

编号: SHAEC23000366226

日期: 2023年02月13日 第1页,共40页

客户名称: 扬州扬杰电子科技股份有限公司 客户地址: 扬州市邗江区荷叶西路6号

样品名称:

二极管、三极管、整流桥

客户参考信息:

R-1、A-405、DO-41、DO-15、DO-15L、DO-201AD、DO-201AE、R-6、 SMA-W、YJ-41、2KBJ、4KBJ、6KBJ、PB、ABS、D3K、DBS、DB、 DBLS、DBL、GBP、GBU、JA、JB、JC、MBLS、MBS、YBS、YBS2、 YBS3、YBS3mini、YBS6、YBS2G、KBP、KBU、KBL、TSB、GBPC (W) 、GBPC、BR-W、BR、KBPC-W、KBPC25/35/50、KBPC1、KBPC6、 KBPC8、BR-L、SKBPC、MT35-A、RS2、SBR25、M130、M140、MT、MT-B、PTVS、S25VB、S35VB、52S、02C、KPNR、KWKF、34G00、48H00、 SMA、SMB、SMC、SOD123FL、SOD323FL、SMAF、SMBF、SMG、 SME、TO-277、SOD-323S、DO-218、TO-263、TO-263L、TO-263-6L、TO-252、TO-220AB、TO-220AC、ITO-220AB、ITO-220AC、R6、TO-247、TO-247AB、TO-247AC、TO-247Plus、TO-247-4L、TO-247-2L、GF019、 GF020、GF023、GF025、GF030K、GF030U、GF040、GF040C、 GF040H、GFS、GF009、LL-34、DO-35、DO-41、LL-41、DO-34、SOT-223、SOT-89、TOLL、PDFN5060、PDFN5060-8L、TO-220、TO-220F、TO-251S、TO-92、TO-247AD、SOT-23-6L、SOT-23、SOT-363、SOT-323、 SOT-523、SOT-563、SOT-723、SOT-223、SOT-89、SOD-123、SOD-323、 SOD-523、SOP-8、SOT23-3L、SOT-353、SOT-553、SOT-343、SOD-882、 MFN-9-1、SOP-7、SOD-723、DFN1006-2L、DFN1006-3L、DFN2710-10L、 DFN2510-10L、DFN3333、DFN2030-6、DFN2020、DFN2020-6L、 DFN5060-8L、DFN2020-3L、DFN2030-8L、DFN0603-2L、DFN1610-2L、 DFN2510、QFN6060-48L、QFN4040-20L、QFN3030-16L、QFN6050-10L

以上样品及信息由客户提供。

SGS 工作编号: SP23-000791

样品接收时间: 2023年01月10日

检测周期: 2023年01月10日-2023年02月02日

检测要求: 根据客户要求检测。

通标标准技术服务(上海)有限公司

授权签名

Annie Liu 刘盈妹 批准签署人





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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(PBBs)、多溴二苯醚(PBDEs)、邻苯二甲酸二丁酯 (DBP)、邻苯	符合
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	付宣
酯(DIBP)	

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	SHA23-0003662-0001.C001	棕色主体
SN2	A2	SHA23-0003662-0001.C002	银色金属
SN3	А3	SHA23-0003662-0001.C003	灰色固体
SN4	A4	SHA23-0003662-0001.C004	黑色固体
SN5	A5	SHA23-0003662-0001.C005	银色/黑色固体
SN6	A7	SHA23-0003662-0001.C007	银色膏体
SN7	A8	SHA23-0003662-0001.C008	黑色固体
SN8	A9	SHA23-0003662-0001.C009	黑色固体
SN9	A10	SHA23-0003662-0001.C010	黑色固体
SN10	A11	SHA23-0003662-0001.C011	铜色金属
SN11	A12	SHA23-0003662-0001.C012	银色金属
SN12	A13	SHA23-0003662-0001.C013	黑色膏体
SN13	A14	SHA23-0003662-0001.C014	无色透明液体
SN14	A15	SHA23-0003662-0001.C015	银色金属丝
SN15	A16	SHA23-0003662-0001.C016	灰色固体
SN16	A17	SHA23-0003662-0001.C017	灰色固体
SN17	A18	SHA23-0003662-0001.C018	白色/银色/铜色固体
SN18	A21	SHA23-0003662-0001.C021	铜色金属



