

## 检测报告

编号: SHAEC24021610602

日期: 2024年09月30日

第1页, 共7页

客户名称: 上海永铭电子股份有限公司

客户地址: 上海市奉贤区南桥镇杨王工业园光村路258号

样品名称: 铝电解电容器

型号: LMM

客户参考信息: LK LKM LKF LKG LKJ LKL LK7 LKX LKZ LKB LKD LMM LLK GP L3M L4M L3MC LKL(R) PKC KC KCX KCG KCD KCM LKE LED

以上样品及信息由客户提供。

SGS 工作编号: SHP24-030971

样品接收时间: 2024年09月23日

检测周期: 2024年09月23日 ~ 2024年09月30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

通标标准技术服务(上海)有限公司  
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第2页, 共7页

## 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	A1	SHA24-0216106-0001.C001	黑/银色本体
SN2	A2	SHA24-0216106-0001.C002	银色引脚

## 备注:

- (1)  $1 \text{ mg/kg} = 1 \text{ ppm} = 0.0001\%$
- (2) MDL= 方法检出限
- (3) ND = 未检出( $< \text{MDL}$ )
- (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	A1
铅 (Pb)	1000	mg/kg	2	ND
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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第3页, 共7页

检测项目	限值	单位	MDL	A1
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) 最大允许极限值引用自 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	A2
铅 (Pb)	1000	mg/kg	2	ND
汞 (Hg)	1000	mg/kg	2	ND
镉 (Cd)	100	mg/kg	2	ND
六价铬 (Cr(VI))▼	-	μg/cm <sup>2</sup>	0.10	ND

## 备注:

(1) 最大允许极限值引用自 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/cm<sup>2</sup> 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/cm<sup>2</sup>) 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/cm<sup>2</sup> 与 0.13 μg/cm<sup>2</sup> 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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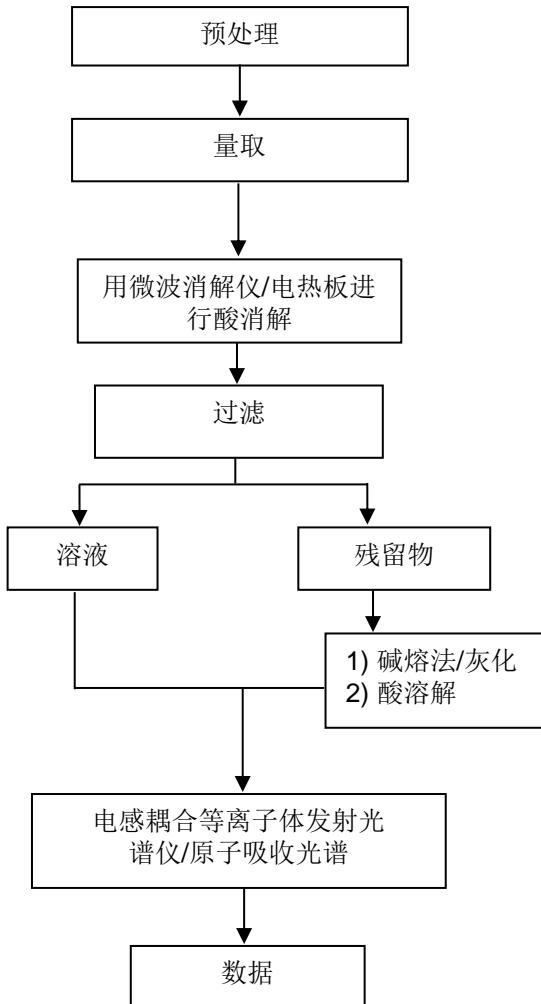
日期: 2024年09月30日

