

LED Reliability Test Flow

一、SMD Test Flow

Step 1: 烘烤 (Baking)

At minimum 80°C for 24 hours to remove all moisture from the package
最低 80°C，24 小时的烘烤，以除去所有包装内的湿气。

Step 2: 高低温度循环 (Temperature cycling)

-65°C~150°C for 5 cycles to simulate shipping conditions
-65°C~150°C 执行 5 个周期温度循环，模拟运输条件。

Step 3: 高温高湿存储一周 (85°C/85%RH temperature humidity storage)

-Level I: 85°C/ 85%RH for 168 hrs Simulating the storage condition

Step 4: 回流焊 (Reflow)

245°C(-5°C)/260°C(-5°C) for 3 times (lead-free) Simulating the soldering reflow
245°C(-5°C)/260°C(-5°C) 3 次回流 (无铅焊) 模拟回流焊接

Step 5: 高低温循环试验 (Temperature Cycling Test)

Condition C: -65°C to 150°C Simulating the normal use of product
Put the units into temperature cycle system, execute 200 cycles temperature cycle test (the real chamber temperature was -65°C~150°C,30 minutes per round), 0/1000fail.
执行 200 个回合的高低温循环试验，(设备实际温度: -65°C (15min)~150°C (15min)) 每回合 30 分钟，1000PCS 实验后无不良。

实验结果：通过以上 5 个流程的实验，1000PCS 产品实验后无不良发生。

二、LAMP Test Flow

Step 1: 波峰焊 (Wave soldering)

Execute soldering test: 260°C 10s Simulating the wave soldering
执行波峰焊接: 260°C 10s

Step 2: 高低温度循环 (Temperature cycling Test)

Condition C: -40°C to 130°C Simulating the normal use of product
Put the units into temperature cycle system, execute 100 cycles temperature cycle test (the real chamber temperature was -40°C~130°C,60 minutes per round), 0/1000fail
执行 100 个回合的高低温循环试验，(设备实际温度: -40°C (30min)~130°C (30min)) 每回合 60 分钟，1000PCS 实验后无不良。

实验结果：通过以上 2 个流程的实验，1000PCS 产品实验后无不良发生。