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样品序号	样品编号	SGS 样品 ID	样品描述
SN19	A23	SHA23-0003662-0001.C023	银色金属
SN20	A24	SHA23-0003662-0001.C024	黑色固体
SN21	A25	SHA23-0003662-0001.C025	黑色固体
SN22	A27	SHA23-0003662-0001.C027	银色金属丝
SN23	A28	SHA23-0003662-0001.C028	铜色金属丝
SN24	A29	SHA23-0003662-0001.C029	灰色金属丝
SN25	A30	SHA23-0003662-0001.C030	灰色金属丝
SN26	A31	SHA23-0003662-0001.C031	银色膏体
SN27	A32	SHA23-0003662-0001.C032	铜色/银色金属
SN28	A33	SHA23-0003662-0001.C033	银色金属
SN29	A34	SHA23-0003662-0001.C034	黑色固体
SN30	A35	SHA23-0003662-0001.C035	铜色金属
SN31	A36	SHA23-0003662-0001.C036	黑色固体
SN32	A37	SHA23-0003662-0001.C037	黑色固体
SN33	A38	SHA23-0003662-0001.C038	银色金属引脚
SN34	A39	SHA23-0003662-0001.C039	银色/灰色固体

备注:

- (1) 1 mg/kg = 1 ppm = 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-乙基已基)酯 (DEHP)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, IEC 62321-6:2015 和 IEC 62321-8:2017, 采用 ICP-OES, AAS, UV-Vis 和 GC-MS 进行分析。

检测项目	限值	单位	MDL	A1	A3	A4
镉 (Cd)	100	mg/kg	2	ND	ND	ND



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检测项目	限值	单位	MDL	A1	А3	A4
铅 (Pb)	1000	mg/kg	2	129659 •	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A5	A7	A8
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	43560▲	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	1	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND



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检测项目	限值	单位	MDL	A5	A7	A8
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

4V 2012-25 E1	70 / :	* / -	MDI	۸.۵	A40	A 4 O
检测项目	限值	单位	MDL	A9	A10	A13
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	ı	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND



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检测项目	限值	单位	MDL	A9	A10	A13
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A14	A16	A17
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A18	A24	A25
镉 (Cd)	100	mg/kg	2	ND	ND	ND



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检测项目	限值	单位	MDL	A18	A24	A25
铅 (Pb)	1000	mg/kg	2	ND	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A31	A34	A36
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	1	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND



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检测项目	限值	单位	MDL	A31	A34	A36
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	1	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A37	A39
镉 (Cd)	100	mg/kg	2	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND
六价铬(Cr(VI))	1000	mg/kg	8	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	•	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	ı	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND



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检测项目	限值	单位	MDL	A37	A39
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND
邻苯二甲酸二丁酯 (DBP)	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(2-乙基己基)酯 (DEHP)	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。
- (4)▲根据客户提供的声明,编号 A1,A5 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(c)-I|: 电子电气元件中玻璃或陶瓷材料(电容中陶瓷介质除外)所含的铅,如压电设 备、玻璃或陶瓷基复合元件。
- (5)样品 A1:铅(Pb)检测结果仅供参考。

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-乙基已基)酯 (DEHP)和邻苯二甲酸二异丁酯(DIBP)

参考 IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, IEC 检测方法: 62321-6:2015 和 IEC 62321-8:2017, 采用 ICP-OES, AAS, UV-Vis 和 GC-MS 进行分析。

检测项目	限值	单位	MDL	A2	A11	A12
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	41	11	8
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	1	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND



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检测项目	限值	单位	MDL	A2	A11	A12
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A15	A21	A23
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	14	23
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	1	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND



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检测项目	限值	单位	MDL	A15	A21	A23
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A28	A29	A30
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	ND	ND
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

检测项目	限值	单位	MDL	A32	A33	A35
镉 (Cd)	100	mg/kg	2	ND	ND	ND
铅 (Pb)	1000	mg/kg	2	ND	ND	12
汞 (Hg)	1000	mg/kg	2	ND	ND	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	ND	ND	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND	ND	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND	ND	ND
二溴联苯(DiBB)	-	mg/kg	5	ND	ND	ND
三溴联苯(TriBB)	-	mg/kg	5	ND	ND	ND



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检测项目	限值	单位	MDL	A32	A33	A35
四溴联苯(TetraBB)	-	mg/kg	5	ND	ND	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND	ND	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND	ND	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND	ND	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND	ND	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND	ND	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND	ND	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	-	ND	ND	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND	ND	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND	ND	ND
三溴二苯醚(TriBDE)	-	mg/kg	5	ND	ND	ND
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND	ND	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND	ND	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND	ND	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND	ND	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND	ND	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND	ND	ND
十溴二苯醚(DecaBDE)	-	mg/kg	5	ND	ND	ND
邻苯二甲酸二丁酯 (DBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸丁苄酯 (BBP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二(2-乙基己基)酯 (DEHP)	1000	mg/kg	50	ND	ND	ND
邻苯二甲酸二异丁酯 (DIBP)	1000	mg/kg	50	ND	ND	ND

