

检测报告

编号: SZXEC25002751518

日期: 2025 年 08 月 06 日

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客户名称: 深圳市鲁光电子科技有限公司
日照鲁光电子科技有限公司
客户地址: 深圳市福田区车公庙泰然九路海松大厦 B 座 1407
山东省日照市经济技术开发区桂林路 166 号

样品名称: 二极管-整流桥
型号: SMA
客户参考信息: SOD-123FL,DO-213AA,DO-213AB,SMA,SMAF,SMAJ,SMB,SMBF,
SMC,DO-215AB,DO-218AB,TO-277,TO-251,TO-252,TO-263,
TO-220AB,TO-220AC,ITO-220AB,ITO-220AC,TO-247, TO-3P,
MBS,MSB,MBF,TBS,ABS,ABF,DB-S,DB-1,D3K,KBP,GBU,GBJ,
GBL,GBP,GBPC,GBPC-W,GBPC40,BGPC40-W,RB-15,WOM,
RS-1,BR-3,BR-6,BR-8,BR-W,BR-G,BR-GS,BR-GW,BR-L,KBL,
KBU,KBJ,KBJ2,KBJ4,KBJ6,KBPC,KBPC-W,HBS,MP,MP-W,
SKBL,SKBPC,SGBPC,MB,MT,QL,SQL,MDA/MDC/MDK/MDS/
MDQ,MFC/MFQ,UFT/MXY/MXG/MURH/PDSB/SGBJ,AR/ARS,
ARL,R-1,A-405,DO-41,DO-15,DO-15B,DO-15L,R-3,DO-27S,DO-27,
DO-201AE,DO-201AD,R-6,HVM,HVP,HV,HC,RB15

以上样品及信息由客户提供。

SGS 工作编号: SZP25-038832
样品接收时间: 2025 年 07 月 30 日
检测周期: 2025 年 07 月 30 日 ~ 2025 年 08 月 05 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

通标准技术服务有限公司深圳分公司 授权签名

贝瑞瑞

May Bei 贝瑞瑞

批准签署人

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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、镉和六价铬	符合

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	A4	SZX25-0027515-0001.C004	黑色本体
SN2	A5	SZX25-0027515-0001.C005	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	A4
铅 (Pb)	1000	mg/kg	2	22944▲
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



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检测项目	限值	单位	MDL	A4
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
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	A5
铅 (Pb)	1000	mg/kg	2	15
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/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。

备注▲: 根据客户提供的声明, 编号 No.A4 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(即铅含量等于或大于 85%的铅基合金焊料)。更多豁免相关信息, 可以从以下链接获取:

<https://rohs.sgsonline.com.cn/PDFLinks/zh-cn/RSTS-TP-037%20RoHS%20Exemption%20%28CN%29.pdf>



