

检测报告

编号: SHAEC2202478506 A01

日期: 2022年06月20日

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客户名称: 江苏博业创信半导体有限公司

客户地址: 江苏省苏州市昆山市玉山镇红杨路1188号

样品名称: 二极管

型号: DIP

批号: 2022

客户参考信息: R-1、R-3、R-6、DO-41(DO-204AL)、DO-15(DO-204AC)、DO-27(DO-201AD)、17-02、HVM、HV T0-92、TO-126 MBM、DB、DBS、UMB、DBS、UMB、MBM MSBL、KBP、KBL、KBU、MOB、GBP、GBL、D3K、GBU、KBJ、GBJ、RB、KBPC GBPC

以上样品及信息由客户提供。

此报告替代原来编号为SHAEC2202478502的报告。

SGS工作编号: SP22-003358 - SH

样品接收日期: 2022年02月16日

检测周期: 2022年02月16日 - 2022年03月24日

检测要求: 根据客户要求检测

检测方法: 请参见下一页

检测结果: 请参见下一页

结论: 基于所送样品进行的检测, 镉、铅、汞、六价铬、多溴联苯(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸酯(如邻苯二甲酸二丁酯(DBP)、邻苯二甲酸丁苯酯(BBP)、邻苯二甲酸二(2-乙基己基)酯(DEHP)和邻苯二甲酸二异丁酯(DIBP))的检测结果显示符合欧盟RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863的限值要求。

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授权签名

胡敏

Dora Hu 胡敏

批准签署人

scan to see the report



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Testing Center (China) Co., Ltd.

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检测结果:

检测样品描述:

样品编号	SGS样品ID	描述
SN1	SHA22-024785.001	银色金属
SN2	SHA22-024785.002	铜色金属
SN3	SHA22-024785.003	黑色固体

备注:

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

RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863

检测方法: 参考IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-2:2017, IEC 62321-6:2015和IEC 62321-8:2017, 采用ICP-OES, UV-Vis和GC-MS进行分析。

检测项目	限值	单位	MDL	003
镉(Cd)	100	mg/kg	2	ND
铅(Pb)	1000	mg/kg	2	4
汞(Hg)	1000	mg/kg	2	ND
六价铬 (Cr(VI))	1000	mg/kg	8	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND
一溴联苯	-	mg/kg	5	ND
二溴联苯	-	mg/kg	5	ND
三溴联苯	-	mg/kg	5	ND
四溴联苯	-	mg/kg	5	ND
五溴联苯	-	mg/kg	5	ND
六溴联苯	-	mg/kg	5	ND
七溴联苯	-	mg/kg	5	ND
八溴联苯	-	mg/kg	5	ND
九溴联苯	-	mg/kg	5	ND
十溴联苯	-	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND
一溴二苯醚	-	mg/kg	5	ND
二溴二苯醚	-	mg/kg	5	ND



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检测项目	限值	单位	MDL	003
三溴二苯醚	-	mg/kg	5	ND
四溴二苯醚	-	mg/kg	5	ND
五溴二苯醚	-	mg/kg	5	ND
六溴二苯醚	-	mg/kg	5	ND
七溴二苯醚	-	mg/kg	5	ND
八溴二苯醚	-	mg/kg	5	ND
九溴二苯醚	-	mg/kg	5	ND
十溴二苯醚	-	mg/kg	5	ND
邻苯二甲酸二丁酯 (DBP)	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(2-乙基己基)酯(DEHP)	1000	mg/kg	50	ND
邻苯二甲酸二异丁酯(DIBP)	1000	mg/kg	50	ND

备注:

(1) 最大允许极限值引用自RoHS指令(EU) 2015/863。

IEC 62321系列等同于 EN 62321 系列

https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(2) 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。

RoHS指令2011/65/EU附录II的修正指令(EU) 2015/863

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

检测项目	限值	单位	MDL	001	002
镉 (Cd)	100	mg/kg	2	ND	ND
铅(Pb)	1000	mg/kg	2		6
汞 (Hg)	1000	mg/kg	2	ND	ND
铅 (Pb)	0.1	%	-	92.43▲	
六价铬(Cr(VI))▼	-	µg/cm²	0.10	ND	ND

备注:

(1) 最大允许极限值引用自RoHS指令(EU) 2015/863。

IEC 62321系列等同于 EN 62321 系列

https://www.cenelec.eu/dyn/www/f?p=104:30:1742232870351101:::FSP_ORG_ID,FSP_LANG_ID:1258637,25

(2) ▼ = 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;



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c. 当六价铬的浓度介于 $0.10 \mu\text{g}/\text{cm}^2$ 与 $0.13 \mu\text{g}/\text{cm}^2$ 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。

