

检测报告

编号: SZXEC24004046914

日期: 2024 年 12 月 26 日

第 1 页, 共 7 页

客户名称: 深圳市永源微电子科技有限公司
客户地址: 深圳市宝安区福海和秀西路 44 号锐明工业园 C2 栋

样品名称: 半导体元器件
型号: TO252-3L
客户参考信息: TO252-4L、TO263-3L、TO251S-3L、TO220F-3L、TO220-3L、
TO247-3L、PDFN3*3-8L、PDFN5*6-8L、TO263-6L、TOLLA-8L、
STOLL-5L、TO264-3L

以上样品及信息由客户提供。

SGS 工作编号: SZP24-055965
样品接收时间: 2024 年 12 月 19 日
检测周期: 2024 年 12 月 19 日 ~ 2024 年 12 月 26 日
检测要求: 根据客户要求检测
检测方法: 见后续页。
检测结果: 见后续页。

| 检测要求 | 结论 |
|--|----|
| 欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863-铅、汞、镉、六价铬、多溴联苯 (PBB)、多溴二苯醚 (PBDE)、邻苯二甲酸二(2-乙基己基)酯 (DEHP)、邻苯二甲酸丁苄酯 (BBP)、邻苯二甲酸二丁酯 (DBP)和邻苯二甲酸二异丁酯 (DIBP) | 符合 |
| 欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863-铅、汞、镉和六价铬 | 符合 |

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袁依婷

Fay Yuan 袁依婷
批准签署人

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检测结果:

检测部件外观描述:

| 样品序号 | 样品编号 | SGS 样品 ID | 样品描述 |
|------|------|-------------------------|---------------|
| SN1 | A2 | SZX24-0040469-0001.C002 | 带米色印字和芯片的黑色塑胶 |
| SN2 | A3 | SZX24-0040469-0001.C003 | 银色金属引脚 |

备注:

- (1) 1 mg/kg = 1 ppm = 0.0001%
- (2) MDL= 方法检出限
- (3) ND = 未检出 (< MDL)
- (4) "-" = 未规定

欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863-铅、汞、镉、六价铬、多溴联苯 (PBB)、多溴二苯醚 (PBDE)、邻苯二甲酸二(2-乙基己基)酯 (DEHP)、邻苯二甲酸丁苄酯 (BBP)、邻苯二甲酸二丁酯 (DBP)和邻苯二甲酸二异丁酯 (DIBP)

检测方法: 参考 IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017 和 IEC 62321-12:2023, 采用 ICP-OES/AAS, UV-Vis 和 GC-MS 进行分析。

| 检测项目 | 限值 | 单位 | MDL | A2 |
|------------------|------|-------|-----|----|
| 铅 (Pb) | 1000 | mg/kg | 2 | 13 |
| 汞 (Hg) | 1000 | mg/kg | 2 | ND |
| 镉 (Cd) | 100 | mg/kg | 2 | ND |
| 六价铬 (Cr(VI)) | 1000 | mg/kg | 8 | ND |
| 多溴联苯之和 (PBB) | 1000 | mg/kg | - | ND |
| 一溴联苯 (MonoBB) | - | mg/kg | 25 | ND |
| 二溴联苯 (DiBB) | - | mg/kg | 25 | ND |
| 三溴联苯 (TriBB) | - | mg/kg | 25 | ND |
| 四溴联苯 (TetraBB) | - | mg/kg | 25 | ND |
| 五溴联苯 (PentaBB) | - | mg/kg | 25 | ND |
| 六溴联苯 (HexaBB) | - | mg/kg | 25 | ND |
| 七溴联苯 (HeptaBB) | - | mg/kg | 25 | ND |
| 八溴联苯 (OctaBB) | - | mg/kg | 25 | ND |
| 九溴联苯 (NonaBB) | - | mg/kg | 25 | ND |
| 十溴联苯 (DecaBB) | - | mg/kg | 25 | ND |
| 多溴二苯醚之和 (PBDE) | 1000 | mg/kg | - | ND |
| 一溴二苯醚 (MonoBDE) | - | mg/kg | 25 | ND |
| 二溴二苯醚 (DiBDE) | - | mg/kg | 25 | ND |
| 三溴二苯醚 (TriBDE) | - | mg/kg | 25 | ND |
| 四溴二苯醚 (TetraBDE) | - | mg/kg | 25 | ND |
| 五溴二苯醚 (PentaBDE) | - | mg/kg | 25 | ND |
| 六溴二苯醚 (HexaBDE) | - | mg/kg | 25 | ND |



