

开锁试验报告

Latch up TEST REPORT

委托公司 : 武汉力源半导体有限公司
Company
公司地址 : 上海长宁区天山西路 567 号神州智慧大厦 3 楼
Address
产品名称 : CW32L031
Sample name
委托日期 : 2022 年 1 月 24 日
Date Received
完成日期 : 2022 年 1 月 17 日
Date Tested

实验室认证体系 (TESTING LABORATORY IS APPROVAL BY) :

证书编号: IECQ-L DEKRA 17.0004-01

IECQ Certificate of Approval No.: IECQ-L DEKRA 17.0004-01 For Independent

实验室证明事项 (WE HEREBY CERTIFY THAT) :

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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.

	名称 (Name)	签名 (Signature)	日期 (Date)
检测员 Inspector	潘祥仁 Peter Pan		2022 年 2 月 17 号
报告审核人 Report reviewer	陈清珑 Larry Chen		2022 年 2 月 17 号
报告批准人 Approver	李鹏云 Smile Li		2022 年 2 月 17 号

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This report refers only to the specimen(s) submitted to test, and is invalid if used otherwise.
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This report is ONLY valid with the examination seal and signature of this institute.
4. 样品保存自报告签发日起 30 天。
The tested specimen(s) will only be preserved for thirty days from the date issued, if not collected by the applicant



报 告 内 容

TABLE OF CONTENTS

1 讯息 (INFORMATION)	2
1.1 案件讯息 (CASE INFORMATION)	2
1.2 试验设备说明 (DESCRIPTION OF TEST EQUIPMENT)	2
1.3 环境条件 (AMBIENCE CONDITION)	2
1.4 参考文件 (REFERENCE DOCUMENT)	2
1.5 测试要求 (TEST REQUIREMENT)	2
2 试验结果 (TEST RESULTS)	3
2.1 结果汇整 (SUMMARY)	3
2.2 测试数据 (TEST DATA)	4

1. 讯息 (INFORMATION)

1.1 案件讯息 (CASE INFORMATION)

试验样品 Test Sample	批次号 LOT NO.	封装 Package	数量 Quantity
CW32L031	NA	LQFP48	3 pcs

1.2 试验设备说明 (DESCRIPTION OF TEST EQUIPMENT)

项目 Items	设备/编号 Equipment/No.	型号 Model	校准有效期 Calibration validity
1	1409189	KEYTEK ZAPMASTER MK2 768	2022年03月23日

1.3 环境条件 (AMBIENCE CONDITION)

标准要求温度 Required temperature	25 ⁺³ ₋₅ °C	实际温度 Actual temperature	23.3~23.8°C
标准要求相对湿度 Required relative humidity	55± 10 %RH	实际湿度 Actual humidity	51.4~51.9%RH

1.4 参考文件 (REFERENCE DOCUMENT)

项目 Items	依据标准 Standards
1	JESD STANDARD NO.78F JANUARY 2022

1.5 测试要求 (TEST REQUIREMENT)

TRIGGER CURRENT	: 300mA(±),400mA(±)
V SUPPLY OVER VOLTAGE TEST	: 5.25V~8.25V,STEP:1.0V (+)
PULSE DURATION	: 10 ms
TEST TEMPERATURE	: ROOM TEMPERATURE
SAMPLE QUANTITY	: 3 pcs
FAILURE CRITERIA	: If absolute Inom is < 25 mA, then absolute Inom + 10mA is used; Or If absolute Inom is > 25 mA, then > 1.4X absolute Inom is used;

2 试验结果 (TEST RESULTS)

2.1 结果汇总 (SUMMARY)

Trigger Mode	Test Pin	Sample Quantity	Tested Result	V or I Limits	FT Testing Pass Volts	I Trigger : Class <u>IA</u>
I Trigger (+)	IO5.5V	3	PASS +400mA	+8.25V	PASS	Temperature Classification: CLASS I For Latch-up test at room temperature Class I A : Positive I-Test : $\geq 100\text{mA}$ Negative I-Test : $\geq 100\text{mA}$ Overvoltage Test : 1.5 x VDD or MSV, whichever is less Class I B : If immunity level A cannot be achieved CLASS II For Latch-up test at maximum-rate ambient temperature Class II A : Positive I-Test : $\geq 100\text{mA}$ Negative I-Test : $\geq 100\text{mA}$ Overvoltage Test : 1.5 x VDD or MSV, whichever is less Class II B : If immunity level A cannot be achieved
I Trigger (-)	IO5.5V		PASS -400mA	-2.75V		
Over Volt Test V _{supply}	VDD5.5V		PASS +8.25V	+600mA		

VCAP 外接 1.0UF 电容到地

Group	Pins
GND	8,23,47
VCAP1.5V	1
IO5.5V	2-7,10-22,25-46
VDD5.5V	9,24,48

2.2 测试数据 (TEST DATA)

