



检测报告

编号: CANEC2301128316

日期: 2023年02月10日 第1页,共9页

客户名称: 乐山希尔电子股份有限公司
客户地址: 四川省乐山市高新区南新路9号

样品名称: 绝缘栅双极型晶体管
型号: LSH20N135F1 A
生产厂家: a.芯片110mil乐山嘉洋科技发展有限公司b.框架XYK-1宁波兴业盛泰集团有限公司c.锡膏Pb90Sn8Ag2 北京达博长城锡焊料有限公司d.环氧树脂EME-1250D3A 长春封塑料(常熟)有限公司e.镀层Sn99.90AA 云南锡业股份有限公司
客户参考信息: 见备注
以上样品及信息由客户提供。

SGS工作编号: 10024537 - CQ
样品接收日期: 2023年02月01日
检测周期: 2023年02月01日 - 2023年02月09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
检测结果概要:

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(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸二丁酯 (DBP), 邻苯二甲酸丁苄酯(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)	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

通标标准技术服务有限公司广州分公司
授权签名

邱蔚珊

Coral Qiu 邱蔚珊
批准签署人



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Guangzhou Branch Inspection & Testing Services

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检测报告

编号: CANEC2301128316

日期: 2023年02月10日 第2页,共9页

检测结果:

检测样品描述:

样品编号	SGS样品ID	描述
SN1	CAN23-011283.007	银色金属引脚
SN2	CAN23-011283.008	带焊锡的铜色带银色金属
SN3	CAN23-011283.009	带芯片和米色印字的黑色塑料壳

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

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(PBBs), 多溴二苯醚(PBDEs), 邻苯二甲酸二丁酯(DBP), 邻苯二甲酸丁苄酯(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)

检测方法: 参考IEC 62321-4:2013+A1:2017, 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	009
镉 (Cd)	100	mg/kg	2	ND
铅 (Pb)	1000	mg/kg	2	180
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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 Guangzhou Branch

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检测项目	限值	单位	MDL	009
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。
- (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+A1:2017, IEC 62321-5:2013, 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	007	008
镉 (Cd)	100	mg/kg	2	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	8356▲
汞 (Hg)	1000	mg/kg	2	ND	ND
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。
- (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。



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备注1▲: 根据客户提供的声明, 样品008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)。

备注2: 本报告中的检测结果和照片引用自报告CANEC2301128313。

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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备注:

IGBT Model L.S.followed by H.W.U.S.G.V.I.followed by 05.06 ,
08.10.15.20.25.30.35.40.50.60.75.100.120.140.160.180.200.250 , 300.350 , 400 followed by
N.A.followed by.060.065.120.135.160.170.180.200. followed by F.S.L.UF.UL.followed
by.1.2.3.4.5 .maybe followed by A.B.C.E.F.G.H
IGBT Model LSM. followed by H. W followed by
03.04.05.06.07.08.10.15.20.25.30.35.40.50.60.75.100.150.200.300.400.500.600 followed by
A.B.C4.D6.E7. followed by S .F followed by 60.65.70.75.80.85.90.95.100.110. 120.135.160.170
followed by 1.2.3.4.5
LIB Model LIB.followed by 05.10 , 15.20.25.30.35.40.followed by 60.80.120.135.160.180.200
followed by M1



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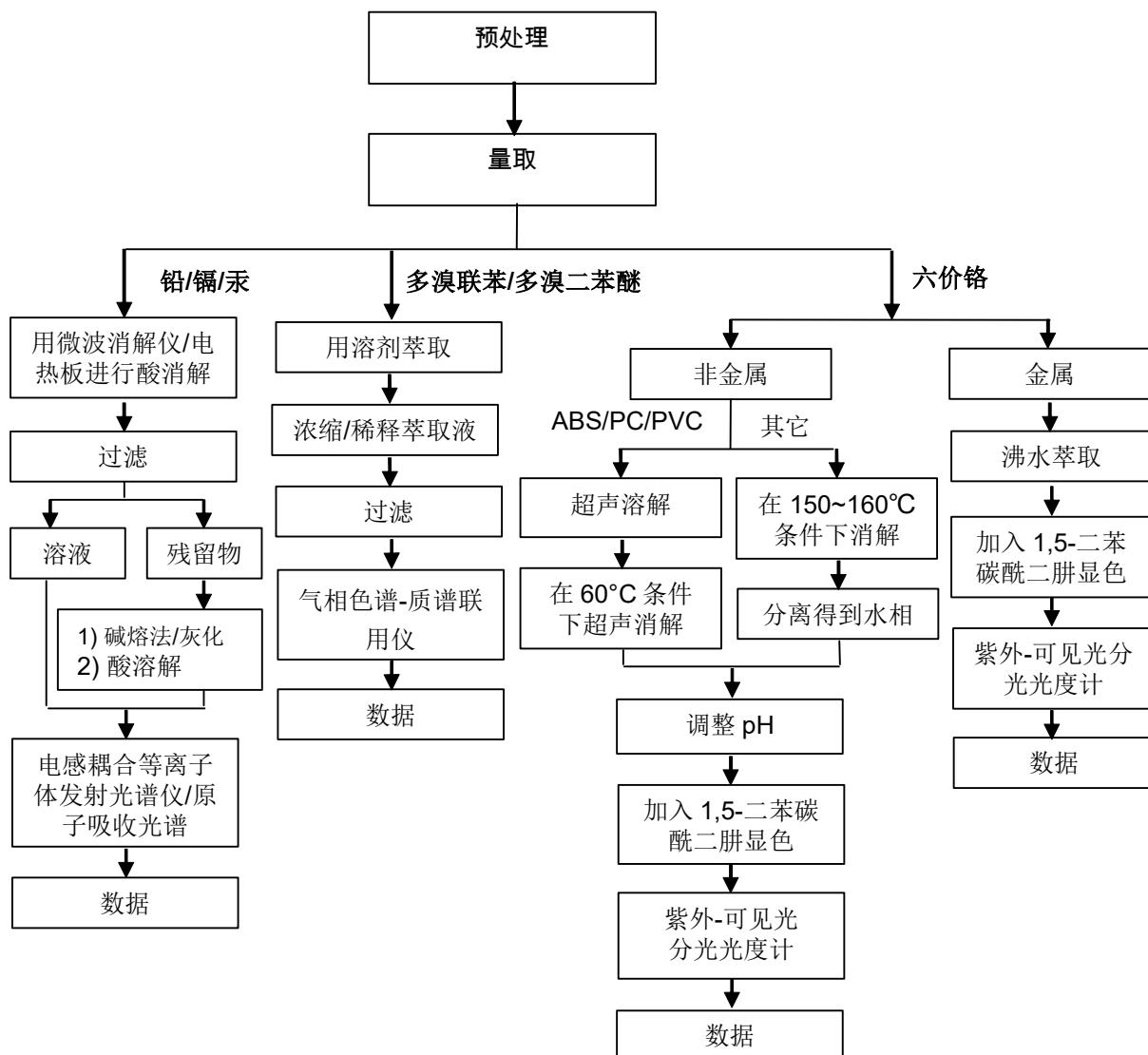
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附件

