

# SL2S2001AC5 I-CODE SLI FCS2

## Addendum Flip Chip Strap specification

Rev. 3.0 — 9 October 2008  
164330

Product data sheet  
PUBLIC

## 1. General description

This document gives specifications for the product SL2S2001AC5; the I-CODE SLI FCS2.

- The SL2S2001AC5 is the integrated circuit ICODE SLI (SL2ICS2001) in the package SOT1042AB3 (FCS2 Polymer Interposer JEDEC HF Copper).

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 specification “SOT1042AB3, FCS2 Polymer Interposer JEDEC HF Copper, Flip Chip Strap Specification”.
- Functionality of the integrated circuit is described in the “Functional Specification I-CODE SLI Smart Label IC SL2ICS2001”.

## 2. Ordering information

Table 1. Ordering information

Type number	Package		
	Name	Description	Version
SL2S2001AC5	FCS2	FCS2 Polymer Interposer JEDEC HF Copper	SOT1042AB3

## 3. Specifications

### 3.1 Chip

Functionality of the integrated circuit is described in the “I-CODE SLI Smart Label IC SL2ICS2001 Functional Specification”.

## 4. Limiting values

**Table 2. Limiting values** [\[1\]](#)[\[2\]](#)

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

Symbol	Parameter	Conditions	Min	Max	Unit
$V_{\text{esd}}$	electrostatic discharge voltage	<a href="#">[3]</a>	-	$\pm 2$	$\text{kV}_{\text{peak}}$
$I_{\text{max LA-LB}}$	maximum input peak current		-60	+60	$\text{mA}_{\text{peak}}$
$I_{\text{LA-LB}}$	input current	<a href="#">[4]</a>	-	30	$\text{mA}_{\text{rms}}$
$T_{\text{oper}}$	operating temperature		-25	+70	$^{\circ}\text{C}$
$T_{\text{stg}}$	storage Temperature	<a href="#">[5]</a>	+15	+30	$^{\circ}\text{C}$
rh stg	rel. humidity		-	60	%

- [1] Stresses above those listed under Absolute Maximum Ratings may cause permanent damage to the device. This is a stress rating only and functional operation of the device at these or any conditions other than those described in the Operating Conditions and Electrical Characteristics section of this specification is not implied.
- [2] This product includes circuitry specifically designed for the protection of its internal devices from the damaging effects of excessive static charge. Nonetheless, it is suggested that conventional precautions be taken to avoid applying greater than the rated maxima.
- [3] MIL-STD-883D, Method 3015.7, Human Body Model
- [4] The voltage between LA and LB is limited by the on-chip voltage limitation circuitry (corresponding to parameter  $I_{\text{LA-LB}}$ )
- [5] According FCS2 Strap specification

## 5. Characteristics

### 5.1 Electrical characteristics

Table 3. Characteristics<sup>[1]</sup>

Symbol	Parameter	Conditions	Min	Typ	Max	Unit
<b>Top = -25 to 85 °C</b>						
V <sub>LA-LB</sub>	minimum supply voltage for READ/WRITE/EAS		2.5	2.6	2.9	V <sub>rms</sub>
f <sub>op</sub>	operating frequency		<sup>[2]</sup> 13.553	13.560	13.567	MHz
C <sub>i</sub>	input capacitance between LA – LB	V <sub>LA-LB</sub> = 2 V <sub>rms</sub>	<sup>[3]</sup> 22.7	23.5	25.1	pF
P <sub>min</sub>	minimum operating supply power		<sup>[4]</sup> -	280	-	μW
m	modulation of RF voltage for demodulator response	$m = \frac{V_{\max} - V_{\min}}{V_{\max} + V_{\min}}$	<sup>[5]</sup> -	-	-	%
t <sub>pm</sub>	modulation pulse length of RF voltage		<sup>[5]</sup> -	-	-	μs
t <sub>D</sub>	demodulator response time	m ≥ 10 %, 100 %	<sup>[5]</sup> -	-	-	μs
R <sub>mod</sub>	load modulation		<sup>[5]</sup> -	-	-	W
<b>EEPROM characteristics:</b>						
t <sub>ret</sub>	data retention time	T <sub>amb</sub> ≤ 55 °C	10		-	year
n <sub>endu(W)</sub>	write endurance		100000	-	-	cycle

[1] Typical ratings are not guaranteed. These values listed are at room temperature.

[2] Bandwidth limitation (± 7 kHz) according to ISM band regulations.

[3] Measured with an HP 4285A LCR meter at 13.56 MHz

[4] Including losses in resonant capacitor and rectifier

[5] Refer to ISO/IEC 15693-2 and ISO/IE 15693-3 including pulse shapes and tolerances; proper coil design assumed

## 6. References

[1] **Data sheet** — I-CODE SLI Label IC, functional specification

[2] **Delivery type specification** — SOT1042AB3, FCS2 Polymer Interposer JEDEC HF Copper, Flip Chip Strap

## 7. Revision history

**Table 4.** Revision history

Document ID	Release date	Data sheet status	Change notice	Supersedes
164330	20081009	Product data sheet	-	-

## 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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