



宜特科技股份有限公司



Integrated Service Technology Inc.

No.:A8799

TEL : (02) 2656-2289

TRA No: 9300089-E

FAX : (02) 2656-2285

Date : 10/18/2004

Email: esd@isti.com.tw

Test Site Address: 1F,No. 9, Alley 2, Lane 35, Jihu Rd., Nei Hu District, Taipei City, Taiwan, R.O.C.

可靠度測試報告

RELIABILITY TEST REPORT

Applicant/Department : Avant Electronic Corporation	
Address : 6F,No. 56, Ln.258, Jui Kuang Rd., Nei Hu district, taipei, Taiwan.	
Product : SAP1024B	
Testing Item : LATCH-UP	Package/Pin Count : QFP - 67
Application Date : 10/18/2004	Date Finished : 10/18/2004
Test Condition : JEDEC STANDARD NO.78 MARCH 1997	
Failure Criteria	< 25mA 10mA + I normal
	> 25mA 1.4 x I normal
Trigger Current : 25mA~250mA(±) , Step : 25mA(±)	
V_{supply} OVERVOLTAGE TEST :5V~7.5V(+) , Step : 0.5V(+)	

Testing Item

Random LATCH-UP Test.....P2

Remark:

Ground pins are not latch-up tested.

The positive or negative current pulse (I-Test) or voltage pulse (V_{supply} overvoltage test) applied to any pin under test in an attempt to induce latch-up.

This report refers only to the specimen submitted to testing, and be invalid as separately used.

Testing Engineer: **Jay Fang**

Report Review: **Kosa Liu**

Laboratory Head: **Frank Wu**



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LATCH-UP Testing Report

Test Equipment:

KEYTEK ZAPMASTER

Environmental Condition of Laboratory:

Temperature: 25°C±5°C

Humidity: 55%±10% RH

Test Condition:

POSITIVE I

NEGATIVE I

Vsupply OVERVOLTAGE TEST

Test Result:

TRIGGER MODEL	TEST PIN	SAMPLE SIZE	TRIGGER SOURCE INDUCE LATCH-UP	IT CLASS: <u>3</u>
+IT	I/O	3	PASS	NOTE: 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 _{supply} OVER VOLTAGE TEST	VCC	3	PASS	

I/O:11-18,26-30,32-34
 I/P:2-10,19-22,63,74,76-78
 O/P:35-36,42-62,67-72,79

VDD:31,73
 VSS:75

POSITIVE I									
(UNIT: mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
2		PASS	PASS	PASS	43		PASS	PASS	PASS
3		PASS	PASS	PASS	44		PASS	PASS	PASS
4		PASS	PASS	PASS	45		PASS	PASS	PASS
5		PASS	PASS	PASS	46		PASS	PASS	PASS
6		PASS	PASS	PASS	47		PASS	PASS	PASS
7		PASS	PASS	PASS	48		PASS	PASS	PASS
8		PASS	PASS	PASS	49		PASS	PASS	PASS
9		PASS	PASS	PASS	50		PASS	PASS	PASS
10		PASS	PASS	PASS	51		PASS	PASS	PASS
11		PASS	PASS	PASS	52		PASS	PASS	PASS
12		PASS	PASS	PASS	53		PASS	PASS	PASS
13		PASS	PASS	PASS	54		PASS	PASS	PASS
14		PASS	PASS	PASS	55		PASS	PASS	PASS
15		PASS	PASS	PASS	56		PASS	PASS	PASS
16		PASS	PASS	PASS	57		PASS	PASS	PASS
17		PASS	PASS	PASS	58		PASS	PASS	PASS
18		PASS	PASS	PASS	59		PASS	PASS	PASS
19		PASS	PASS	PASS	60		PASS	PASS	PASS
20		PASS	PASS	PASS	61		PASS	PASS	PASS
21		PASS	PASS	PASS	62		PASS	PASS	PASS
22		PASS	PASS	PASS	63		PASS	PASS	PASS
26		PASS	PASS	PASS	67		PASS	PASS	PASS
27		PASS	PASS	PASS	68		PASS	PASS	PASS
28		PASS	PASS	PASS	69		PASS	PASS	PASS
29		PASS	PASS	PASS	70		PASS	PASS	PASS
30		PASS	PASS	PASS	71		PASS	PASS	PASS
32		PASS	PASS	PASS	72		PASS	PASS	PASS
33		PASS	PASS	PASS	74		PASS	PASS	PASS
34		PASS	PASS	PASS	76		PASS	PASS	PASS
35		PASS	PASS	PASS	77		PASS	PASS	PASS
36		PASS	PASS	PASS	78		PASS	PASS	PASS
42		PASS	PASS	PASS	79		PASS	PASS	PASS

NEGATIVE I									
(UNIT: mA)									
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
2		PASS	PASS	PASS	43		PASS	PASS	PASS
3		PASS	PASS	PASS	44		PASS	PASS	PASS
4		PASS	PASS	PASS	45		PASS	PASS	PASS
5		PASS	PASS	PASS	46		PASS	PASS	PASS
6		PASS	PASS	PASS	47		PASS	PASS	PASS
7		PASS	PASS	PASS	48		PASS	PASS	PASS
8		PASS	PASS	PASS	49		PASS	PASS	PASS
9		PASS	PASS	PASS	50		PASS	PASS	PASS
10		PASS	PASS	PASS	51		PASS	PASS	PASS
11		PASS	PASS	PASS	52		PASS	PASS	PASS
12		PASS	PASS	PASS	53		PASS	PASS	PASS
13		PASS	PASS	PASS	54		PASS	PASS	PASS
14		PASS	PASS	PASS	55		PASS	PASS	PASS
15		PASS	PASS	PASS	56		PASS	PASS	PASS
16		PASS	PASS	PASS	57		PASS	PASS	PASS
17		PASS	PASS	PASS	58		PASS	PASS	PASS
18		PASS	PASS	PASS	59		PASS	PASS	PASS
19		PASS	PASS	PASS	60		PASS	PASS	PASS
20		PASS	PASS	PASS	61		PASS	PASS	PASS
21		PASS	PASS	PASS	62		PASS	PASS	PASS
22		PASS	PASS	PASS	63		PASS	PASS	PASS
26		PASS	PASS	PASS	67		PASS	PASS	PASS
27		PASS	PASS	PASS	68		PASS	PASS	PASS
28		PASS	PASS	PASS	69		PASS	PASS	PASS
29		PASS	PASS	PASS	70		PASS	PASS	PASS
30		PASS	PASS	PASS	71		PASS	PASS	PASS
32		PASS	PASS	PASS	72		PASS	PASS	PASS
33		PASS	PASS	PASS	74		PASS	PASS	PASS
34		PASS	PASS	PASS	76		PASS	PASS	PASS
35		PASS	PASS	PASS	77		PASS	PASS	PASS
36		PASS	PASS	PASS	78		PASS	PASS	PASS
42		PASS	PASS	PASS	79		PASS	PASS	PASS

V_{supply} OVERVOLTAGE TEST (UNIT: V)				
Test pin	TRIGGER VOLTAGE	#1	#2	#3
	31	PASS	PASS	PASS
	73	PASS	PASS	PASS