

## 检测报告

编号: SZXEC24003280704

日期: 2024年10月30日

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客户名称: 深圳市德芯半导体技术有限公司  
客户地址: 深圳市龙岗区坂田街道雅园路坂田创意产业园1栋2层12号

样品名称: DT12T35F-BH  
型号: DT12T35F-BH  
客户参考信息: TO-262/TO-263/TO-92/TO-126/TO-220/TO-220F/TO-247/TO-252/  
TO-251/TO-3P/ITO-220/ITO-3P/SMA/SMB/SMC/SMAF/SMBF/  
SOD-123/SOD-123FL/SOD-323/SOD-523/SOD-723/SOD-882/  
SOD-923/SOT-89/SOT-223/SOT-23/SOT-323/SOT-523/  
SOT-723/SOT-883/SOT-363/DFN0603/DFN1610/DFN2020/  
DFN2510/DFN2030/DFN3030/DFN5060/MBF/MBS/ABS/  
DBS/GBP/GBU/GBJ/SOP-4/SOP-8/TO-3PF/ITO-247/TO-247S

以上样品及信息由客户提供。

SGS 工作编号: SZP24-045937  
样品接收时间: 2024年10月21日  
检测周期: 2024年10月21日 ~ 2024年10月25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  
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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	A1	SZX24-0032807-0001.C001	带米色印字的黑色塑胶
SN2	A2	SZX24-0032807-0001.C002	带芯片的红铜色金属
SN3	A3	SZX24-0032807-0001.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	A1	A2
铅 (Pb)	1000	mg/kg	2	ND	6039 <sup>▲</sup>
汞 (Hg)	1000	mg/kg	2	ND	ND
镉 (Cd)	100	mg/kg	2	ND	ND
六价铬 (Cr(VI))	1000	mg/kg	8	ND	ND
多溴联苯之和 (PBB)	1000	mg/kg	-	ND	ND
一溴联苯 (MonoBB)	-	mg/kg	25	ND	ND
二溴联苯 (DiBB)	-	mg/kg	25	ND	ND
三溴联苯 (TriBB)	-	mg/kg	25	ND	ND
四溴联苯 (TetraBB)	-	mg/kg	25	ND	ND
五溴联苯 (PentaBB)	-	mg/kg	25	ND	ND
六溴联苯 (HexaBB)	-	mg/kg	25	ND	ND
七溴联苯 (HeptaBB)	-	mg/kg	25	ND	ND
八溴联苯 (OctaBB)	-	mg/kg	25	ND	ND
九溴联苯 (NonaBB)	-	mg/kg	25	ND	ND
十溴联苯 (DecaBB)	-	mg/kg	25	ND	ND
多溴二苯醚之和 (PBDE)	1000	mg/kg	-	ND	ND
一溴二苯醚 (MonoBDE)	-	mg/kg	25	ND	ND
二溴二苯醚 (DiBDE)	-	mg/kg	25	ND	ND
三溴二苯醚 (TriBDE)	-	mg/kg	25	ND	ND
四溴二苯醚 (TetraBDE)	-	mg/kg	25	ND	ND
五溴二苯醚 (PentaBDE)	-	mg/kg	25	ND	ND



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检测项目	限值	单位	MDL	A1	A2
六溴二苯醚 (HexaBDE)	-	mg/kg	25	ND	ND
七溴二苯醚 (HeptaBDE)	-	mg/kg	25	ND	ND
八溴二苯醚 (OctaBDE)	-	mg/kg	25	ND	ND
九溴二苯醚 (NonaBDE)	-	mg/kg	25	ND	ND
十溴二苯醚 (DecaBDE)	-	mg/kg	25	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	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。
- (4) ▲: 根据客户提供的声明, 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>

**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 <sup>2</sup>	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/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。