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| 检测项目 | 限值 | 单位 | MDL | A2 |
|------------------------|------|-------|-----|----|
| 七溴二苯醚 (HeptaBDE) | - | mg/kg | 25 | ND |
| 八溴二苯醚 (OctaBDE) | - | mg/kg | 25 | ND |
| 九溴二苯醚 (NonaBDE) | - | mg/kg | 25 | ND |
| 十溴二苯醚 (DecaBDE) | - | mg/kg | 25 | ND |
| 邻苯二甲酸二(2-乙基己基)酯 (DEHP) | 1000 | mg/kg | 50 | ND |
| 邻苯二甲酸丁苄酯 (BBP) | 1000 | mg/kg | 50 | ND |
| 邻苯二甲酸二丁酯 (DBP) | 1000 | mg/kg | 50 | ND |
| 邻苯二甲酸二异丁酯 (DIBP) | 1000 | mg/kg | 50 | ND |

备注:

- (1) 最大允许限值引用自 RoHS 指令(EU) 2015/863。
- (2) IEC 62321 系列等同于 EN 62321 系列。
- (3) 2021年7月22号开始, DEHP, BBP, DBP 和 DIBP 的限制适用于医疗器械, 包括体外医疗器械, 监控仪表, 包括工业监测和控制仪器。

欧盟 RoHS 指令 2011/65/EU 附录 II 的修正指令(EU) 2015/863-铅、汞、镉和六价铬

检测方法: 参考 IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013 和 IEC 62321-7-1:2015, 采用 ICP-OES/AAS 和 UV-Vis 进行分析。

| 检测项目 | 限值 | 单位 | MDL | A3 |
|---------------------------|------|--------------------|------|----|
| 铅 (Pb) | 1000 | mg/kg | 2 | 7 |
| 汞 (Hg) | 1000 | mg/kg | 2 | ND |
| 镉 (Cd) | 100 | mg/kg | 2 | ND |
| 六价铬 (Cr(VI)) [▼] | - | µg/cm ² | 0.10 | ND |

备注:

- (1) 最大允许限值引用自 RoHS 指令(EU) 2015/863。
- (2) IEC 62321 系列等同于 EN 62321 系列。
- (3) [▼] = a. 当六价铬的浓度高于 0.13 µg/cm² 时, 样品为阳性, 即含有六价铬;
 b. 当六价铬的浓度为 ND (低于 0.10 µg/cm²) 时, 样品为阴性, 即未检测到六价铬;
 c. 当六价铬的浓度介于 0.10 µg/cm² 与 0.13 µg/cm² 之间时, 无法直接判定是否检测到六价铬, 因不同个体的样品表面差异可能会影响测定结果。

由于未获知样品的存储条件和生产日期, 样品的六价铬检测结果仅能代表检测时样品含六价铬的状态。

除非另有说明, 参照 ILAC-G8:09/2019, 使用简单接受 (w=0) 的二元判定规则进行符合性判定。
 除非另有说明, 此报告结果仅对检测的样品负责。本报告未经本公司书面许可, 不可部分复制。
 检测报告仅用于客户科研、教学、内部质量控制、产品研发等目的, 仅供内部参考。



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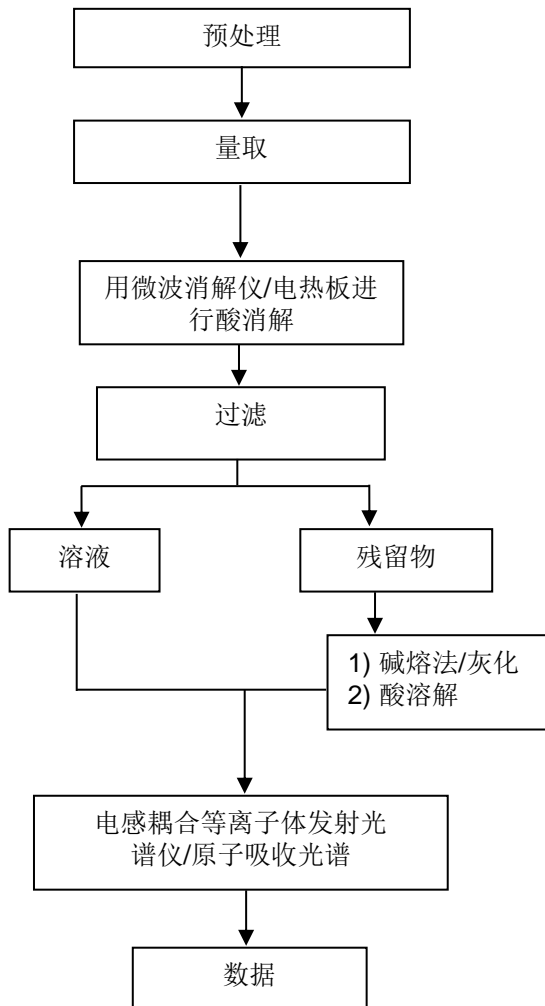
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附件

