

LATCH UP TEST REPORT

Company : RAIO Technology Inc.
Model Name : RA0086A
Date Code : 1126-N
Date Received : MAR 28, 2012
Date Tested : MAR 30, 2012

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	Tina Lin		Apr 02, 2012
Manager	Even Lin		Apr 02, 2012

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, not collected by the applicant.





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1. GENERAL INFORMATION

1.1 DESCRIPTION OF UNIT

MANUFACTURER	: RAIO Technology Inc.
DEVICE NAME	: RA0086A
DATE CODE	: 1126-N
PACKAGE / PIN COUNT	: LQFP-100
REFERENCE DOCUMENT	: JEDEC STANDARD NO.78 MARCH 1997
TRIGGER CURRENT	: 50mA ~ 300mA (±), Step: 50mA(±) Limit:8.5V
V SUPPLY OVER VOLTAGE TEST	: VCC:5V ~ 8.5V (+) , Step: 0.5V (+)
MAXIMA RATED TEMPERATURE	: ROOM TEMPERATURE
SAMPLE QUANTITY	: 9 ea
FAILURE CRITERIA	: < 25mA 10mA + I normal > 25mA 1.4 x I normal
I NORMAL	: VCC:<1mA

2. LATCH UP TEST

2.1 TEST EQUIPMENT

Test Equipment	Equipment Number	Tester
KEYTEK ZAPMASTER	#2	10116

2.2 LABORATORY AMBIENCE CONDITION

Temperature : 25°C±5°C

Relative humidity : 55%±10% (RH)

2.3 REFERENCE DOCUMENT

The test is based on JEDEC STANDARD NO.78 MARCH 1997

2.4 TEST CONDITION

POSITIVE I

NEGATIVE I

Vsupply OVER VOLTAGE TEST

2.5 BIAS DESCRIPTION

VCC= 5.5 V(MAX)

VSS = 0V

2.6 SUMMARY OF TEST

Trigger Mode	Test Pin	Sample Quantity	Tested Result	I Trigger : Class <u> I </u>
I Trigger (+)	I/O	3	PASS(+300mA)	Class I Latch-up testing performed at room temperature. Class II Latch-up testing performed at maximum rated temperature.
	I/P		PASS(+300mA)	
	O/P		PASS(+300mA)	
I Trigger (-)	I/O	3	PASS(-300mA)	
	I/P		PASS(-300mA)	
	O/P		PASS(-300mA)	
Over Volt Test V _{supply}	VCC	3	PASS(+8.5V)	

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

2.7 CONTENTS OF TEST

POSITIVE I									
(UNIT:mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
1		PASS	PASS	PASS	25		PASS	PASS	PASS
2		PASS	PASS	PASS	26		PASS	PASS	PASS
3		PASS	PASS	PASS	27		PASS	PASS	PASS
4		PASS	PASS	PASS	28		PASS	PASS	PASS
5		PASS	PASS	PASS	29		PASS	PASS	PASS
6		PASS	PASS	PASS	30		PASS	PASS	PASS
7		PASS	PASS	PASS	31		PASS	PASS	PASS
8		PASS	PASS	PASS	32		PASS	PASS	PASS
9		PASS	PASS	PASS	33		PASS	PASS	PASS
10		PASS	PASS	PASS	34		PASS	PASS	PASS
11		PASS	PASS	PASS	35		PASS	PASS	PASS
12		PASS	PASS	PASS	36		PASS	PASS	PASS
13		PASS	PASS	PASS	37		PASS	PASS	PASS
14		PASS	PASS	PASS	38		PASS	PASS	PASS
15		PASS	PASS	PASS	39		PASS	PASS	PASS
16		PASS	PASS	PASS	40		PASS	PASS	PASS
17		PASS	PASS	PASS	41		PASS	PASS	PASS
18		PASS	PASS	PASS	42		PASS	PASS	PASS
19		PASS	PASS	PASS	43		PASS	PASS	PASS
20		PASS	PASS	PASS	44		PASS	PASS	PASS
21		PASS	PASS	PASS	45		PASS	PASS	PASS
22		PASS	PASS	PASS	46		PASS	PASS	PASS
23		PASS	PASS	PASS	47		PASS	PASS	PASS
24		PASS	PASS	PASS	48		PASS	PASS	PASS