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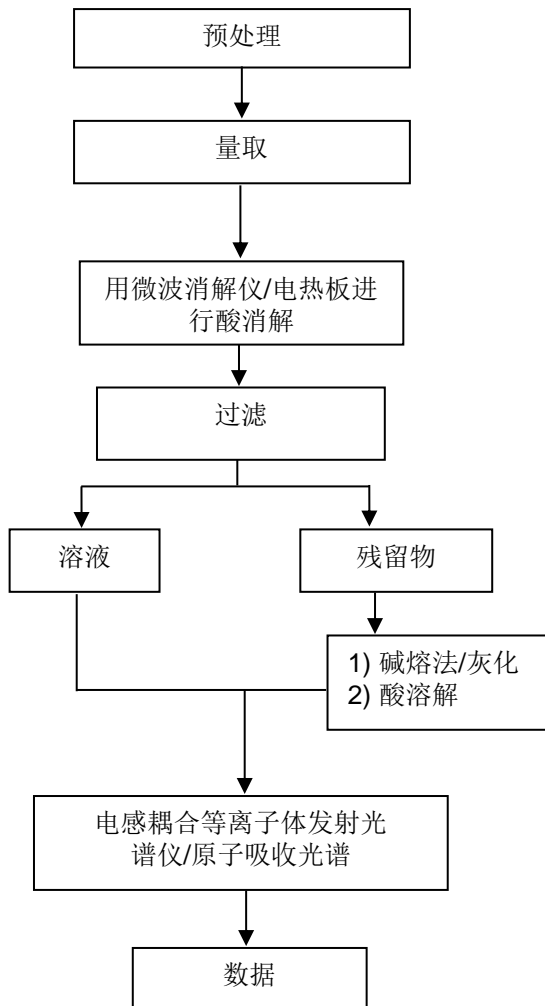
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附件

### 元素检测流程图

样品按照下述流程被完全消解



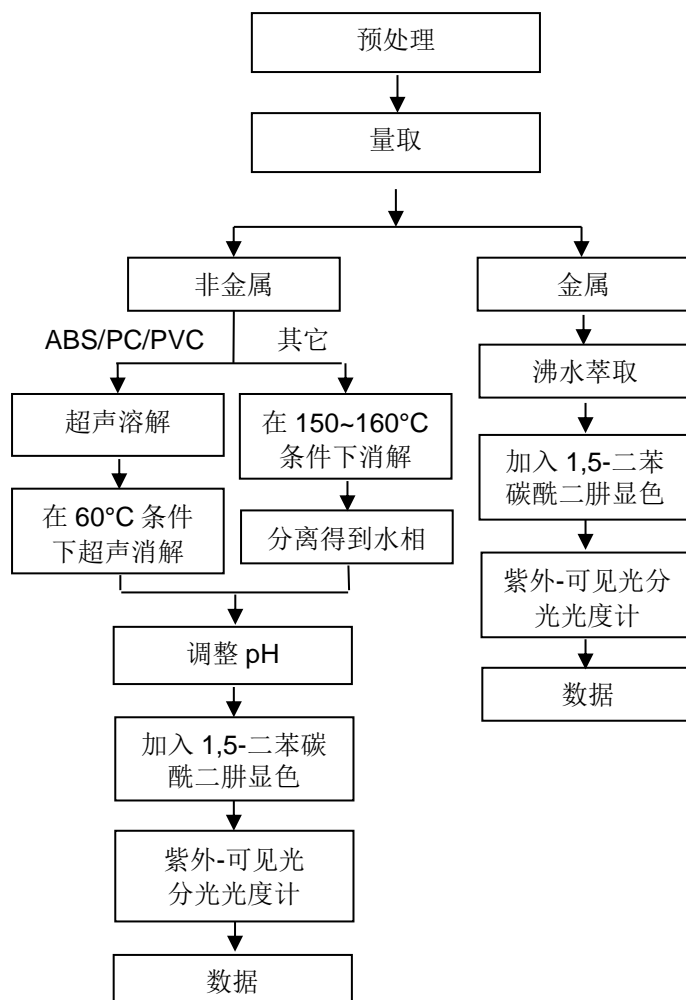
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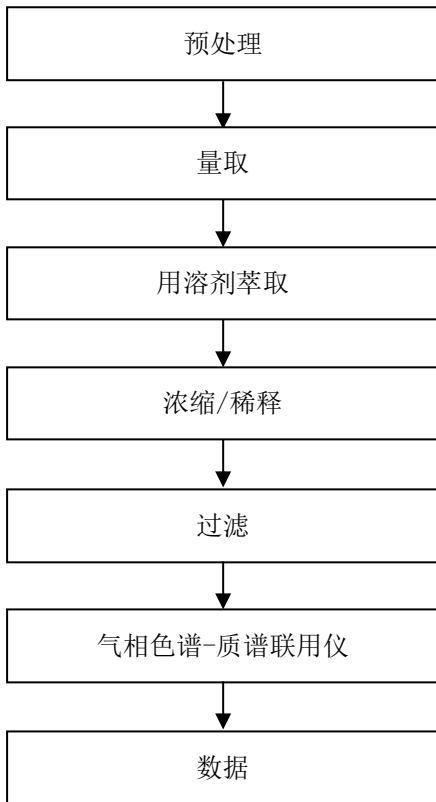
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### 六价铬检测流程图



