

# RELIABILITY TEST REPORT

## TEST REPORT

Company : RAIO TECHNOLOGY INC.  
 Model Name : RA0086L3N  
 Date Received : 2009.07.24  
 Date Tested : 2009.07.28

**TESTING LABORATORY IS ACCREDITED BY:**

IEC/IECQ 17025 certificate of independent test laboratory approval  
 Certificate No. : T1091

ISO 9001 certificate is approved by TUV CERT certification body of TUV NORD Cert GmbH

**WE HEREBY CERTIFY THAT:**

The test(s) shown in the attachment were conducted according to the indicating procedures. We assume full responsibility for the accuracy and completeness of these tests and vouch for the qualifications of all personnel performing them.

	Name	Signature	Date
Test Engineer	Jay Fang	Reliability Test Engineer <i>Jay Fang</i>	2009/07/24
Section Manager	Even Lin	Reliability Test Engineer <i>Even Lin</i>	2009/07/28

**Note :**

1. This report will be invalid if reproduced in whole or in part.
2. This report refers only to the specimen(s) submitted to test, and is invalid if used separately.
3. This report is ONLY valid with the examination seal and signature of this institute.
4. The tested specimen(s) will only be preserved for thirty days from the date issued, if not collected by the applicant.





**Integrated Service Technology Inc.**  
Reliability Engineering Division  
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**No.:T1091**  
**Revision:A**

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<b>Applicant/Department:</b> RAI0 TECHNOLOGY INC.	
<b>Product</b>	: RA0086L3N
<b>Testing Item</b>	: LATCH-UP
	<b>Package/Pin Count</b> : LQFP-100
<b>Test Condition</b>	: JEDEC STANDARD NO.78 MARCH 1997
<b>Failure Criteria</b>	< 25mA 10mA + I normal
	> 25mA 1.4 x I normal
<b>Trigger Current</b>	: 50mA ~300mA ( $\pm$ ), Step: 50mA ( $\pm$ )
<b>V<sub>supply</sub> OVER VOLTAGE TEST</b>	: 5V~8V(+) , Step: 0.5V(+)



## LATCH-UP Testing Report

### Test Equipment:

KEYTEK ZAPMASTER #2-6447

### Environmental Condition of Laboratory:

Temperature: 25°C±5°C

Humidity: 55%±10% RH

### Test Condition:

POSITIVE I

NEGATIVE I

V<sub>supply</sub> OVER VOLTAGE TEST

### Test Result:

TRIGGER MODEL	TEST PIN	SAMPLE SIZE	TRIGGER SOURCE INDUCE LATCH-UP	IT CLASS: <u>    3    </u>
+IT	I/O	3	PASS	<b>NOTE:</b> CLASS1: +IT:0mA~39mA -IT:0mA~ -39mA CLASS2: +IT: 40mA~+99mA -IT: -40mA~-99mA CLASS3: +IT: ≥ 100mA -IT: ≤ -100mA
	I/P		PASS	
	O/P		PASS	
-IT	I/O	3	PASS	
	I/P		PASS	
	O/P		PASS	
V <sub>supply</sub> OVER VOLTAGE TEST	VCC	3	PASS	

ALL:1-54,56-58,60-62,64,66-100  
 I/O:54,66-69,73  
 I/P:56-58,60-62,64,70-72

O/P:1-53,74-100  
 VCC:59,63  
 VSS:55,65



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POSITIVE I									
(UNIT::mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
1		PASS	PASS	PASS	49		PASS	PASS	PASS
2		PASS	PASS	PASS	50		PASS	PASS	PASS
3		PASS	PASS	PASS	51		PASS	PASS	PASS
4		PASS	PASS	PASS	52		PASS	PASS	PASS
5		PASS	PASS	PASS	53		PASS	PASS	PASS
6		PASS	PASS	PASS	54		PASS	PASS	PASS
7		PASS	PASS	PASS	56		PASS	PASS	PASS
8		PASS	PASS	PASS	57		PASS	PASS	PASS
9		PASS	PASS	PASS	58		PASS	PASS	PASS
10		PASS	PASS	PASS	60		PASS	PASS	PASS
11		PASS	PASS	PASS	61		PASS	PASS	PASS
12		PASS	PASS	PASS	62		PASS	PASS	PASS
13		PASS	PASS	PASS	64		PASS	PASS	PASS
14		PASS	PASS	PASS	66		PASS	PASS	PASS
15		PASS	PASS	PASS	67		PASS	PASS	PASS
16		PASS	PASS	PASS	68		PASS	PASS	PASS
17		PASS	PASS	PASS	69		PASS	PASS	PASS
18		PASS	PASS	PASS	70		PASS	PASS	PASS
19		PASS	PASS	PASS	71		PASS	PASS	PASS
20		PASS	PASS	PASS	72		PASS	PASS	PASS
21		PASS	PASS	PASS	73		PASS	PASS	PASS
22		PASS	PASS	PASS	74		PASS	PASS	PASS
23		PASS	PASS	PASS	75		PASS	PASS	PASS
24		PASS	PASS	PASS	76		PASS	PASS	PASS
25		PASS	PASS	PASS	77		PASS	PASS	PASS
26		PASS	PASS	PASS	78		PASS	PASS	PASS
27		PASS	PASS	PASS	79		PASS	PASS	PASS
28		PASS	PASS	PASS	80		PASS	PASS	PASS
29		PASS	PASS	PASS	81		PASS	PASS	PASS
30		PASS	PASS	PASS	82		PASS	PASS	PASS
31		PASS	PASS	PASS	83		PASS	PASS	PASS
32		PASS	PASS	PASS	84		PASS	PASS	PASS
33		PASS	PASS	PASS	85		PASS	PASS	PASS
34		PASS	PASS	PASS	86		PASS	PASS	PASS
35		PASS	PASS	PASS	87		PASS	PASS	PASS
36		PASS	PASS	PASS	88		PASS	PASS	PASS
37		PASS	PASS	PASS	89		PASS	PASS	PASS
38		PASS	PASS	PASS	90		PASS	PASS	PASS
39		PASS	PASS	PASS	91		PASS	PASS	PASS
40		PASS	PASS	PASS	92		PASS	PASS	PASS
41		PASS	PASS	PASS	93		PASS	PASS	PASS
42		PASS	PASS	PASS	94		PASS	PASS	PASS
43		PASS	PASS	PASS	95		PASS	PASS	PASS
44		PASS	PASS	PASS	96		PASS	PASS	PASS
45		PASS	PASS	PASS	97		PASS	PASS	PASS
46		PASS	PASS	PASS	98		PASS	PASS	PASS
47		PASS	PASS	PASS	99		PASS	PASS	PASS
48		PASS	PASS	PASS	100		PASS	PASS	PASS