限值	单位	MDL	420
		ND L	A38
100	mg/kg	2	ND
1000	mg/kg	2	ND
1000	mg/kg	2	ND
-	μg/cm²	0.10	ND
1000	mg/kg	ı	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
	mg/kg	5	ND
-	mg/kg	5	ND
	mg/kg	5	ND
	mg/kg	5	ND
	mg/kg	5	ND
1000	mg/kg	=	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
-	mg/kg	5	ND
	1000 - 1000 - - - - - - - -	1000 mg/kg - μg/cm² 1000 mg/kg - mg/kg	1000 mg/kg 2 - μg/cm² 0.10 1000 mg/kg mg/kg 5 - mg/kg 5



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检测项目	限值	单位	MDL	A38
四溴二苯醚(TetraBDE)	-	mg/kg	5	ND
五溴二苯醚(PentaBDE)	-	mg/kg	5	ND
六溴二苯醚(HexaBDE)	-	mg/kg	5	ND
七溴二苯醚(HeptaBDE)	-	mg/kg	5	ND
八溴二苯醚(OctaBDE)	-	mg/kg	5	ND
九溴二苯醚(NonaBDE)	-	mg/kg	5	ND
十溴二苯醚(DecaBDE)	-	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) ▼ = 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测试时样品含六价铬的状态。

检测方法: 参考滴定法,IEC 62321-4:2013+AMD1:2017, IEC 62321-5:2013, IEC 62321-7-1:2015, 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	A27
镉 (Cd)	100	mg/kg	2	ND
铅(Pb)	0.1	%	-	92.4▲
汞 (Hg)	1000	mg/kg	2	ND
六价铬(Cr(VI))▼	-	μg/cm²	0.10	ND
多溴联苯之和(PBBs)	1000	mg/kg	-	ND
一溴联苯(MonoBB)	-	mg/kg	5	ND
二溴联苯(DiBB)	-	mg/kg	5	ND
三溴联苯(TriBB)	-	mg/kg	5	ND
四溴联苯(TetraBB)	-	mg/kg	5	ND
五溴联苯(PentaBB)	-	mg/kg	5	ND
六溴联苯(HexaBB)	-	mg/kg	5	ND
七溴联苯(HeptaBB)	-	mg/kg	5	ND
八溴联苯(OctaBB)	-	mg/kg	5	ND
九溴联苯(NonaBB)	-	mg/kg	5	ND
十溴联苯(DecaBB)	-	mg/kg	5	ND
多溴二苯醚之和(PBDEs)	1000	mg/kg	1	ND
一溴二苯醚(MonoBDE)	-	mg/kg	5	ND
二溴二苯醚(DiBDE)	-	mg/kg	5	ND



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检测项目	限值	单位	MDL	A27
三溴二苯醚(TriBDE)	1	mg/kg	5	ND
四溴二苯醚(TetraBDE)	1	mg/kg	5	ND
五溴二苯醚(PentaBDE)	1	mg/kg	5	ND
六溴二苯醚(HexaBDE)	1	mg/kg	5	ND
七溴二苯醚(HeptaBDE)	1	mg/kg	5	ND
八溴二苯醚(OctaBDE)	1	mg/kg	5	ND
九溴二苯醚(NonaBDE)	1	mg/kg	5	ND
十溴二苯醚(DecaBDE)	-	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) ▼ = 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。
- (4) ▲根据客户提供的声明,编号A27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)。

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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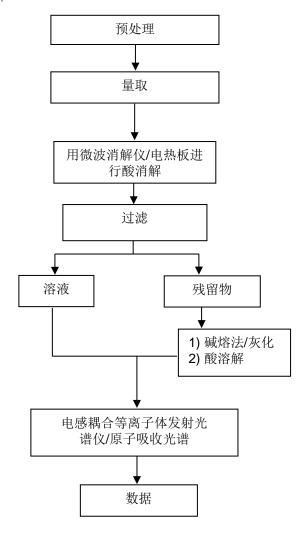
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附件