(3) ▲根据客户提供的声明, 编号001中的铅(Pb)被欧盟RoHS指令2011/65/EU豁免, 相应豁免条文(请以英文原文为准) [ANNEX III 7(a)]: 高熔点型焊料中的铅(如铅含量等于或大于85%的铅基合金焊料)。

本报告更新了客户参考信息, 型号。

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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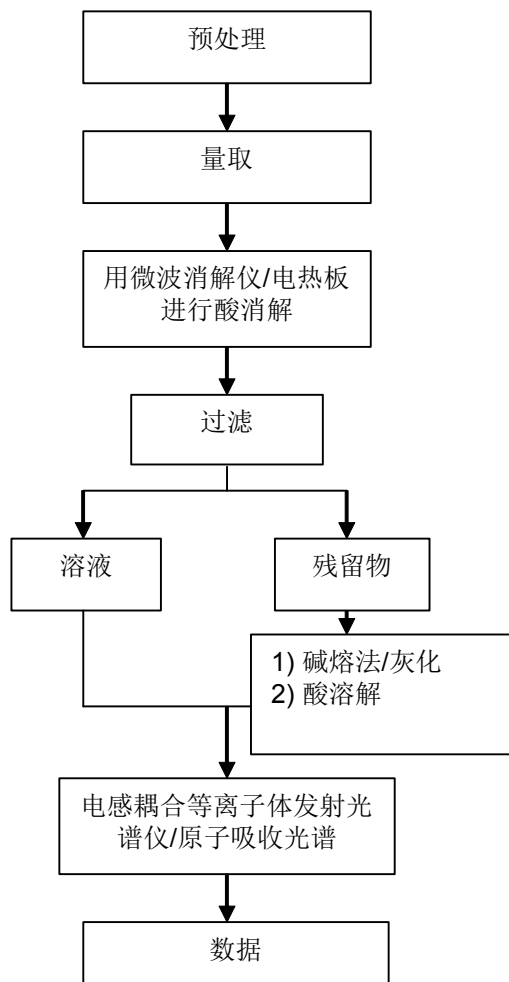
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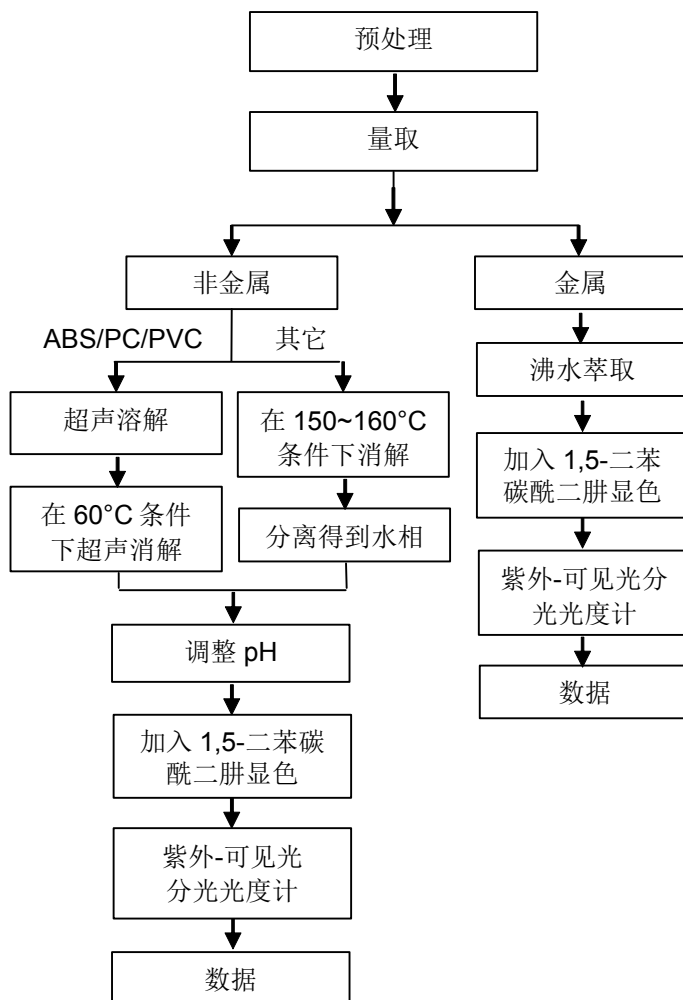
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元素(IEC62321) 检测流程图