元素检测流程图

样品按照下述流程被完全消解



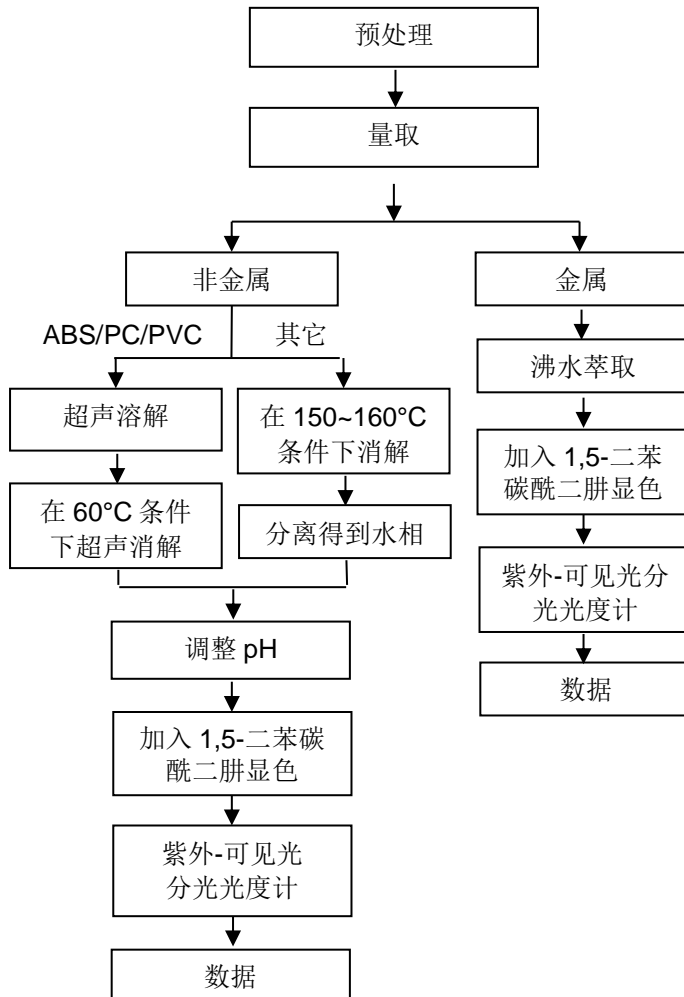
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六价铬检测流程图



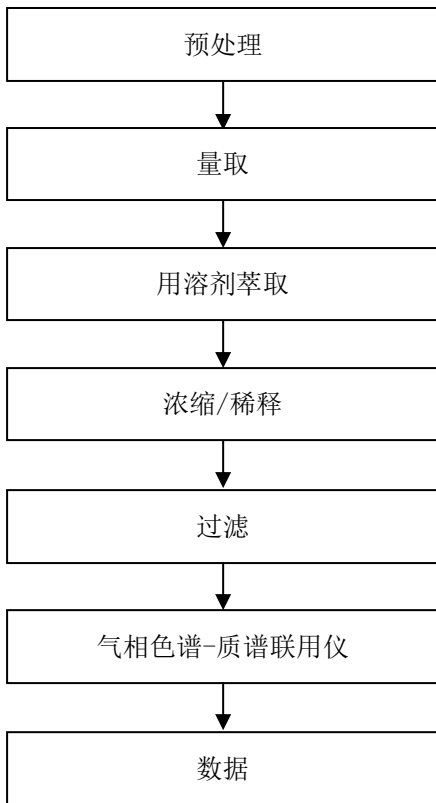
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PBB/PBDE/Phthalates 检测流程图



