

# MF1 MOA4 S70

## Contactless chip card module

Rev. 03.01 — 2 April 2007  
092931

Product data sheet  
PUBLIC

## 1. Introduction

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This document gives specifications for the product MF1 MOA4 S70. The MF1 MOA4 S70 is the integrated circuit MF1 ICS70 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 MF1 IC S70 Functional Specification.

## 2. General description

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### 2.1 Chip

Functionality of the integrated circuit is described in the document MF1 IC S70 Functional Specification.

## 3. Ordering information

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Table 1. Ordering information

Type number	Package		
	Name	Description	Version
MF1 MOA4 S70 / D			9352 746 15118

## 4. Limiting values

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

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

Symbol	Parameter	Conditions	Min	Max	Unit
T <sub>STOR</sub>	Storage Temperature		-25	+85	°C
T <sub>OP</sub>	Operating Temperature		-25	+70	°C
V <sub>ESD</sub>	ESD Voltage Level	MIL883D, human body	2	-	kV

- [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] Processing temperature: refer to "MOA4 Contactless Chip Card Module Specification"

## 5. Characteristics

**Table 3. Characteristics** [1]

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
f <sub>IN</sub>	input frequency		-	13.56	-	MHz
C <sub>IN</sub>	Input Capacitance	Input voltage 3 [2] V <sub>RMS</sub> 25 °C	14.85	-	20.13	pF
t <sub>W</sub>	E2-Write Time		-	2.9	-	ms
t <sub>RET</sub>	EEPROM data retention		10			years
N <sub>WE</sub>	E2-Write Endurance		100,000	-	-	cycles

[1] at - 25°C < T<sub>Ambient</sub> < + 70°C

[2] RMS between LA and LB

## 6. Support information

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

## 7. Revision history

**Table 4. Revision history**

Document ID	Release date	Data sheet status	Change notice	Supersedes
092931	03.01	Product data sheet		3.0
Modifications:				
				<ul style="list-style-type: none"> <li>The format of this data sheet has been redesigned to comply with the new identity guidelines of NXP Semiconductors.</li> <li>Legal texts have been adapted to the new company name where appropriate.</li> </ul>

## 8. Legal information

### 8.1 Data sheet status

Document status <sup>[1][2]</sup>	Product status <sup>[3]</sup>	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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