

SHORT FORM SPECIFICATION

HT RC120 02B **HITAGTMCo-processor**

Short Form Specification
Revision 1.0

September 2000

HITAGTMCo-processor

HT RC120 02B

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Note: Specification may be changed without further notice.

HITAG™Co-processor

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1 DESCRIPTION

The HITAG security co-processor performs all encryption computations needed to access transponders and cards based on the HITAG 1 resp. HITAG 2 IC in secure mode. Usually the HTRC120 is used in combination with the HTRC110, which comprises the complete analogue part of a read/write device.

1.1 Access to related extended data sheet

The short form data sheet shall inform about the basic features of the product and about the mechanical dimensions only. Due to our marketing strategy to supply reader manufacturers with an IC based toolset for HITAG readers the HTRC120 is available without any license fees. However, because of the security aspect of this product Philips tracks the delivery of the extended Data Sheet HTRC120, which includes all additional necessary information to run the HTRC120.

In order to gain access to the extended data sheet, please contact your local sales office in order to sign an Non Disclosure Agreement.

2 FEATURES

2.1 Purpose of the HITAG™Co-processor

The HITAG co-processor is designed to perform all computations of the read/write device in a system, where HITAG1/HITAG2 transponders are used. The following items represent the fundamental framework of the security concept:

- data encryption
- encryption mutual authentication
- password verification

All secret keys are stored within the HTRC120.

2.2 Additional Features

Additional useful features are:

- on-chip EEPROM to store secret data
- uncomplicated host interface
- sleep mode for reduced current consumption

3 ORDERING INFORMATION

EXTENDED TYPE NUMBER	DESCRIPTION	PACKAGE	TEMPERATURE RANGE (°C)
HT RC120 02B/03D	HITAG™ Co-Processor on reel, 2000 pcs. on one reel	SOT358-1	–25 to +70

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4 MECHANICAL CHARACTERISTICS

The transponder is sealed in epoxy resin moulding compound. The outline of the package is given in Fig.1. The designation of the package is SOT358-1.

PARAMETER	VALUE	UNIT
mechanical dimensions	12 x 6 x 3	mm
protection class	IP67	
casting material	epoxy resin	

