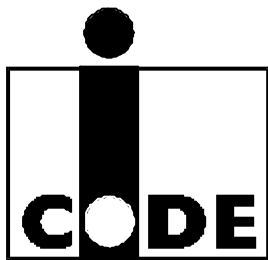


DATA SHEET

ADDENDUM



SL1 MOA2 S30

Contactless

Chip Card Module Specification

Product Specification
Revision 1.0
PUBLIC

July 2001

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1 General Information

1.1 Addendum

This document gives specifications for the product SL1 MOA2 S30.

The SL1 MOA2 S30 is the integrated circuit SL1 ICS3001 in the package SOT500AA1.

Therefore this document encompasses all information not covered by the specification of the package and/or the functional specification of the integrated circuit.

Detailed information on the package is given in the Contactless Chip Card Module Specification.

Functionality of the integrated circuit is described in the SL1 IC S3001 Functional Specification.

2 Specifications

2.1 Chip

Functionality of the integrated circuit is described in the document
SL1 ICS3001 Bumped I•CODE1 Label IC (IC with Bumps) Chip Specification.

2.2 Temperature Range

Absolute Maximum Ratings	Conditions	Min	Typ	Max	Unit
Storage Temperature		-25		+85	°C
Operating Temperature		-25		+70	°C
Processing temperature: refer to "Contactless Chip Card Module Specification"					

2.3 Electrical Characteristics

at - 25°C < T_{Ambient} < + 70°C

Symbol	Parameter	Test Conditions	Min	Typ ¹	Max	Unit
C _{res}	Input Capacitance between LA - LB ²	V _{LA-LB} = 2 V _{rms}	22.5	23.7	24.9	PF
P _{min}	Minimum Operating Supply Power ³	V _{LA-LB} = 2 V _{rms}		200		μW
m _{min}	Minimum Modulation of RF Voltage for Demodulator Response	$m = \frac{V_{max} - V_{min}}{V_{max} + V_{min}}$		10	14	%
m _{max}	Maximum Modulation of RF Voltage for Demodulator Response	$m = \frac{V_{max} - V_{min}}{V_{max} + V_{min}}$	30			%
t _{psm}	Modulation Pulse Length of RF Voltage ⁴	Standard Mode, m ≥ 10 %	3.54	5.31 ⁵	9.44	μs
t _{pfm}	Modulation Start-Pulse Length of RF Voltage ⁴	Fast Mode, m ≥ 10 %	15.34	17.11 ⁵	21.24	μs
t _D	Demodulator Response Time	m ≥ 10 %	0.1	0.8	2.4	μs
R _{mod}	Modulator ON Resistance	I _{LA-LB} = 30 mA	50	115	250	Ω
t _{ret}	EEPROM Data Retention	T _{amb} ≤ 55 °C	10			Years
n _{write}	EEPROM Write Endurance		100 000			Cycles

NOTES:

1. Typical ratings are not guaranteed. These values listed are at room temperature.
2. Measured with an HP4285A LCR meter at 13.56 MHz.
3. Including losses in resonant capacitor and rectifier.
4. The given values are derived from the 13.56 MHz system frequency.
5. Recommended values for pulse duration generated at the read/write device.

2.4 Ordering Information

Ordering Name	Description	Ordering Code
SL1 MOA2 S30 /D	I•CODE1 in MOA2 Module	12 NC: 9352 616 13118

Definitions

Data sheet status	
Objective specification	This data sheet contains target or goal specifications for product development.
Preliminary specification	This data sheet contains preliminary data; supplementary data may be published later.
Product specification	This data sheet contains final product specifications.
Limiting values	
Limiting values given are in accordance with the Absolute Maximum Rating System (IEC 134). 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 section of the specification is not implied. Exposure to limiting values for extended periods may affect device reliability.	
Application information	
Where application information is given, it is advisory and does not form part of the specification.	

Life support applications

These products are not designed for use in life support appliances, devices, or systems where malfunction of these products can reasonably be expected to result in personal injury. Philips customers using or selling these products for use in such applications do so on their own risk and agree to fully indemnify Philips for any damages resulting from such improper use or sale.

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