POSITIVE I									
(UNIT:mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
49		PASS	PASS	PASS	77		PASS	PASS	PASS
50		PASS	PASS	PASS	78		PASS	PASS	PASS
51		PASS	PASS	PASS	79		PASS	PASS	PASS
52		PASS	PASS	PASS	80		PASS	PASS	PASS
53		PASS	PASS	PASS	81		PASS	PASS	PASS
54		PASS	PASS	PASS	82		PASS	PASS	PASS
56		PASS	PASS	PASS	83		PASS	PASS	PASS
57		PASS	PASS	PASS	84		PASS	PASS	PASS
58		PASS	PASS	PASS	85		PASS	PASS	PASS
60		PASS	PASS	PASS	86		PASS	PASS	PASS
61		PASS	PASS	PASS	87		PASS	PASS	PASS
62		PASS	PASS	PASS	88		PASS	PASS	PASS
64		PASS	PASS	PASS	89		PASS	PASS	PASS
66		PASS	PASS	PASS	90		PASS	PASS	PASS
67		PASS	PASS	PASS	91		PASS	PASS	PASS
68		PASS	PASS	PASS	92		PASS	PASS	PASS
69		PASS	PASS	PASS	93		PASS	PASS	PASS
70		PASS	PASS	PASS	94		PASS	PASS	PASS
71		PASS	PASS	PASS	95		PASS	PASS	PASS
72		PASS	PASS	PASS	96		PASS	PASS	PASS
73		PASS	PASS	PASS	97		PASS	PASS	PASS
74		PASS	PASS	PASS	98		PASS	PASS	PASS
75		PASS	PASS	PASS	99		PASS	PASS	PASS
76		PASS	PASS	PASS	100		PASS	PASS	PASS

NEGATIVE I									
(UNIT::mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
1		PASS	PASS	PASS	25		PASS	PASS	PASS
2		PASS	PASS	PASS	26		PASS	PASS	PASS
3		PASS	PASS	PASS	27		PASS	PASS	PASS
4		PASS	PASS	PASS	28		PASS	PASS	PASS
5		PASS	PASS	PASS	29		PASS	PASS	PASS
6		PASS	PASS	PASS	30		PASS	PASS	PASS
7		PASS	PASS	PASS	31		PASS	PASS	PASS
8		PASS	PASS	PASS	32		PASS	PASS	PASS
9		PASS	PASS	PASS	33		PASS	PASS	PASS
10		PASS	PASS	PASS	34		PASS	PASS	PASS
11		PASS	PASS	PASS	35		PASS	PASS	PASS
12		PASS	PASS	PASS	36		PASS	PASS	PASS
13		PASS	PASS	PASS	37		PASS	PASS	PASS
14		PASS	PASS	PASS	38		PASS	PASS	PASS
15		PASS	PASS	PASS	39		PASS	PASS	PASS
16		PASS	PASS	PASS	40		PASS	PASS	PASS
17		PASS	PASS	PASS	41		PASS	PASS	PASS
18		PASS	PASS	PASS	42		PASS	PASS	PASS
19		PASS	PASS	PASS	43		PASS	PASS	PASS
20		PASS	PASS	PASS	44		PASS	PASS	PASS
21		PASS	PASS	PASS	45		PASS	PASS	PASS
22		PASS	PASS	PASS	46		PASS	PASS	PASS
23		PASS	PASS	PASS	47		PASS	PASS	PASS
24		PASS	PASS	PASS	48		PASS	PASS	PASS

NEGATIVE I									
(UNIT::mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
49		PASS	PASS	PASS	77		PASS	PASS	PASS
50		PASS	PASS	PASS	78		PASS	PASS	PASS
51		PASS	PASS	PASS	79		PASS	PASS	PASS
52		PASS	PASS	PASS	80		PASS	PASS	PASS
53		PASS	PASS	PASS	81		PASS	PASS	PASS
54		PASS	PASS	PASS	82		PASS	PASS	PASS
56		PASS	PASS	PASS	83		PASS	PASS	PASS
57		PASS	PASS	PASS	84		PASS	PASS	PASS
58		PASS	PASS	PASS	85		PASS	PASS	PASS
60		PASS	PASS	PASS	86		PASS	PASS	PASS
61		PASS	PASS	PASS	87		PASS	PASS	PASS
62		PASS	PASS	PASS	88		PASS	PASS	PASS
64		PASS	PASS	PASS	89		PASS	PASS	PASS
66		PASS	PASS	PASS	90		PASS	PASS	PASS
67		PASS	PASS	PASS	91		PASS	PASS	PASS
68		PASS	PASS	PASS	92		PASS	PASS	PASS
69		PASS	PASS	PASS	93		PASS	PASS	PASS
70		PASS	PASS	PASS	94		PASS	PASS	PASS
71		PASS	PASS	PASS	95		PASS	PASS	PASS
72		PASS	PASS	PASS	96		PASS	PASS	PASS
73		PASS	PASS	PASS	97		PASS	PASS	PASS
74		PASS	PASS	PASS	98		PASS	PASS	PASS
75		PASS	PASS	PASS	99		PASS	PASS	PASS
76		PASS	PASS	PASS	100		PASS	PASS	PASS

V _{supply} OVERVOLTAGE TEST									
(UNIT: V)									
Test Pin	TRIGGER VOLTAGE	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
59		PASS	PASS	PASS	63		PASS	PASS	PASS