Pb/Cd/Hg/Cr⁶⁺/PBBs/PBDEs 检测流程图

1) 样品按照下述流程被完全消解(六价铬和多溴联苯/多溴二苯醚检测除外)。



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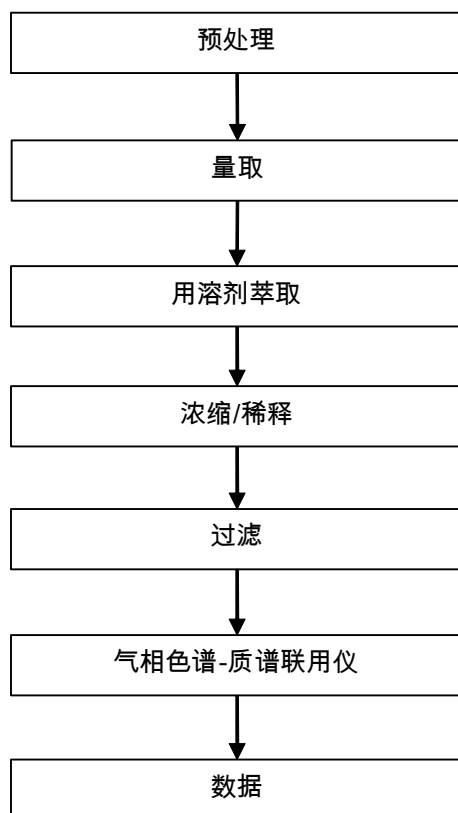
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附件

Phthalates 检测流程图



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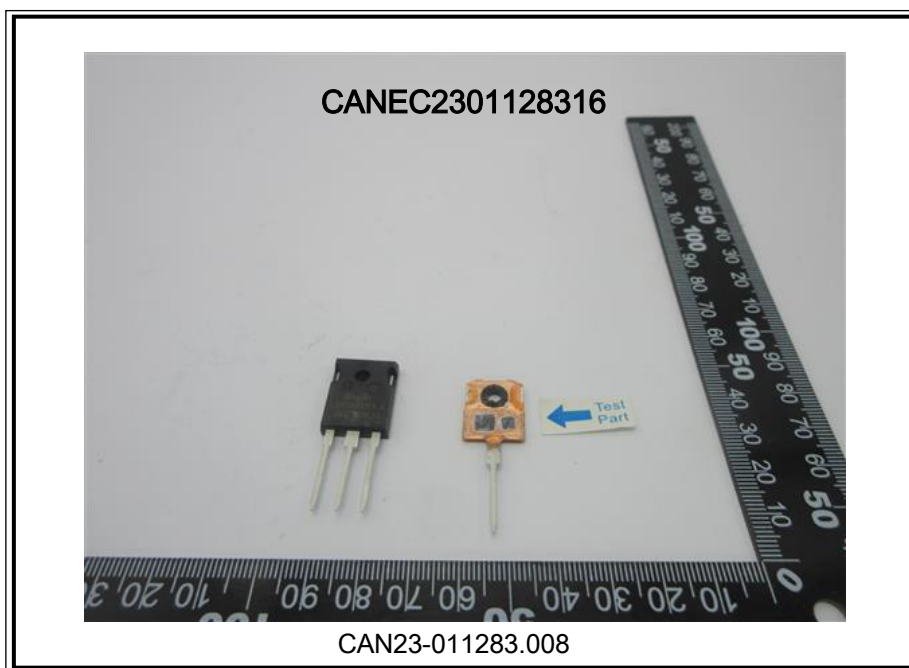
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