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NEGATIVE I									
(UNIT::mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
1		PASS	PASS	PASS	49		PASS	PASS	PASS
2		PASS	PASS	PASS	50		PASS	PASS	PASS
3		PASS	PASS	PASS	51		PASS	PASS	PASS
4		PASS	PASS	PASS	52		PASS	PASS	PASS
5		PASS	PASS	PASS	53		PASS	PASS	PASS
6		PASS	PASS	PASS	54		PASS	PASS	PASS
7		PASS	PASS	PASS	56		PASS	PASS	PASS
8		PASS	PASS	PASS	57		PASS	PASS	PASS
9		PASS	PASS	PASS	58		PASS	PASS	PASS
10		PASS	PASS	PASS	60		PASS	PASS	PASS
11		PASS	PASS	PASS	61		PASS	PASS	PASS
12		PASS	PASS	PASS	62		PASS	PASS	PASS
13		PASS	PASS	PASS	64		PASS	PASS	PASS
14		PASS	PASS	PASS	66		PASS	PASS	PASS
15		PASS	PASS	PASS	67		PASS	PASS	PASS
16		PASS	PASS	PASS	68		PASS	PASS	PASS
17		PASS	PASS	PASS	69		PASS	PASS	PASS
18		PASS	PASS	PASS	70		PASS	PASS	PASS
19		PASS	PASS	PASS	71		PASS	PASS	PASS
20		PASS	PASS	PASS	72		PASS	PASS	PASS
21		PASS	PASS	PASS	73		PASS	PASS	PASS
22		PASS	PASS	PASS	74		PASS	PASS	PASS
23		PASS	PASS	PASS	75		PASS	PASS	PASS
24		PASS	PASS	PASS	76		PASS	PASS	PASS
25		PASS	PASS	PASS	77		PASS	PASS	PASS
26		PASS	PASS	PASS	78		PASS	PASS	PASS
27		PASS	PASS	PASS	79		PASS	PASS	PASS
28		PASS	PASS	PASS	80		PASS	PASS	PASS
29		PASS	PASS	PASS	81		PASS	PASS	PASS
30		PASS	PASS	PASS	82		PASS	PASS	PASS
31		PASS	PASS	PASS	83		PASS	PASS	PASS
32		PASS	PASS	PASS	84		PASS	PASS	PASS
33		PASS	PASS	PASS	85		PASS	PASS	PASS
34		PASS	PASS	PASS	86		PASS	PASS	PASS
35		PASS	PASS	PASS	87		PASS	PASS	PASS
36		PASS	PASS	PASS	88		PASS	PASS	PASS
37		PASS	PASS	PASS	89		PASS	PASS	PASS
38		PASS	PASS	PASS	90		PASS	PASS	PASS
39		PASS	PASS	PASS	91		PASS	PASS	PASS
40		PASS	PASS	PASS	92		PASS	PASS	PASS
41		PASS	PASS	PASS	93		PASS	PASS	PASS
42		PASS	PASS	PASS	94		PASS	PASS	PASS
43		PASS	PASS	PASS	95		PASS	PASS	PASS
44		PASS	PASS	PASS	96		PASS	PASS	PASS
45		PASS	PASS	PASS	97		PASS	PASS	PASS
46		PASS	PASS	PASS	98		PASS	PASS	PASS
47		PASS	PASS	PASS	99		PASS	PASS	PASS
48		PASS	PASS	PASS	100		PASS	PASS	PASS



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$V_{\text{supply}}$ OVERVOLTAGE TEST (UNIT: V)				
Test pin	TRIGGER VOLTAGE	#1	#2	#3
	59	PASS	PASS	PASS
	63	PASS	PASS	PASS