Tested Pins Team	I Trigger (Positive)		
	Sample No. & Failed current (mA)		
	#11	#12	#13
2	PASS +400mA	PASS +400mA	PASS +400mA
3	PASS +400mA	PASS +400mA	PASS +400mA
4	PASS +400mA	PASS +400mA	PASS +400mA
5	PASS +400mA	PASS +400mA	PASS +400mA
6	PASS +400mA	PASS +400mA	PASS +400mA
7	PASS +400mA	PASS +400mA	PASS +400mA
10	PASS +400mA	PASS +400mA	PASS +400mA
11	PASS +400mA	PASS +400mA	PASS +400mA
12	PASS +400mA	PASS +400mA	PASS +400mA
13	PASS +400mA	PASS +400mA	PASS +400mA
14	PASS +400mA	PASS +400mA	PASS +400mA
15	PASS +400mA	PASS +400mA	PASS +400mA
16	PASS +400mA	PASS +400mA	PASS +400mA
17	PASS +400mA	PASS +400mA	PASS +400mA
18	PASS +400mA	PASS +400mA	PASS +400mA
19	PASS +400mA	PASS +400mA	PASS +400mA
20	PASS +400mA	PASS +400mA	PASS +400mA
21	PASS +400mA	PASS +400mA	PASS +400mA
22	PASS +400mA	PASS +400mA	PASS +400mA
25	PASS +400mA	PASS +400mA	PASS +400mA
26	PASS +400mA	PASS +400mA	PASS +400mA
27	PASS +400mA	PASS +400mA	PASS +400mA
28	PASS +400mA	PASS +400mA	PASS +400mA
29	PASS +400mA	PASS +400mA	PASS +400mA
30	PASS +400mA	PASS +400mA	PASS +400mA
31	PASS +400mA	PASS +400mA	PASS +400mA
32	PASS +400mA	PASS +400mA	PASS +400mA
33	PASS +400mA	PASS +400mA	PASS +400mA
34	PASS +400mA	PASS +400mA	PASS +400mA
35	PASS +400mA	PASS +400mA	PASS +400mA
36	PASS +400mA	PASS +400mA	PASS +400mA
37	PASS +400mA	PASS +400mA	PASS +400mA
38	PASS +400mA	PASS +400mA	PASS +400mA
39	PASS +400mA	PASS +400mA	PASS +400mA
40	PASS +400mA	PASS +400mA	PASS +400mA
41	PASS +400mA	PASS +400mA	PASS +400mA
42	PASS +400mA	PASS +400mA	PASS +400mA
43	PASS +400mA	PASS +400mA	PASS +400mA
44	PASS +400mA	PASS +400mA	PASS +400mA
45	PASS +400mA	PASS +400mA	PASS +400mA
46	PASS +400mA	PASS +400mA	PASS +400mA

Tested Pins Team	I Trigger (Negative)		
	Sample No. & Failed current (mA)		
	#11	#12	#13
2	PASS -400mA	PASS -400mA	PASS -400mA
3	PASS -400mA	PASS -400mA	PASS -400mA
4	PASS -400mA	PASS -400mA	PASS -400mA
5	PASS -400mA	PASS -400mA	PASS -400mA
6	PASS -400mA	PASS -400mA	PASS -400mA
7	PASS -400mA	PASS -400mA	PASS -400mA
10	PASS -400mA	PASS -400mA	PASS -400mA
11	PASS -400mA	PASS -400mA	PASS -400mA
12	PASS -400mA	PASS -400mA	PASS -400mA
13	PASS -400mA	PASS -400mA	PASS -400mA
14	PASS -400mA	PASS -400mA	PASS -400mA
15	PASS -400mA	PASS -400mA	PASS -400mA
16	PASS -400mA	PASS -400mA	PASS -400mA
17	PASS -400mA	PASS -400mA	PASS -400mA
18	PASS -400mA	PASS -400mA	PASS -400mA
19	PASS -400mA	PASS -400mA	PASS -400mA
20	PASS -400mA	PASS -400mA	PASS -400mA
21	PASS -400mA	PASS -400mA	PASS -400mA
22	PASS -400mA	PASS -400mA	PASS -400mA
25	PASS -400mA	PASS -400mA	PASS -400mA
26	PASS -400mA	PASS -400mA	PASS -400mA
27	PASS -400mA	PASS -400mA	PASS -400mA
28	PASS -400mA	PASS -400mA	PASS -400mA
29	PASS -400mA	PASS -400mA	PASS -400mA
30	PASS -400mA	PASS -400mA	PASS -400mA
31	PASS -400mA	PASS -400mA	PASS -400mA
32	PASS -400mA	PASS -400mA	PASS -400mA
33	PASS -400mA	PASS -400mA	PASS -400mA
34	PASS -400mA	PASS -400mA	PASS -400mA
35	PASS -400mA	PASS -400mA	PASS -400mA
36	PASS -400mA	PASS -400mA	PASS -400mA
37	PASS -400mA	PASS -400mA	PASS -400mA
38	PASS -400mA	PASS -400mA	PASS -400mA
39	PASS -400mA	PASS -400mA	PASS -400mA
40	PASS -400mA	PASS -400mA	PASS -400mA
41	PASS -400mA	PASS -400mA	PASS -400mA
42	PASS -400mA	PASS -400mA	PASS -400mA
43	PASS -400mA	PASS -400mA	PASS -400mA
44	PASS -400mA	PASS -400mA	PASS -400mA
45	PASS -400mA	PASS -400mA	PASS -400mA
46	PASS -400mA	PASS -400mA	PASS -400mA

No	Over Voltage Test for V_{supply}		
	Sample No. & Failed current (mA)		
	#11	#12	#13
9	PASS +8.25V	PASS +8.25V	PASS +8.25V
24	PASS +8.25V	PASS +8.25V	PASS +8.25V
48	PASS +8.25V	PASS +8.25V	PASS +8.25V

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地址 (Address): 中国上海浦东新区金丰路 455 号 (2 幢厂房北面车间的西首部的物业, 7 幢厂房北半部分的物业)
 No.455 Jinfeng Rd, New District Pudong, Shanghai, China (North west side of the 2nd building; north side of 7th building.)

电话 (Tel): 86-21-61910691, 传真 (Fax): 86-21-64069790

网址 (web): <http://www.chinaisti.com>