# 丹东国通电子元件有限公司

# 生产销售管理现状描述及需求采集

时间：2018-2-8

采集人：

销售副总：

...

库管：

...

1. 生产

现状：公司生产分为前道和后道，前道按照经验和生产计划进行预生产，是一个闭环系统。分批备料，分段完成。生产分配给班组，班长进行记录。数量按称重进行计算，精确到百位，10kg误差10个以内。半成品没有库，放在存放区。

而后道根据客户订单驱动生产，记录的表有每日生产统计、组装工序生产日表、成品库存情况日报表。目前还有编码体系。

报表：

PTC热敏电阻前道生产随工单

QR47A-2017.9.22 配料号：P854387.388.389 表/批号:170904387 生产号：388

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| 原料名称 | BaCO3 | | | TiO2 | | |
| 原料产地 |  | | |  | | |
| 原料批号 |  | | |  | | |
| 压片尺寸：φ T G P | | | | | | |
| 项目  工序 | 日  期 | 投产  数量 | 合格  数量 | 不合  格数 | 操作者 | 备注 |
| 配料 |  |  |  |  |  |  |
| 一次湿磨 |  |  |  |  |  |  |
| 压柱 |  |  |  |  |  |  |
| 焙烧 |  |  |  |  |  |  |
| 二次湿磨 |  |  |  |  |  |  |
| 造粒 |  |  |  |  |  |  |
| 压片 |  |  |  |  |  |  |
| 烧成 | 阻值范围： InGa居里点： ℃ 耐电压：  烧后尺寸： φ X mm 数量：  责任人： 日期： | | | | | |
| 结论 | 建议：  签名： 日期： | | | | | |

国 通 电 子

压片/烧结/外检工序日报表

日期： 单位：片

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| 工  序 | 型号 | 料号 | 当天压片总数 | 型号 | 料号 | 已压片未转烧结数 | 备注 | |
| 压  片 |  |  |  |  |  |  |  | |
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| 工  序 | 型号 | 料号 | 总数 | 当天烧结数 | 已转外检数 | 未转外检数 | 未烧结数 | 备注 |
| 烧结 |  |  |  |  |  |  |  |  |
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| 工序 | 型号 | 料号 | 当天外检总数 | 不合格数 | 型号 | 料号 | 未检数 | 备注 |
| 外  检 |  |  |  |  |  |  |  |  |
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报表部门：配料班 审核： 填表人：

PTC热敏电阻器后道生产随工单

QR47A- 配料号： 表/批号 生产号：

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| 烧成 | 阻值范围： Ω 数量： 片 InGa居里点： ℃ 直流耐压： V  型号： 烧结方式： 转序日期： 状态：  磨平面： 分/面 厚度： mm 磨直径： mm | | | | | | |
| 工序 | 日期 | 投产数量 | 合格数量 | 不合格数量 | 待用品 | 操作者 | 备注 |
| 磨面/煅烧 |  |  |  |  |  |  |  |
| 镀镍/欧姆 |  |  |  |  |  |  |  |
| 磨直径 |  |  |  |  |  |  |  |
| 印银 |  |  |  |  |  |  |  |
| 烧银 |  |  |  |  |  |  |  |
| 初测 |  |  |  |  |  |  |  |
| 阻值分布： | | | | | | | |
| 质检结论：  负责人： 日期： | | | | | | | |
| 评价分析：  负责人： 日期： | | | | | | | |