元素 (IEC62321) 检测流程图

样品按照下述流程被完全消解





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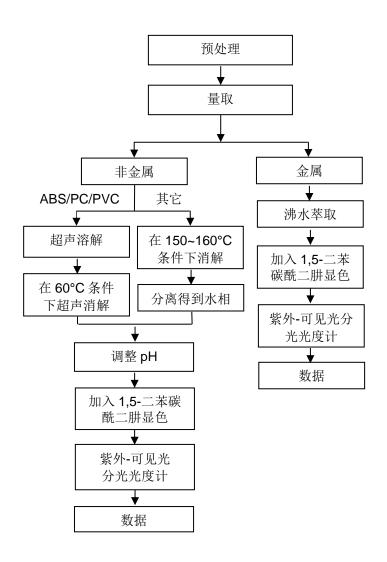
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六价铬检测流程图





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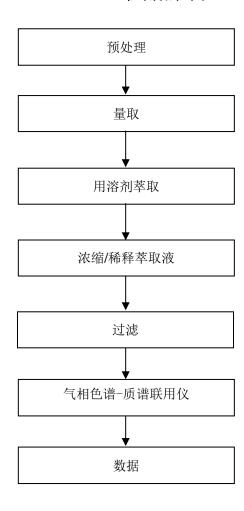
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PBBs/PBDEs 检测流程图





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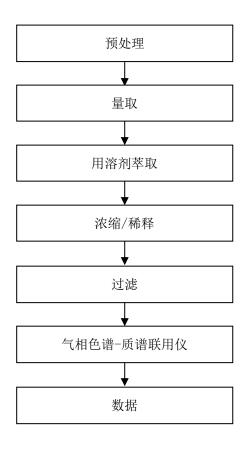
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Phthalates 检测流程图





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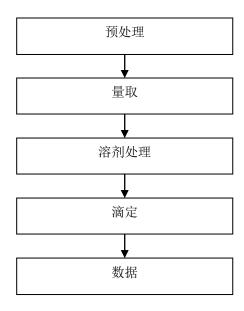
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滴定检测流程图





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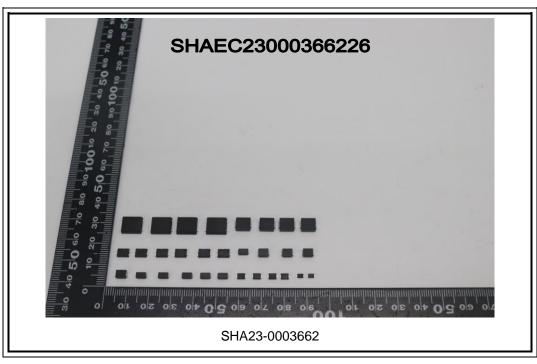
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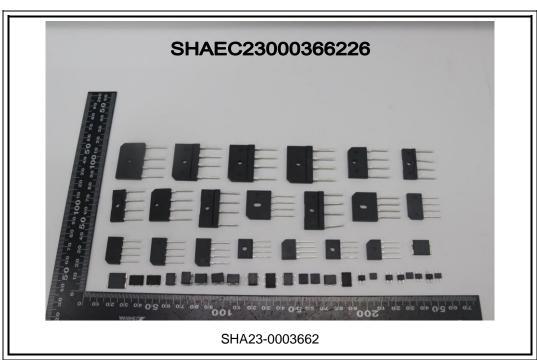


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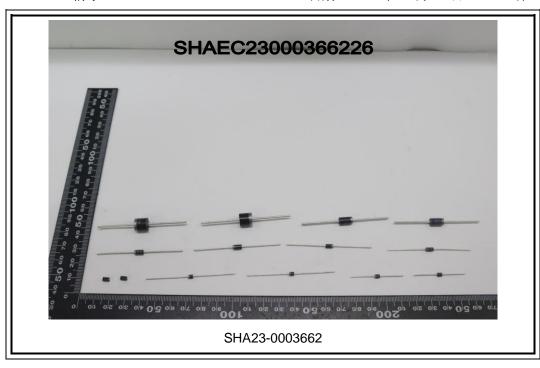
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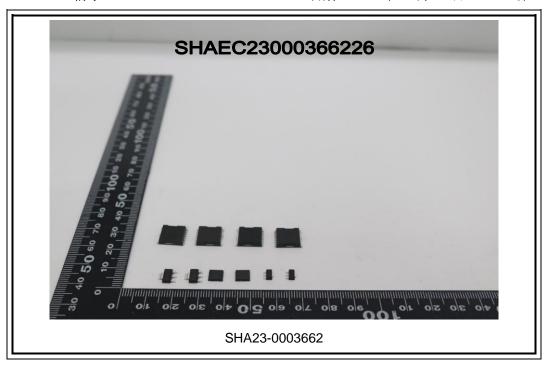
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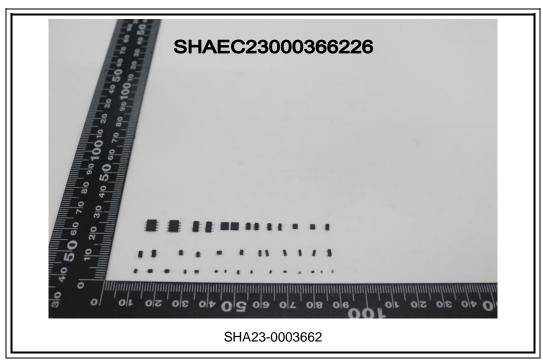