### PBB/PBDE/Phthalates 检测流程图



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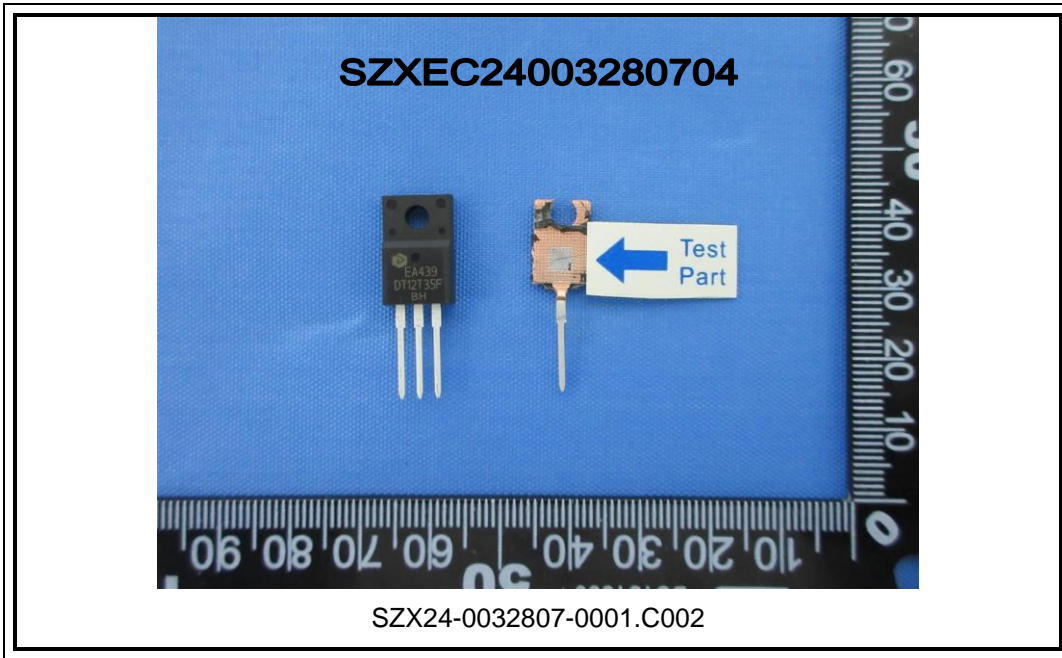
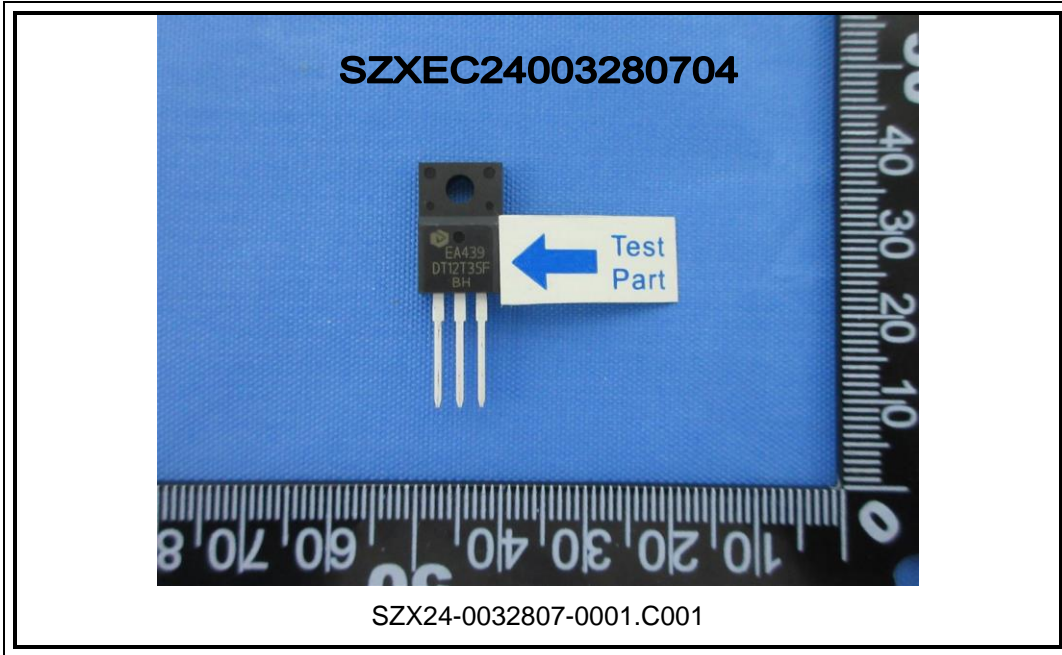