第4页, 共7页

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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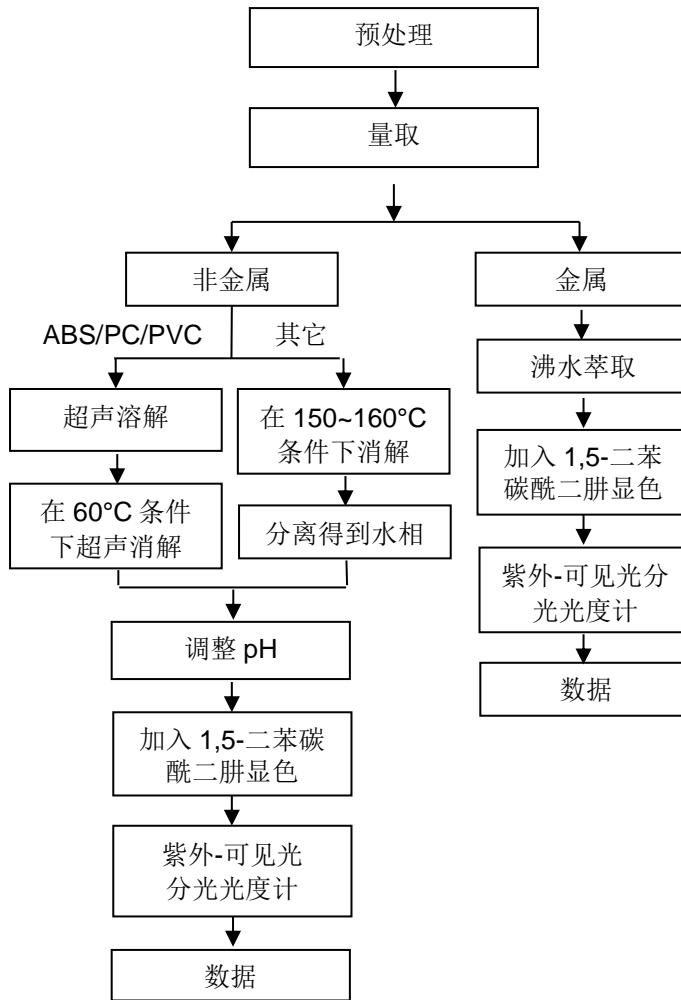
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日期: 2024年09月30日

第5页, 共7页

附件

## 六价铬检测流程图



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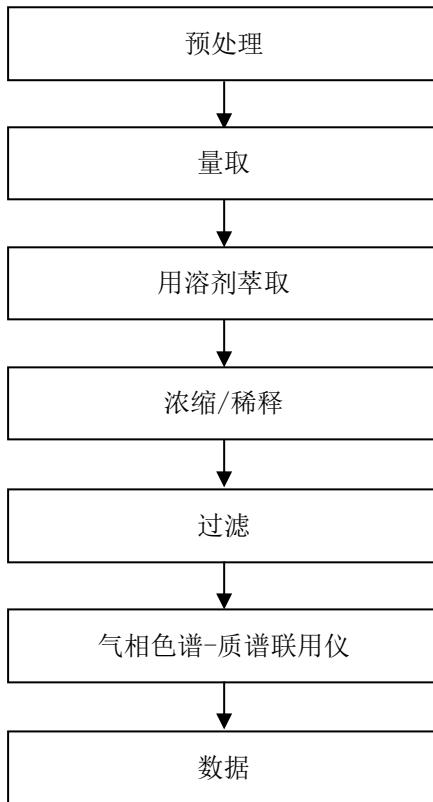
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日期: 2024年09月30日