磨片/镀镍工序生产日表

日期： 单位： 片

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| 工序 | 料号 | | 标识 | 产品尺寸  （φ×T） | 总投产数 | 已转镀镍数量 | 未转镀镍数量 | 未加工数量 | 不合格数量 | 备注 |
| 磨面 |  | |  |  |  |  |  |  |  |  |
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| 工序 | 料号 | | | 标识 | 产品尺寸  （φ×T） | 总投产数 | 已转磨边数量 | 未转磨边数量 | 未加工数量 | 备注 |
| 镀镍 |  | | |  |  |  |  |  |  |  |
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| 工序 | 料号 | 标识 | | 产品尺寸  （φ×T） | 总投产数 | 已转镀镍数量 | 未转镀镍数量 | 未加工数量 | 不合格数量 | 备注 |
| 磨边 |  |  | |  |  |  |  |  |  |  |
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| 重磨边 | 料号 | 标识 | | 产品尺寸  （φ×T） | 总投产数 | 已转测试数量 | 未转测试数量 | 未磨边数量 | | 备注 |
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报表部门：磨片班 审核： 填表人：

印刷至焊检工序再生产日报表

日期： 单位： 万片

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| 工序 | 料 号 | | 标识 | 印 刷 数 量 | | 未印数量 | 随工单数 | 备注 |
| 印  表  面  银  浆 |  | |  |  | |  |  |  |
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| 工序 | 料 号 | | 标识 | 测试数量 | 未检数量 | 标 识 | 未检面数 | 未检边数 |
| 芯  片  测  试 |  | |  |  |  |  |  |  |
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| 工序 | 标识 | 已夹片数 | 未夹片数 | 未焊接数 | 未焊检数 | 标识 | 打带数量 | 原有数量 |
| 焊接及检查 |  |  |  |  |  |  |  |  |
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报表部门： 审核： 填表人：

包封至包装工序生产日报表

日期： 单位： 只

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| 型号 | 待包封 | 待一切 | 无字  待测 | 待打字 | 待包检 | 待打压 | 有字待测 | 待拔腿 | 待套管 | 待直腿 | 待二切 | 待检 | 待入库 | 当日合计 | 当日入库 | 备注 |
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报表部门：包封-包装 审核： 填表人：

PTC \_\_\_\_\_\_\_\_\_\_\_ 产品转序单

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| 料号 |  | | 批号 |  | | 居里温度 |  |
| 耐电压 |  | | 芯片R25 |  | | 尺寸 |  |
| 银浆号 |  | | 包封料 |  | | 引线号 |  |
| 壳料号 |  | | 簧片号 |  | | 盖板号 |  |
| 工序 | 日期 | 总数 | 合格数 | 不合格数 | 操作者 | 备 注 | |
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| 其它： | | | | | | | |

PTC \_\_\_\_\_\_\_\_\_\_\_ 产品芯片返工转序单

QR8.3-0.5-

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| 料号 |  | | 批号 |  | | 居里点 |  | |
| 耐电压 |  | | 阻值 | 31-46N | | 尺寸 |  | |
| 工序 | 日期 | 投入数 | 合格数 | 不合格数 | 操作者 | 检验员 | | 备 注 |
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二楼流程图：

PTC热敏电阻包封式产品

工艺流程图

配料（数显式电子天平）---一次湿磨（球磨罐）---烘干（鼓风干燥箱）---压柱成型（压柱机）---预烧晶化（焙烧炉）---二次湿磨（球磨罐）---过滤（压滤机）---造粒（造粒塔）---打片（旋转压片机）---烧结（隧道式、箱式、钟罩式烧结炉）---平面磨（卧式双面磨床）---一次电极镀镍（自制镀镍装置）---外面磨（无心磨床）---二次电极印银（半自动印刷机、网链式烘干炉）---还原烧银（网链式反应炉）---芯片测试分选（半自动电阻值分选机）---引线成型（引线成型机）---插片（插片机）---焊接（焊接炉）---焊接检查---包封（包封机）---烘干老化（鼓风干燥箱）---打标识（激光标刻机）---打耐压（自制耐压装置）---成品测试（半自动成品分选机）---外观检查---点数---包装---入库