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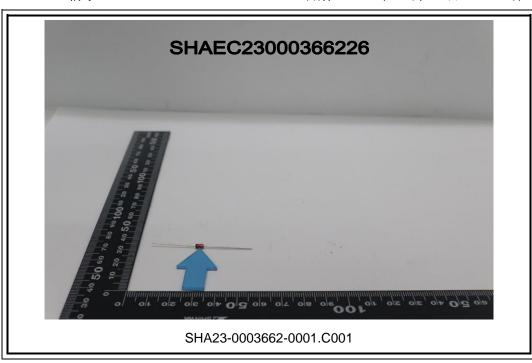
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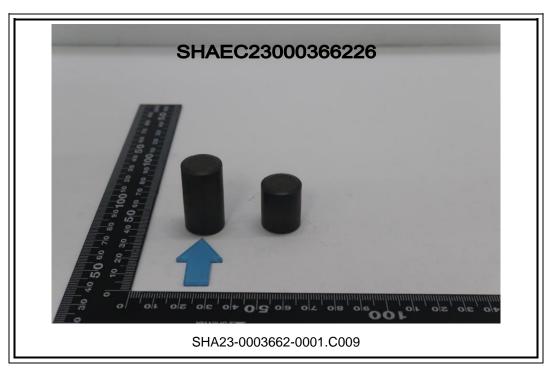


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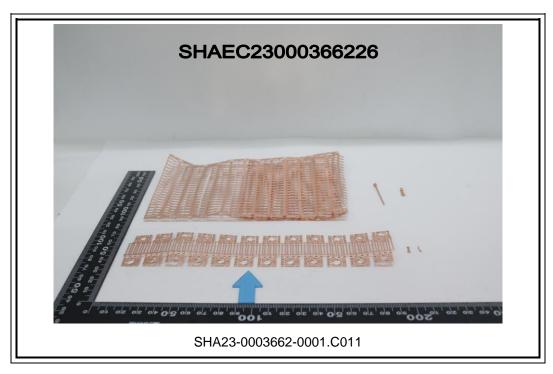


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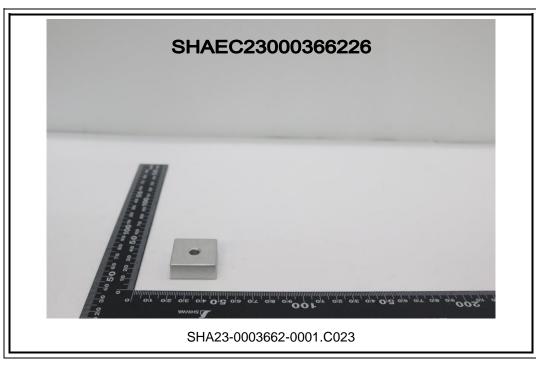
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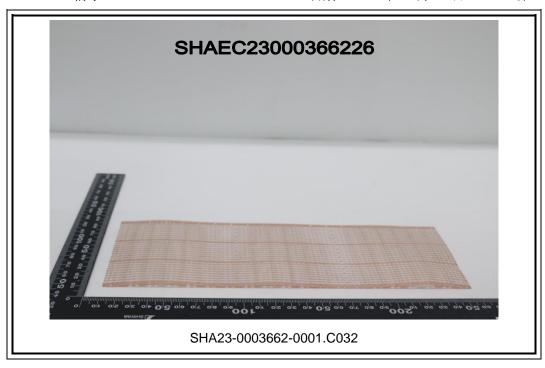
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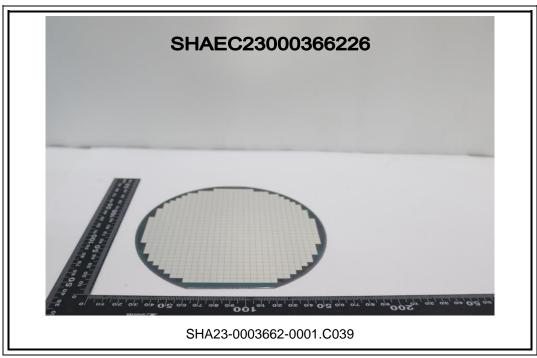


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