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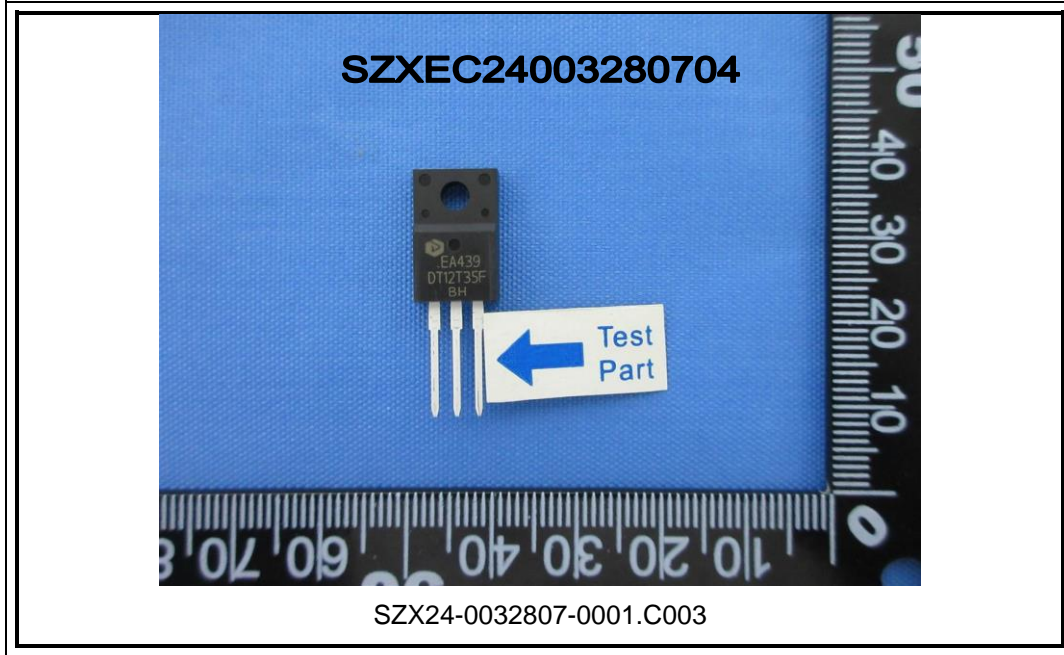
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