三楼流程图：

PTC热敏电阻壳式产品

工艺流程图

配料（数显式电子天平）---一次湿磨（球磨罐）---烘干（鼓风干燥箱）---压柱成型（压柱机）---预烧晶化（焙烧炉）---二次湿磨（球磨罐）---过滤（压滤机）---造粒（造粒塔）---打片（旋转压片机）---烧结（隧道式、箱式、钟罩式烧结炉）---平面磨（卧式双面磨床）---一次电极镀镍（自制镀镍装置）---外面磨（无心磨床）---二次电极印银（半自动印刷机、网链式烘干炉）---还原烧银（网链式反应炉）---芯片测试分选（半自动电阻值分选机）---壳体（盖板）打标识（激光标刻机）---装弹片---装芯片---扣盖（点胶）---上螺丝（封盖）---成品测试（半自动成品分选机）---外观检查---点数---包装---入库

需求：没有货，后道压力大；生产乱；生产瓶颈；质量管控；成本管控（人力成本管控）；记录汇总时间长；产品称重精确到十位。

1. 销售

现状：生产与销售都看库存有多少。流程：销售---生产---质量---物流。一个单子，有不同的物流。有时会拆单交给生产。销售和财务看订单，财务已有单独的系统。目前为手抄台账。

报表：

发货通知单

|  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 发出人 |  | 时间 | |  | 接收人 |  | 时间 | |  | |
| 客户 |  | | | | 发货方式 |  | | | | |
| 发/到货日期 |  | |  | | 发货件数 |  | | | | |
| 型号 | 订单号 | | 数量 | | 合格证 | 标识卡 | | 生产批号 | | |
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| 备注 |  | |  | |  |  | | ROHS | | 是 |
| 否 |

白联：生产部 粉联：质量部 黄联：客服部 绿联：物流部

供应商编码：\_\_\_\_\_\_\_\_\_\_\_\_\_\_

产品名称：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ （ ）年产品销售台账 No

物料编码：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

用户名称：\_\_\_\_\_\_\_\_ 联系人：\_\_\_\_\_\_\_\_\_\_ TEL:\_\_\_\_\_\_\_\_\_\_\_\_ FAX:\_\_\_\_\_\_\_\_\_\_\_\_

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 日期 | 规格型号 | 数量  （支） | 发货方式 | 批号 | 采购订单号 | 开票 | | | | 回款 | |
| 日期 | 数量 | 票号 | 金额 | 日期 | 金额 |
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|  | 小计 |  |  | | |  |  |  | |  | |

邮编：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 发货地址：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

税号：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 开户行：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 账号：\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

需求：生产不清晰，没有规划，生产信息不准确，不及时入库；回复客户信息不准确；希望可以直接看到成品数量；最低库存量有预警；系统包含台账；同一型号不同客户有区分，标准不同；根据客户来显示信息；付款期限按订单账期的常用类型。发货清单各家客户不一样。

1. 采购

现状：根据库存进行采购，有采购计划单。采购流程为下订单----付款申请---总经理签字。

库存表：

采购进货情况统计表

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| 日期 | 产品名称 | 规格 | 数量 | 单位 | 供应商 | 备注 |
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材料报检记录

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| --- | --- | --- | --- | --- | --- | --- |
| 日期 | 来料名称 | 规格型号 | 生产厂家 | 来料数量 | 批号 | 检验单状态 |
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壳体类成品及配件数量周统计表

截止时间： 年 月 日

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| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 序号 | 品种 | 供应商 | 产品型号 | 壳体 | | 弹片 | | 成品 | 壳体在途数量 | 订单未执行数量 |
| 在库数量 | 在线数量 | 在库数量 | 在线数量 |
|  |  |  |  |  |  |  |  |  |  |  |
|  |  |