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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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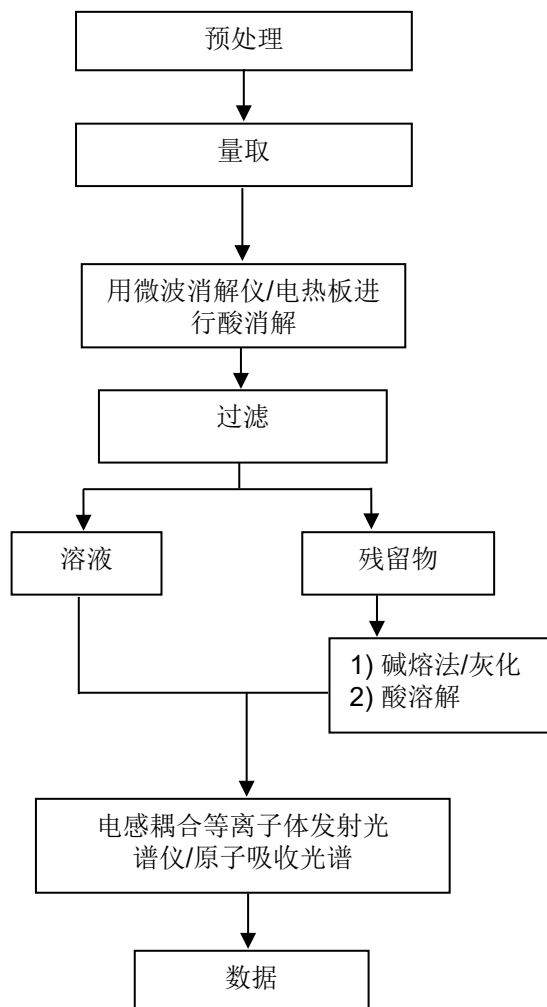
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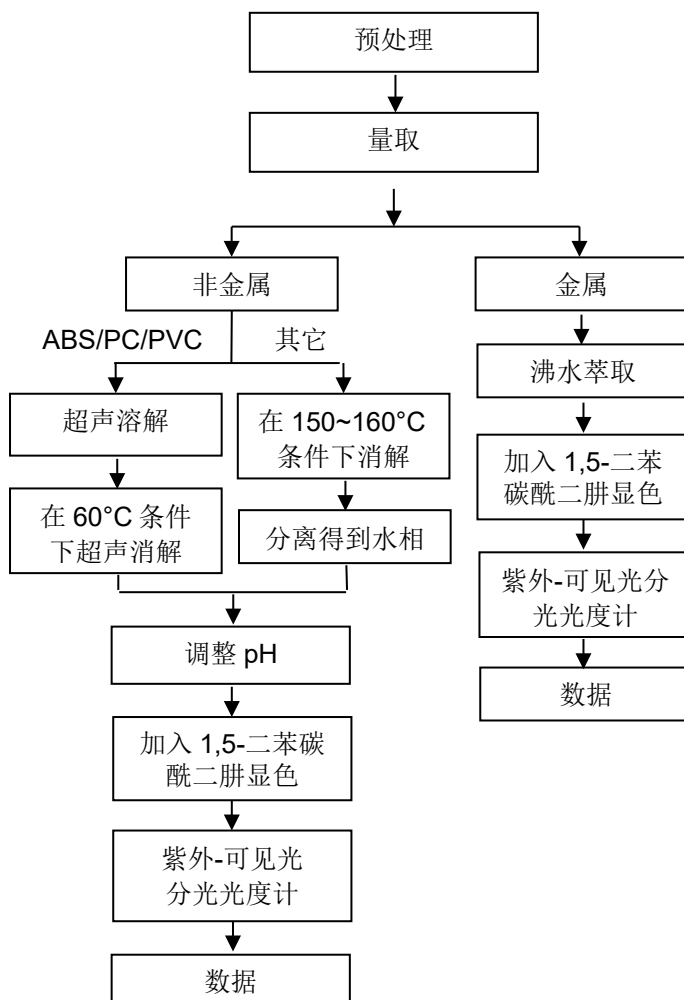
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元素检测流程图