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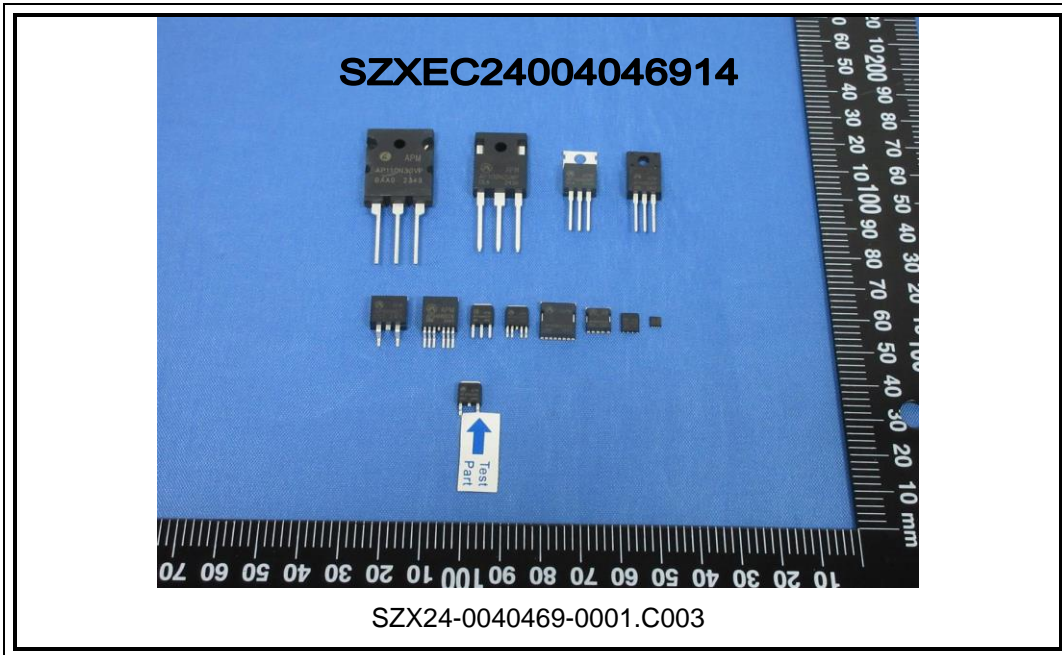
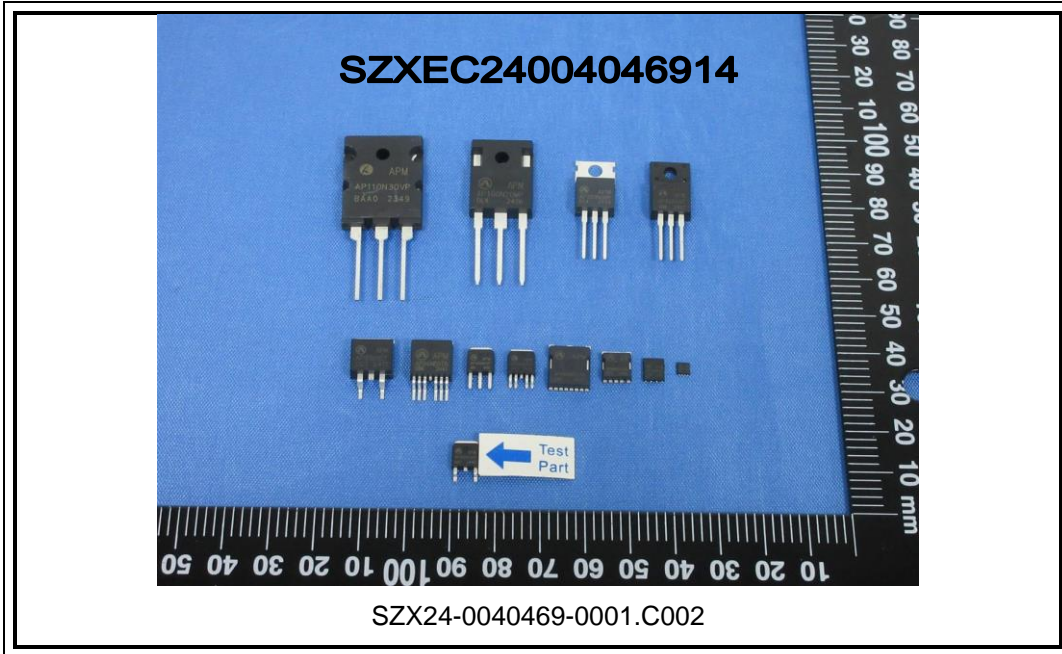
检测报告

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