单位： 支

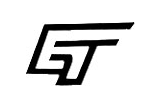
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| --- | --- | --- | --- | --- |
| 外购芯片库存统计 | | | | |
| 品名 | 本周入库 | 现有库存 | 在途数量 | 订单未执行 |
| 50Ω |  |  |  |  |
| 68Ω |  |  |  |  |
| 小47Ω |  |  |  |  |
| 100Ω |  |  |  |  |
| 150Ω |  |  |  |  |
| 40Ω |  |  |  |  |
| 大33Ω |  |  |  |  |
| 小33Ω |  |  |  |  |
|  |  |  |  |  |
| 螺钉库存统计 | | | | |
| 品名 | 本周入库 | 现有库存 | 在途数量 | 订单未执行 |
| KB2.3\*7 |  |  |  |  |

需求：采购流程在系统上走，由于财务有系统，所以只走流程不做动作。库存报警。

1. 质量

现状：有来料检验和成品检验。流程为采购----入库检验------质量部（检验），分为合格和不合格，合格则入库，不合格又分为：退货，待定和特采。过程检验为随机抽检，检测尺寸、性能等，有判定何不合格的规则，每天进行不良统计，月底总统计。

报表：

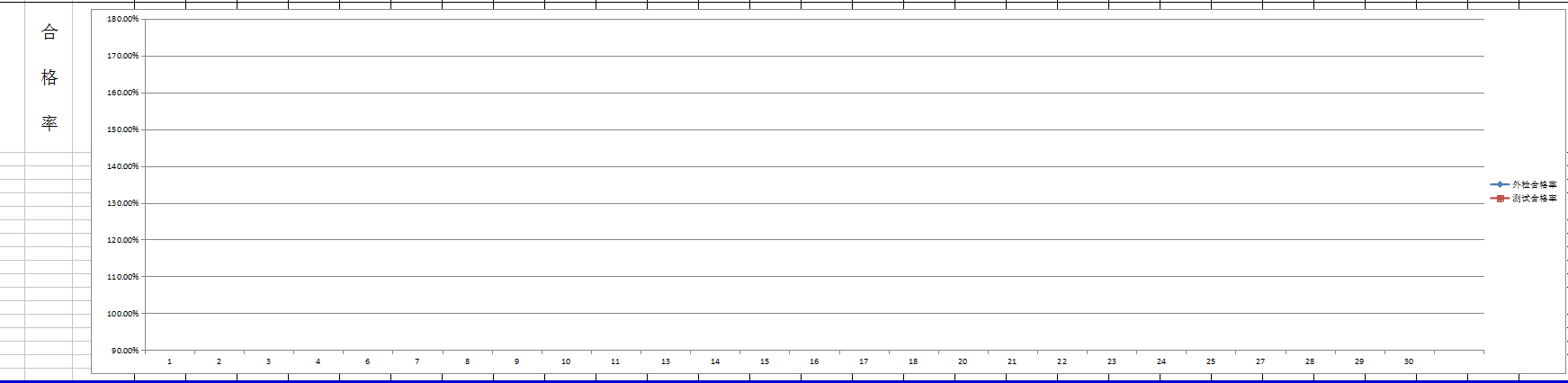


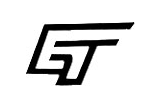
|  |  |
| --- | --- |
| **合格证**  产品名称 PTC热敏电阻器(RoHS)  产品型号 MZ62-500M  常温阻值 50Ω(1±20%)  生产批号 171124200  生产日期 2018-03-08  数 量 20000支  检验员 32  规格书编号 Q/AMZ009-3-2010  丹东国通电子元件有限公司 Http://www.ddgtee.com Tel:0415-6279502 | **合格证**  产品名称 PTC热敏电阻器(RoHS)  产品型号 MZ62-500M  常温阻值 50Ω(1±20%)  生产批号 171124200  生产日期 2018-03-08  数 量 20000支  检验员 32  规格书编号 Q/AMZ009-3-2010  丹东国通电子元件有限公司 Http://www.ddgtee.com Tel:0415-6279502 |