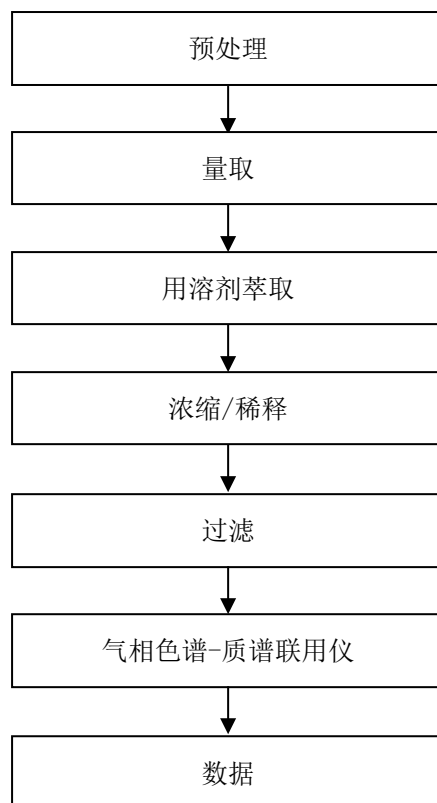
样品按照下述流程被完全消解



六价铬检测流程图



PBB/PBDE/Phthalates 检测流程图



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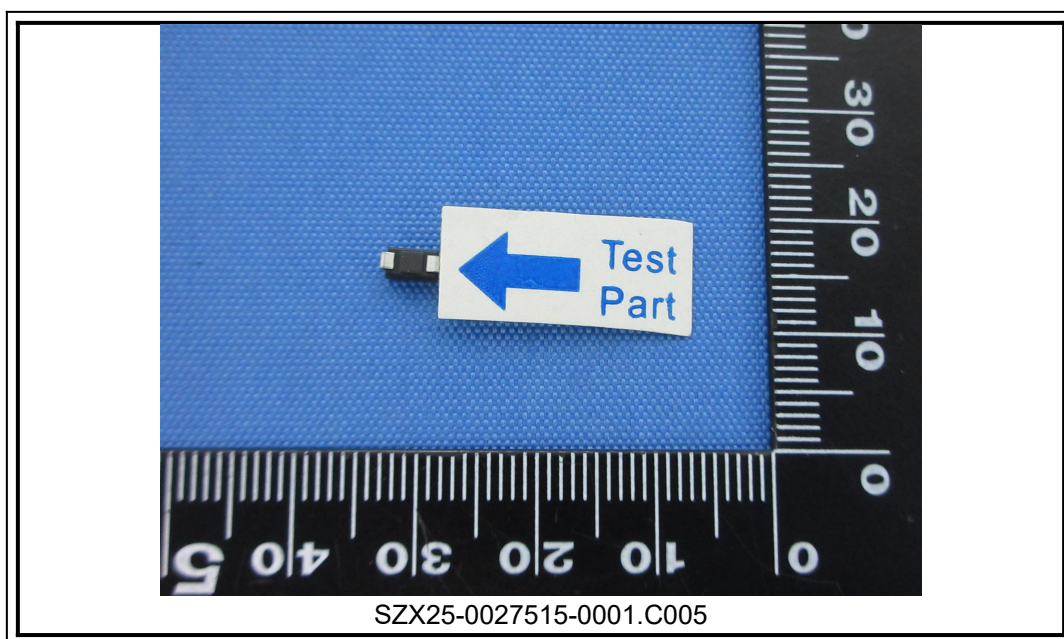
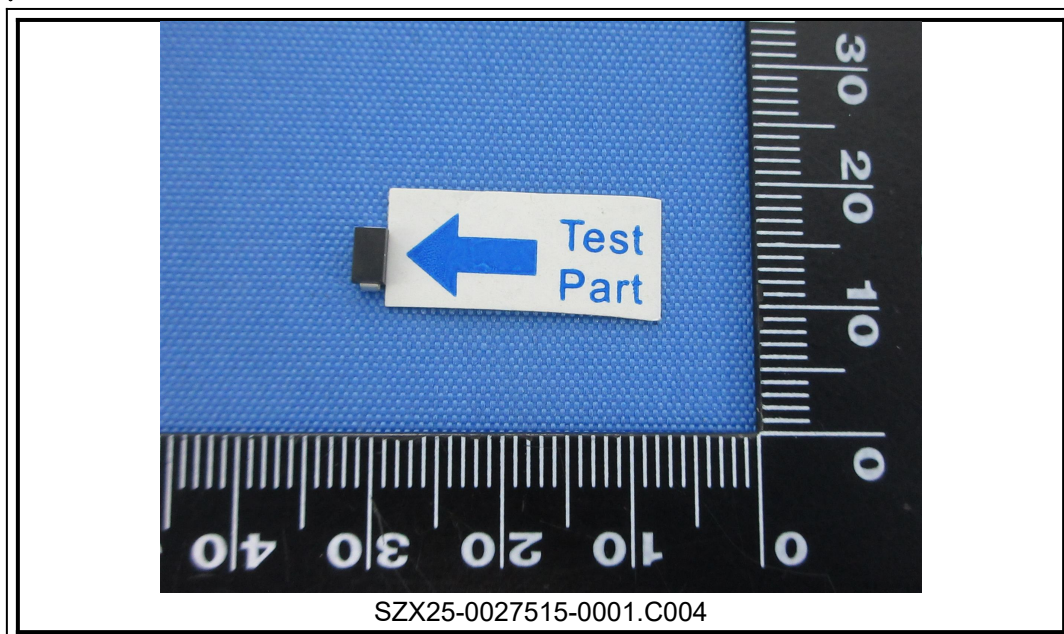
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