第6页, 共7页

附件

## PBB/PBDE/Phthalates 检测流程图



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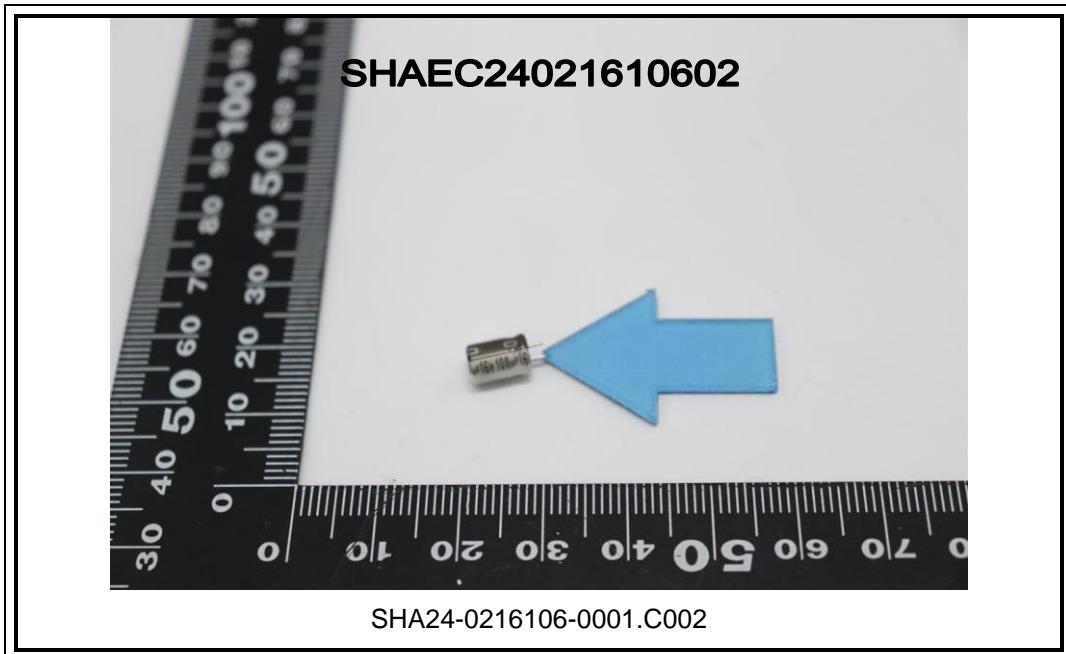
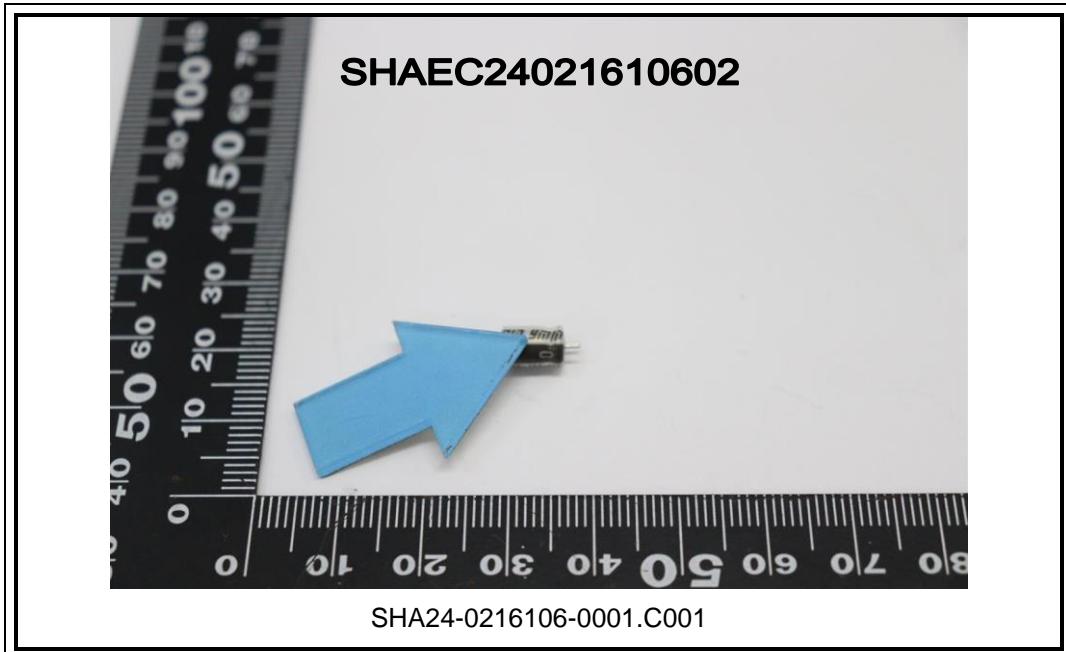
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编号: SHAEC24021610602

日期: 2024年09月30日

第7页, 共7页

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