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| IMG_256 |  |  |  |  |  | |  |  | |  | |  | |  | |  |  |
| **产品检验报告** | | | | | | | | | | | | | | | | |  |
| QR8.2.4-02-2018 |  |  |  |  |  | |  |  | |  | |  | |  | | |  |
| 顾客名称 | | 大忠 | 生产单位 | | 丹东国通电子元件有限公司 | | | | | | | | |  | | |  |
| 产品名称 | | PTC热敏电阻 | 规格型号 | | MZ62-500M | | | 物料编码 | | | | 105530605002 | | | | |  |
| 数量 | | 10,000pcs | 执行标准 | | 执行标准：MZ62-500M型PTC热敏电阻器规格书 | | | | | | | | | | | |  |
| 批号 | | 180131021 | 文件编号：Q/AMZ009-3-2010 | | | | | | | | | | | |  |
| № | 检验项目 | 技术要求 | n= | | 检验值范围 | | | | | | | | | | 判定 | |  |
| 1 | 外观 | 包封层表面应光滑，无砂眼、气泡； | 200 | | 外观均符合要求。 | | | | | | | | | | 合格 | |  |
| 电极引出线无氧化、锈蚀； | 本体上标志为“G500” | | | | | | | | | |  |
| 标志应清晰、牢固、完整。 |  |  | |  | |  | |  | |  |  |
| 2 | 外形尺寸 |  | 200 | | 本体外径 Φ8mmx | 7.77 | | 7.81 | | 7.85 | | 7.89 | | 7.93 | 合格 | |  |
| 依据Q/AMZ009-3-2010图纸要求 | 本体厚度5mm | 3.55 | | 3.57 | | 3.59 | | 3.60 | | 3.62 |  |
| 应符合Φ8max×5max×18(mm) | 引线线径 Φ0.5mm | 0.5 | | 0.5 | | 0.5 | | 0.49 | | 0.51 |  |
|  | 引线长度18mm | 18 | | 18 | | 18 | | 18 | | 18 |  |
| 3 | 标称零功率 | PTC电阻在25℃±2℃条件下放置4h后，用电阻测试仪测量， | 200 | | 42.60 | 46.86 | | 44.73 | | 49.20 | | 46.97 | | 51.66 | 合格 | |  |
| 电阻值R25 | 43.88 | 48.27 | | 46.07 | | 50.68 | | 48.38 | | 52.28 |  |
| （Ω） | R25 = 50Ω (1±20%) | 45.19 | 49.71 | | 47.45 | | 52.20 | | 49.83 | | 53.85 |  |
|  |  | 46.55 | 51.21 | | 48.88 | | 53.77 | | 51.32 | | 53.96 |  |
| 4 | 居里温度 | 2倍R25时对应的温度。Tc=100℃±4℃ | 10 | | 103.1 | 103.2 | | 103.3 | | 103.4 | | 103.5 | |  | 合格 | |  |
| （℃） | 103.2 | 103.3 | | 103.4 | | 103.5 | | 103.6 | |  |  |
| 5 | 不动作电流 | 在60℃±2℃条件下，施加60mA保持1h，PTC应不动作，电阻值变化率≤│±50%│ | 20 | | PTC 不动作，未进入高阻态，电阻值变化符合要求。 | | | | | | | | | | 合格 | |  |
|  |
|  |
| 6 | 过电流动作特性 | 在80℃±2℃条件下，施加2倍的不动作电流值（即2×60mA），PTC应在90s内动作进入高阻态。 | 20 | | 33s | 40s | | 32s | | 39s | | 47s | | 56s | 合格 | |  |
| 7 | 恢复时间 | 在25℃±2℃条件下，施加220Vac/2A，通电30s后，立即将PTC接入电阻测量仪，测量PTC自然冷却电阻值恢复到2倍R25时所用的时间应≤60s | 20 | | 23s | 25.3s | | 22.8s | | 25.0s | | 22.5s | | 24.8s | 合格 | |  |
| 8 | 残余电流 | 在25℃±2℃条件下，施加270Vac/2A，持续30s，PTC电流应小于8mA。 | 20 | | 3.0mA | 3.0mA | | 3.1mA | | 3.1mA | | 3.1mA | | 3.2mA | 合格 | |  |
| 9 | 最大耐电压 | 在25℃±2℃条件下，在1min内由0 V缓慢升到380Vac，持续3min。试验后在25℃±2℃条件下放置4h，电阻值变化率≤│±20%│ | 20 | | R25 | 45.20 | | 46.15 | | 47.07 | | 47.01 | | 48.00 | 合格 | |  |
| R25’ | 47.50 | | 48.69 | | 49.90 | | 48.31 | | 49.52 |  |
| δ | 5.09% | | 5.50% | | 6.02% | | 2.76% | | 3.17% |  |
| 10 | 最大电压下耐电流冲击 | 在25℃±2℃条件下，施加270Vac/2A，按1min ON/3min Off试验，共100次，试验后在25℃±2℃下放置4h，电阻值变化率≤│±20%│ | 20 | | R25 | 45.60 | | 46.06 | | 46.98 | | 46.24 | | 47.90 | 合格 | |  |
| R25’ | 46.30 | | 46.99 | | 48.17 | | 46.63 | | 47.79 |  |
| δ | 1.54% | | 4.00% | | 2.54% | | 0.84% | | -0.22% |  |
| 11 | 耐电压冲击 | 在25℃±2℃条件下，施加270Vac/2A，持续2h，试验后在25℃±2℃条件下放置4h，电阻值变化率≤│±20%│ | 20 | | R25 | 45.10 | | 46.05 | | 46.97 | | 46.90 | | 47.61 | 合格 | |  |