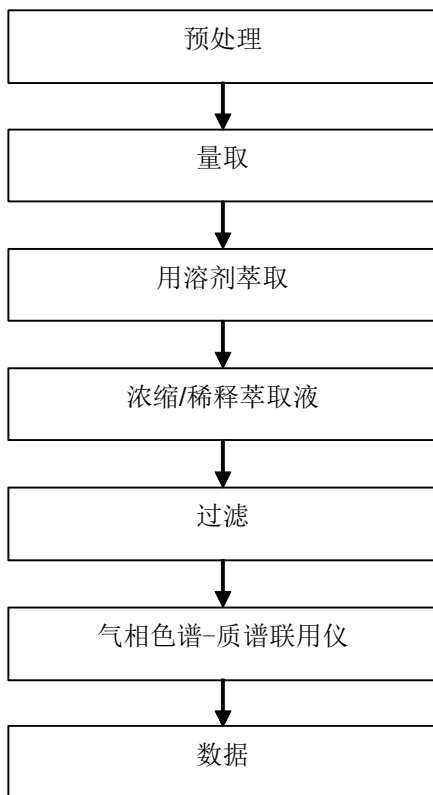
1) 样品按照下述流程被完全消解



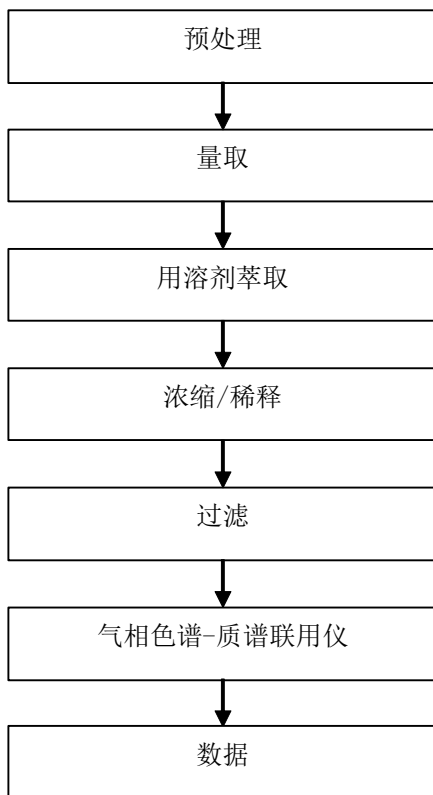
六价铬检测流程图



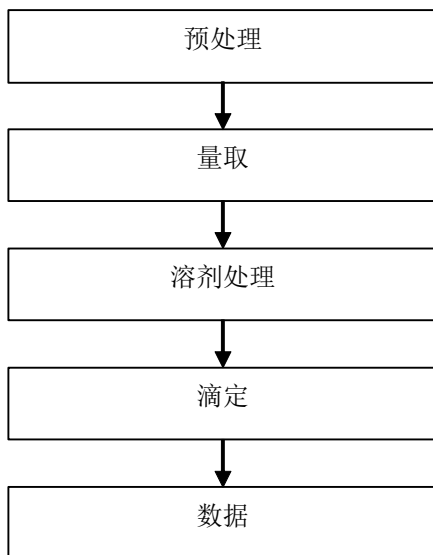
PBBs/PBDEs 检测流程图



Phthalates 检测流程图



滴定检测流程图



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样品照片:



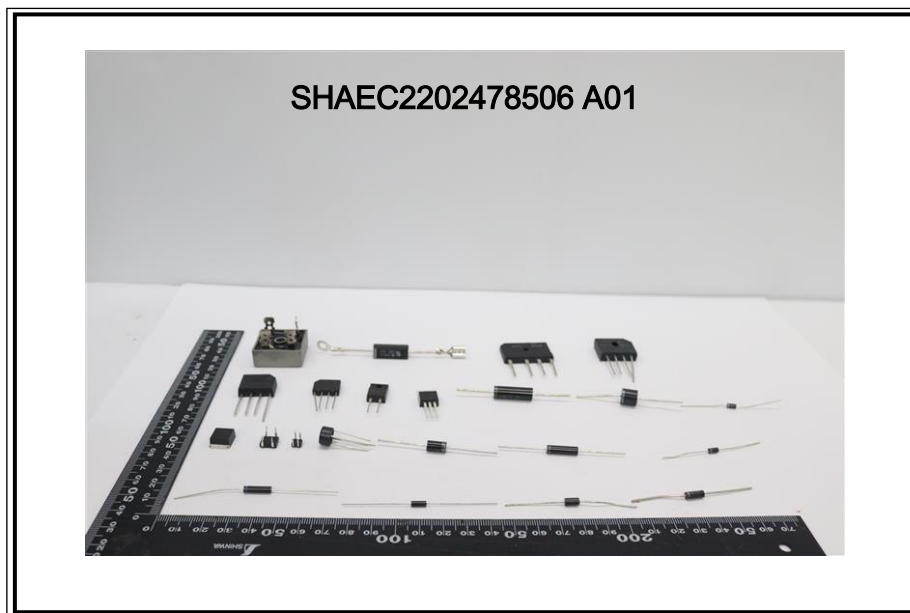
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