed since this data sheet was published. The latest information is available on the Internet at URL <http://www.semiconductors.philips.com>.

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Limiting values definition — Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 60134). Stress above one or more of the limiting values may cause permanent damage to the device. These are stress ratings only and operation of the device at these or at any other conditions above those given in the Characteristics sections of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.

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PECL termination

PSSI3120CA

NOTES

PECL termination

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NOTES

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