| R25’ | 46.30 | | 47.46 | | 48.64 | | 47.09 | | 48.26 |  |
| δ | 2.66% | | 3.06% | | 3.57% | | 0.39% | | 1.37% |  |
| 12 | 可焊性 | 电极引出线蘸取适量助焊剂后，浸入260℃±5℃的无铅焊锡熔液中，浸入深度1.5～2mm，维持时间3±0.5s。浸入部分应上锡明显，浸润可靠性良好，上锡面积不小于95%。 | 10 | | 引线焊接浸润明显，上锡面积均＞95% | | | | | | | | | | 合格 | |  |
| 13 | 电极线机械强度 | 拉力：5N,维持60s,应无拉脱； 弯曲：连续弯曲2次（90°），电极线应无折断； 扭转：连续扭转2次（180°），电极线应无折断 | 10 | | 电极线无拉脱、折断 | | | | | | | | | | 合格 | |  |
| 14 | RoHS检测 | 应符合欧盟RoHS指令2011/65/EU附录Ⅱ中的限值要求 | -- | | 检测报告NCL02J001520E，均符合要求。 | | | | | | | | | | 合格 | |  |
| 检验结论 | | 经检验，各项检验结果均符合要求，批准出厂。 | | | | | 检验： | | IMG_257 | |  | | 2018/2/11 | | | |  |
| 批准： | | IMG_258 | |  | | 2018/2/11 | | | |  |

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| **包封产品各工序不良率统计表** | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 2017年11月 | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 日期 | | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 检查数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 完成数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 不良数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **包** | 不良率 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 不良项目 | 粘连 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 露青 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **检** | 腿有料 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 字不清 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 有眼 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 缺损 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 检查数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 完成数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **焊** | 不良数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 不良率 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **检** | 不良项目 | 工程不良 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 材料不良 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 炸裂 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **成** | 检查数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **品** | 完成数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **测** | 不良数 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| **试** | 不良率 | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 不良项目 | 高阻 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  | 低阻 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **良** | | 10 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **率** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **％** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **良** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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| **％** | |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| 1 |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
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需求：可以制定合不合格的规则。