

**通富微电子股份有限公司**

**可靠性试验报告**

TONGFU MICROELECTRONICS LTD.CO.,

RELIABILITY TEST REPORT

**题目:** 265客户UQFN20NT3BG-055/0.127-T产品考核可靠性试验报告

(Subject) 265 customer UQFN20NT3BG-055/0.127-T product reliability report

**目的:** 对265-N32G030F6U7 (UQFN20NT3BG-055/0.127-T) 产品进行可靠性试验考核

(Purpose) Evaluate the reliability of 265-N32G030F6U7 (UQFN20NT3BG-055/0.127-T)

**产品信息:**

(LOT BACKGROUND INFORMATION)

客户 (Customer): 265

品名 (Sample Name): N32G030F6U7

封装形式 (Package): UQFN20NT3BG-055/0.127-T

组装批号 (Assembly Lot): 1FQ800080101

装片胶 (Epoxy): FH-SC13-25

基板/框架 (Substrate/Leadframe): QFN20TLBG (NiPdAu) 3610膜

芯片尺寸 (Die Size): 2.268\*1.34

键合丝 (Wire): 20um; HA3

塑封料 (Molding Compound): CEL-9220HF13NFA-S2

电镀成分 (Plating Component): NiPdAu

**试验结果:**

(Result) PASS

日期: March 21, 2022

(Date)

作成 (Write By):

石微微

审核 (Review By):

吴卫华

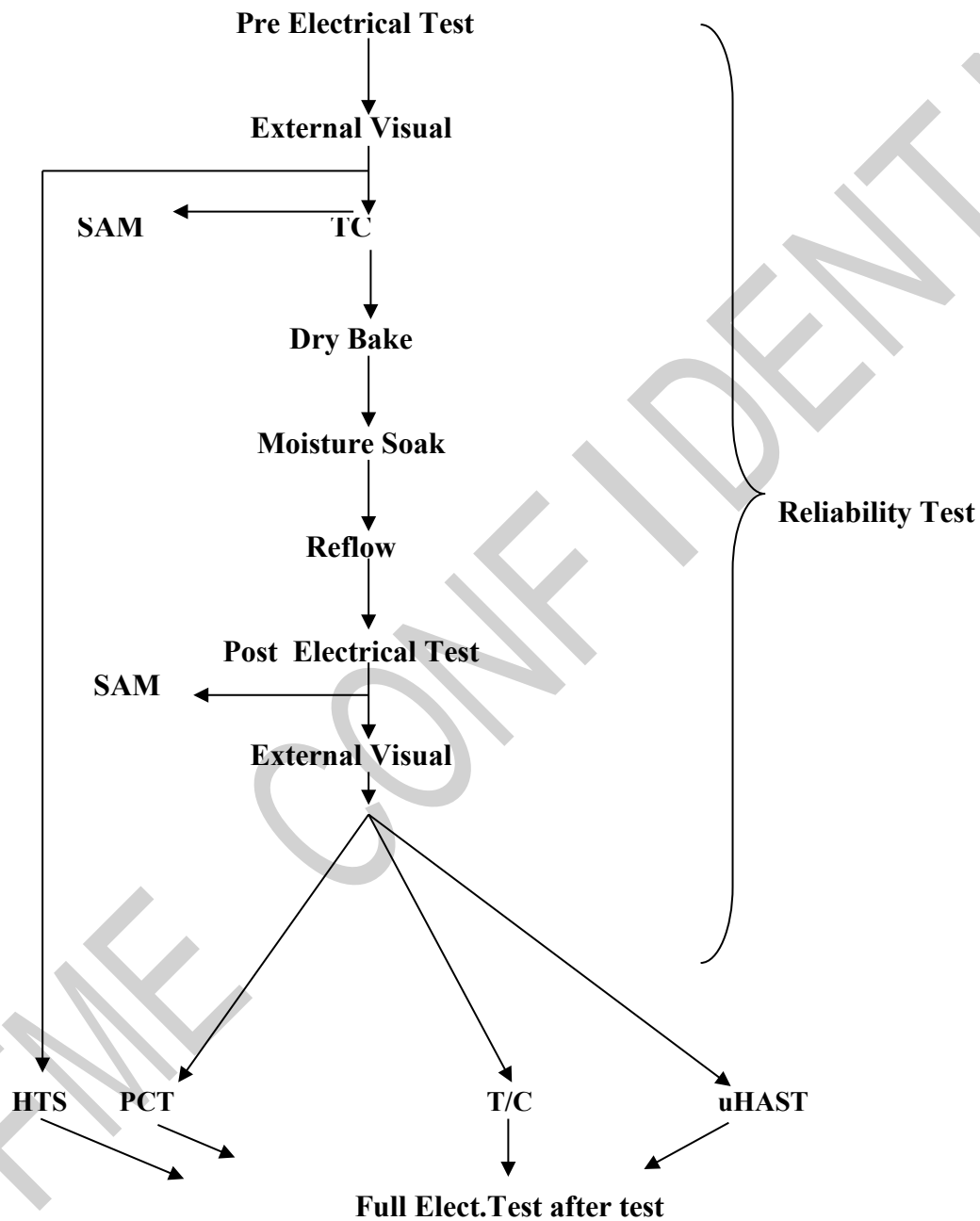
报告编号: RQ2021092710

(Report No.)

