MF0 MOA4 U10

Mifare ultralight contactless chip card module

Rev. 3.1 — 7 February 2007 Product data sheet
120931 PUBLIC

1. General description

1.1 Addendum

This document gives specifications for the product MF0 MOA4 U10.

The MF0 MOA4 U10 is the integrated circuit MF0 IC U10 in the package SOT500BA2.

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 MOA4 contactless chip card module specification.

Functionality of the integrated circuit is described in the MF0 IC U10 functional specification.

2. Features

3. Applications

4. Ordering information

Table 1. Ordering information

Type number	Package		
	Name	Description	Ordering Code
MF0 MOA4 U10 / D			12 NC: 9352 817 85118

5. Functional description

5.1 Chip

Functionality of the integrated circuit is described in the document MF0 IC U10 functional specification.

6. Limiting values

Table 2. Limiting values[1][2][3][4]

In accordance with the Absolute Maximum Rating System(IEC 134)

Symbol	Parameter	Conditions		Min	Max	Unit
T_{STOR}	Storage temperature		[4]	-25	85	°C
T_{OP}	Operating temperature			-25	70	°C
V_{ESD}	ESD Voltage Level	MIL883D, human body	[5]	2	-	kV_{peak}

[1] Stresses above one or more of the limiting values may cause permanent damage to the device

[2] These are stress ratings only. Operation of the device at these or any other conditions above those given in the Characteristics section of the specification is not implied

[3] Exposure to limiting values for extended periods may affect device reliability

[4] for Processing temperature: refer to “MOA4 contactless chip card module specification“

[5] MIL Standard 883-C method 3015; Human body model: C = 100 pF, R = 1.5 kΩ

7. Characteristics

7.1 Electrical characteristics

at $-25\ °C < T_{Ambient} < +70\ °C$

Table 3. Characteristics [1][2][3]

Symbol	Parameter	Conditions		Min	Type	Max	Unit
C_{IN}	Input capacitance	Input voltage 3 V_{RMS} 25°C	[4]	14.85	17	20.13	pF
F_{IN}	Input Frequency			-	13.56	-	MHz
t_W	EEPROM write time			-	3.8	-	ms
N_{WE}	EEPROM write endurance			10000	-	-	cycles
t_{RET}	EEPROM data retention	$T_{amb} \leq 55°C$		5	-	-	years

[1] Stresses above one or more of the limiting values may cause permanent damage to the device

[2] These are stress ratings only. Operation of the device at these or any other conditions above those given in the Characteristics section of the specification is not implied

[3] Exposure to limiting values for extended periods may affect device reliability

[4] RMS between L_A and L_B

8. Support information

For additional information, please visit: **http://www.nxp.com**

9. Revision history

Table 4. Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
120930	January 2006	Product data sheet		3.0
120931	7 February 2007	Product data sheet		3.1
Modifications:	• The format of this data sheet has been redesigned to comply with the new identity guidelines of NXP Semiconductors. • Legal texts have been adapted to the new company name where appropriate.			

10. Legal information

10.1 Data sheet status

Document status[1][2]	Product status[3]	Definition
Objective [short] data sheet	Development	This document contains data from the objective specification for product development.
Preliminary [short] data sheet	Qualification	This document contains data from the preliminary specification.
Product [short] data sheet	Production	This document contains the product specification.

[1] Please consult the most recently issued document before initiating or completing a design.

[2] The term 'short data sheet' is explained in section "Definitions".

[3] The product status of device(s) described in this document may have changed since this document was published and may differ in case of multiple devices. The latest product status information is available on the Internet at URL http://www.nxp.com.

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12. Tables

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