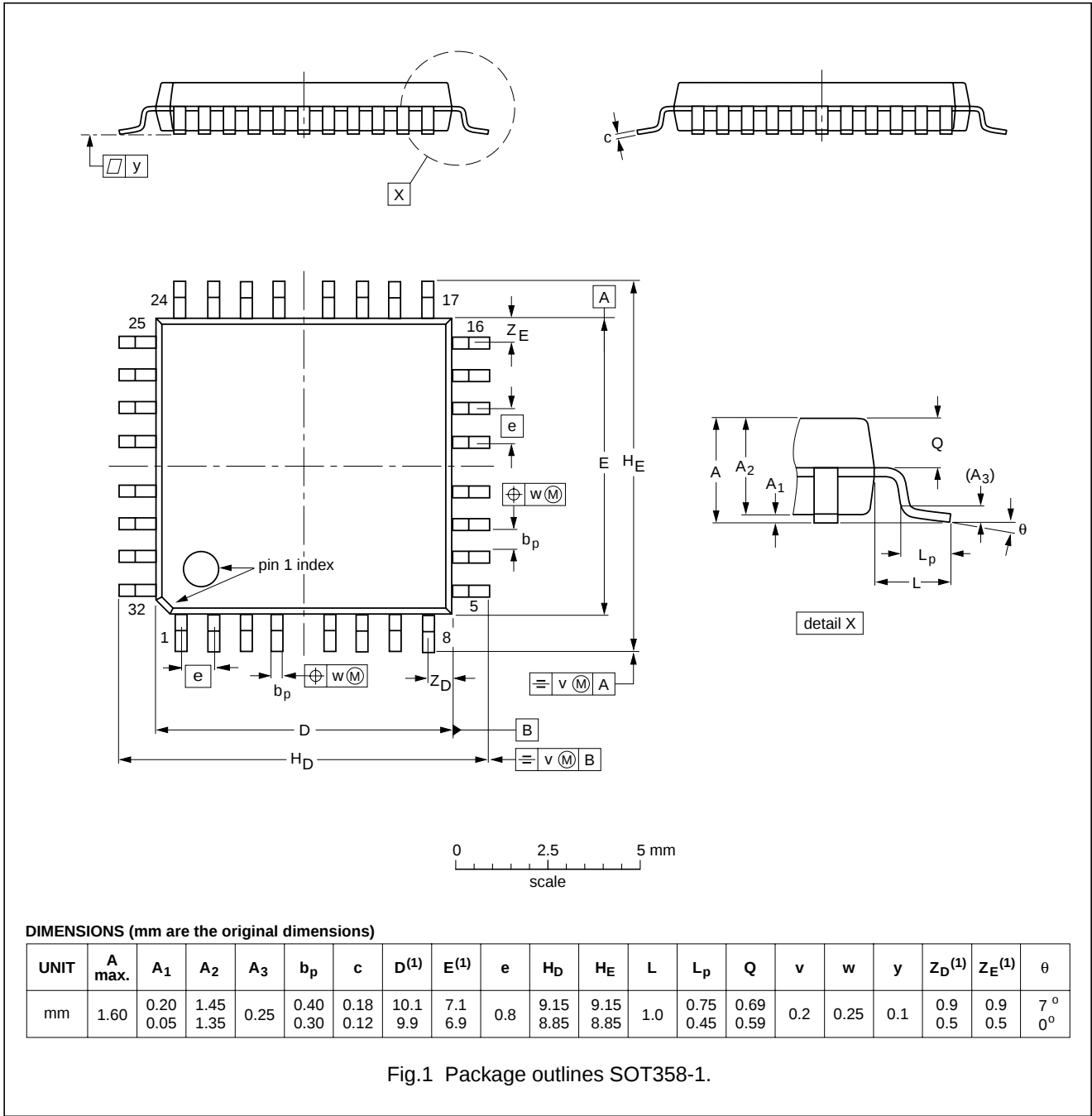


Fig.1 Package outlines SOT358-1.

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5 LIMITING VALUES

In accordance with the Absolute Maximum System (IEC 134)

SYMBOL	PARAMETER	MIN.	MAX.	UNIT
T_{stg}	storage temperature range	-65	150	°C
T_j	operating junction temperature range		90	°C
V_{DD}	supply voltage range	-0.5	7.0	V
V_I	input voltage on any signal pin with respect to ground (V_{SS})	-0.5	$V_{DD} + 0.5$	V

6 DC CHARACTERISTICS

SYMBOL	PARAMETER	CONDITION	MIN.	TYP.	MAX.	UNIT
V_{DD}	supply voltage range		2.5	–	6.0	V
I_{DD}	supply current operating mode	$V_{DD} = 5\text{ V}$; $f_{CLK} = 16.0\text{ HMS}$	–	2.4	–	mA
V_{IL}	LOW level input voltage	$V_{DD} = 5\text{ V}$; $f_{CLK} = 16.0\text{ HMS}$	0	–	0.3	V_{DD}
V_{IH}	HIGH level input voltage		0.7	–	1.0	V_{DD}
I_{IL}	input leakage current	$V_{SS} \leq V_I \leq V_{DD}$	-1.0	–	1.0	μA
I_{OL}	LOW level port sink current	$V_{DD} = 3\text{ V}$; $V_O = 0.4\text{ V}$	0.7	3.5	–	mA
I_{OH}	HIGH level port pull-up source current	$V_{DD} = 3\text{ V}$; $V_O = 2.7\text{ V}$	-10	-30	–	μA
		$V_{DD} = 3\text{ V}$; $V_O = 0.0\text{ V}$		-140	-300	μA
	HIGH level port push-pull current	$V_{DD} = 3\text{ V}$; $V_O = 2.6\text{ V}$	-0.7	–	-3.5	mA

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