



# 宜特科技股份有限公司



No.:T1091

## Integrated Service Technology Inc.

TEL : (03) 578-2266

RA No: 9502973-E

FAX : (03) 578-2299

Date : 09/04/2006

Email: esd@isti.com.tw

Test Site Address: 1F, No.22, Pu-Ding Rd., Hsin-Chu, Taiwan, R.O.C.

### 可靠度測試報告 RELIABILITY TEST REPORT

Applicant/Department: Avant Electronics Corporation	
Address : 2F., No. 501-14, Zongzheng Rd., Xindian City, Taipei County 231, Taiwan	
Product : SAP3305	
Testing Item : LATCH-UP	Package/Pin Count: QFP-64
Application Date : 09/02/2006	Date Finished : 09/04/2006
Test Condition : JEDEC STANDARD NO.78 MARCH 1997	
Failure Criteria	< 25mA 10mA + I normal
	> 25mA 1.4 x I normal
Trigger Current : 50mA~200mA(±) , Step : 50mA(±)	
V <sub>supply</sub> 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<sub>supply</sub> 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:	Reliability Test Engineer <i>Jay Fang</i>	
Report Review:	Reliability Test Engineer <i>Kosa Lin</i>	Laboratory Head: Manager <i>Kevin Tsui</i>



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### LATCH-UP Testing Report

#### Test Equipment:

KEYTEK ZAPMASTER #9-6389

#### Environmental Condition of Laboratory:

Temperature: 25°C±5°C

Humidity: 55%±10% RH

#### Test Condition:

POSITIVE I

NEGATIVE I

V<sub>supply</sub> 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	<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	

I/O:1-6,19-26,59-60  
 I/P:50-54,56,57  
 NC:29,48-49

O/P:7-12,14-18,27-28,30-47,55  
 VCC:58  
 VSS:13

POSITIVE I								(UNIT: mA)	
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
6		PASS	PASS	PASS	36		PASS	PASS	PASS
7		PASS	PASS	PASS	37		PASS	PASS	PASS
8		PASS	PASS	PASS	38		PASS	PASS	PASS
9		PASS	PASS	PASS	39		PASS	PASS	PASS
10		PASS	PASS	PASS	40		PASS	PASS	PASS
11		PASS	PASS	PASS	41		PASS	PASS	PASS
12		PASS	PASS	PASS	42		PASS	PASS	PASS
14		PASS	PASS	PASS	43		PASS	PASS	PASS
15		PASS	PASS	PASS	44		PASS	PASS	PASS
16		PASS	PASS	PASS	45		PASS	PASS	PASS
17		PASS	PASS	PASS	46		PASS	PASS	PASS
18		PASS	PASS	PASS	47		PASS	PASS	PASS
19		PASS	PASS	PASS	50		PASS	PASS	PASS
20		PASS	PASS	PASS	51		PASS	PASS	PASS
21		PASS	PASS	PASS	52		PASS	PASS	PASS
22		PASS	PASS	PASS	53		PASS	PASS	PASS
23		PASS	PASS	PASS	54		PASS	PASS	PASS
24		PASS	PASS	PASS	56		PASS	PASS	PASS
25		PASS	PASS	PASS	57		PASS	PASS	PASS
26		PASS	PASS	PASS	58		PASS	PASS	PASS
27		PASS	PASS	PASS	59		PASS	PASS	PASS
28		PASS	PASS	PASS	60		PASS	PASS	PASS
30		PASS	PASS	PASS	1		PASS	PASS	PASS
31		PASS	PASS	PASS	2		PASS	PASS	PASS
32		PASS	PASS	PASS	3		PASS	PASS	PASS
33		PASS	PASS	PASS	4		PASS	PASS	PASS
34		PASS	PASS	PASS	5		PASS	PASS	PASS
35		PASS	PASS	PASS					

NEGATIVE I								(UNIT: mA)	
Test Pin	TRIGGER CURRENT	#1	#2	#3	Test Pin	TRIGGER CURRENT	#1	#2	#3
6		PASS	PASS	PASS	36		PASS	PASS	PASS
7		PASS	PASS	PASS	37		PASS	PASS	PASS
8		PASS	PASS	PASS	38		PASS	PASS	PASS
9		PASS	PASS	PASS	39		PASS	PASS	PASS
10		PASS	PASS	PASS	40		PASS	PASS	PASS
11		PASS	PASS	PASS	41		PASS	PASS	PASS
12		PASS	PASS	PASS	42		PASS	PASS	PASS
14		PASS	PASS	PASS	43		PASS	PASS	PASS
15		PASS	PASS	PASS	44		PASS	PASS	PASS
16		PASS	PASS	PASS	45		PASS	PASS	PASS
17		PASS	PASS	PASS	46		PASS	PASS	PASS
18		PASS	PASS	PASS	47		PASS	PASS	PASS
19		PASS	PASS	PASS	50		PASS	PASS	PASS
20		PASS	PASS	PASS	51		PASS	PASS	PASS
21		PASS	PASS	PASS	52		PASS	PASS	PASS
22		PASS	PASS	PASS	53		PASS	PASS	PASS
23		PASS	PASS	PASS	54		PASS	PASS	PASS
24		PASS	PASS	PASS	56		PASS	PASS	PASS
25		PASS	PASS	PASS	57		PASS	PASS	PASS
26		PASS	PASS	PASS	58		PASS	PASS	PASS
27		PASS	PASS	PASS	59		PASS	PASS	PASS
28		PASS	PASS	PASS	60		PASS	PASS	PASS
30		PASS	PASS	PASS	1		PASS	PASS	PASS
31		PASS	PASS	PASS	2		PASS	PASS	PASS
32		PASS	PASS	PASS	3		PASS	PASS	PASS
33		PASS	PASS	PASS	4		PASS	PASS	PASS
34		PASS	PASS	PASS	5		PASS	PASS	PASS
35		PASS	PASS	PASS					

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