

# 开锁试验报告

## Latch up TEST REPORT

委托公司 : 南京凌鸥创芯电子有限公司  
Company  
公司地址 : 南京市栖霞区兴智路 6 号 兴智科技园 B 座 15 楼  
Address  
产品名称 : LKS32MC037  
Sample name  
委托日期 : 2022 年 1 月 27 日  
Date Received  
完成日期 : 2022 年 2 月 11 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 ) :

对于本报告所载之测试项目及结果，实验室保证由训练合格之专业技术人员负责执行，并忠实及完整将各项试验结果记录于报告内。

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<br>Inspector         | 卢健<br>Glory Lu    |  | 2022 年 2 月 11 日 |
| 报告审核人<br>Report reviewer | 陈清珑<br>Larry Chen |  | 2022 年 2 月 11 日 |
| 报告批准人<br>Approver        | 李鹏云<br>Smile Li   |  | 2022 年 2 月 16 日 |

### **备注 ( NOTE ):**

1. 本报告内容以任何方式翻印或复印部份者无效。  
This report will be invalid if reproduced in part or altered in any way.
2. 本报告仅对检送样品负责，且分离使用无效。  
This report refers only to the specimen(s) submitted to test, and is invalid if used otherwise.
3. 本报告需加盖本公司印鉴及签名始生效。  
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

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

## 1 讯息 (INFORMATION)

### 1.1 案件讯息 (CASE INFORMATION)

| 试验样品<br>Test Sample | 批次号<br>LOT NO. | 封装<br>Package | 数量<br>Quantity |
|---------------------|----------------|---------------|----------------|
| LKS32MC037          | NA             | SSOP24        | 3 pcs          |

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

| 项目<br>Items | 设备/编号<br>Equipment/No. | 型号<br>Model   | 校准有效期<br>Calibration validity |
|-------------|------------------------|---------------|-------------------------------|
| 1           | 1409189                | Zapmaster MK2 | 2022年03月22日                   |

### 1.3 环境条件 (AMBIENCE CONDITION)

|  |                                   |                            |              |
|--|-----------------------------------|----------------------------|--------------|
| 标准要求温度<br>Required temperature         | 25 <sup>+3</sup> <sub>-5</sub> °C | 实际温度<br>Actual temperature | 23.3~23.8°C  |
| 标准要求相对湿度<br>Required relative humidity | 55± 10 %RH                        | 实际湿度<br>Actual humidity    | 51.4~51.9%RH |

### 1.4 参考文件 (REFERENCE DOCUMENT)

| 项目<br>Items | 依据标准<br>Standards                   |
|-------------|-------------------------------------|
| 1           | JEDEC STANDARD NO.78F NOVEMBER 2016 |

### 1.5 测试要求 (TEST REQUIREMENT)

TRIGGER CURRENT : 200mA(±);  
V SUPPLY OVER VOLTAGE TEST : 5.5V~7V,STEP:0.5V (+);  
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 | I Trigger : Class <u>IA</u>   |
|---------------------------------------|----------|-----------------|---------------|---------------|---|
| I Trigger (+)                         | IO6V     | 3               | PASS +200mA   | +7V           | CLASS I<br>For Latch-up test at room temperature<br>Class I A :<br>Positive I-Test : $\geq 100\text{mA}$<br>Negative I-Test : $\geq 100\text{mA}$<br>Overvoltage Test : 1.5 x VDD or MSV, whichever is less<br>Class I B :<br>If immunity level A cannot be achieved<br>CLASS II<br>For Latch-up test at maximum-rate ambient temperature<br>Class II A :<br>Positive I-Test : $\geq 100\text{mA}$<br>Negative I-Test : $\geq 100\text{mA}$<br>Overvoltage Test : 1.5 x VDD or MSV, whichever is less<br>Class II B :<br>If immunity level A cannot be achieved |
| I Trigger (-)                         | IO6V     |                 | PASS -200mA   | -1V           |   |
| Over Volt Test<br>$V_{\text{supply}}$ | VCC5.5V  |                 | PASS+7V       | +600mA        |   |

| Group   | Pin list   |
|---------|------------|
| IO6V    | 1-18,21-24 |
| VCC5.5V | 20         |
| VSS     | 19         |

## 2.2 测试数据 ( TEST DATA )

| Tested Pin | I Trigger (Positive)             |             |             |
|------------|----------------------------------|-------------|-------------|
|            | Sample No. & Failed current (mA) |             |             |
|            | #L1                              | #L2         | #L3         |
| 1          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 2          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 3          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 4          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 5          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 6          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 7          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 8          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 9          | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 10         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 11         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 12         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 13         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 14         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 15         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 16         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 17         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 18         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 21         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 22         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 23         | PASS +200mA                      | PASS +200mA | PASS +200mA |
| 24         | PASS +200mA                      | PASS +200mA | PASS +200mA |

| I Trigger (Negative) |                                  |             |             |
|----------------------|----------------------------------|-------------|-------------|
| Tested Pin           | Sample No. & Failed current (mA) |             |             |
|                      | #L1                              | #L2         | #L3         |
| 1                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 2                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 3                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 4                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 5                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 6                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 7                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 8                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 9                    | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 10                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 11                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 12                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 13                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 14                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 15                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 16                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 17                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 18                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 21                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 22                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 23                   | PASS -200mA                      | PASS -200mA | PASS -200mA |
| 24                   | PASS -200mA                      | PASS -200mA | PASS -200mA |

| Over Voltage Test for $V_{supply}$ |                              |      |      |
|------------------------------------|------------------------------|------|------|
| Tested Pin                         | Sample No. & Failed Volt (V) |      |      |
|                                    | #L1                          | #L2  | #L3  |
| 20                                 | PASS                         | PASS | PASS |

《以下空白》

<< The Following Blank >>