批准 (Authorize):

平来

## Test Flow



Solderability:

Preconditioning: Steam Aging 245°C Sn:Ag:Cu

试验结果:

(Summary Results)

No.	Test Item		Result	Page
1	Time Zero Elec.test		0/330	4,5,6,7,8,9,10
2	External Visual		0/330	
3	Precondition L3	Time Zero SAM (50 MHz)	OK	4,5,6,9,10
4		T/C(-65℃(+0/-10)~+150℃(+10/-0)0.5h/c 5c)	Include PCT&T/C&uHAST	
5		Dry Bake (125(-0/+5)℃/24hrs)		
6		Moisture Soak (30±2℃/60±3%RH/192hrs)		
7		Reflow (260℃(min)/3cls)		
8		POST Precon.Elec. Test	0/231	
9		Post precon. SAM (50 MHz)	OK	
10		External Visual	0/231	
11	PCT (121±2℃/2atm/168hrs(-0/+5h)		0/77	4
12	T/C (-65℃(+0/-10)~+150℃(+10/-0) 0.5h/c 500cls)		0/77	5
13	uHAST (130±2℃/85±5%RH/96hrs)		0/77	6
14	HTS (150(-0/+10)℃/1000hrs)		0/77	7
15	Solderability		0/22	8,9

## 可靠性试验和结果

(Reliability Test and Result)

### 1 预处理 (PCT)

条件(Conditions):

温度循环(T/C)	-65℃ (+0/-10) ~ +150℃ (+10/-0) 0.5h/c5c
前烘(Dry Bake)	125 (-0/+5) °C/24hrs
吸湿(Moisture Soak)	30±2°C/60±3%RH/192hrs
回流(Reflow)	260°C (min)/3cls

电测试(Electrical Test):

预处理前后(Pre and Post Rreconditioning)

样品数(Sample Size):

77units

Ac/Re:

0/1

结果(Results):

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

外观检查(Visual Readouts):

预处理前后(Pre and Post Preconditioning)

样品数(Sample Size):

77units

Ac/Re:

0/1

结果(Results):

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

### 2 预处理后高压蒸煮试验(Preconditioning Autoclave Test)

条件(Conditions):

121±2°C/2atm 168hrs (-0/+5h)

样品数(Sample Size):

77units

Ac/Re:

0/1

结果(Results):

试验后(After Test): 0/77

外观检查(Visual Readouts):

试验后(After Test)

样品数(Sample Size):

77units

Ac/Re:

0/1

结果(Results):

试验后(After Test): 0/77

## 可靠性试验和结果

(Reliability Test and Result)

### 1 预处理(T/C)

条件(Conditions):

温度循环(T/C)	-65℃ (+0/-10) ~ +150℃ (+10/-0) 0.5h/c5c
前烘(Dry Bake)	125 (-0/+5) °C/24hrs
吸湿(Moisture Soak)	30±2℃/60±3%RH/192hrs
回流(Reflow)	260℃ (min)/3cls

电测试(Electrical Test):

样品数(Sample Size):

Ac/Re:

结果(Results):

预处理前后(Pre and Post Rreconditioning)

77units

0/1

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

外观检查(Visual Readouts):

样品数(Sample Size):

Ac/Re:

结果(Results):

预处理前后(Pre and Post Preconditioning)

77units

0/1

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

### 2 预处理后温度循环试验(Preconditioning Temperature Cycle Test)

条件(Conditions):

-65℃ (+0/-10) ~ +150℃ (+10/-0) 0.5h/c 500cls

样品数(Sample Size):

77units

Ac/Re:

0/1

结果(Results):

试验后(After Test): 0/77

外观检查(Visual Readouts):

样品数(Sample Size):

Ac/Re:

结果(Results):

试验后(After Test)

77units

0/1

试验后(After Test): 0/77

## 可靠性试验和结果

(Reliability Test and Result)

### 1 预处理 (uHAST)

条件(Conditions):

温度循环(T/C)	-65℃ (+0/-10) ~ +150℃ (+10/-0) 0.5h/c5c
前烘(Dry Bake)	125 (-0/+5) °C/24hrs
吸湿(Moisture Soak)	30±2℃/60±3%RH/192hrs
回流(Reflow)	260℃ (min)/3cls

电测试(Electrical Test):

样品数(Sample Size):

Ac/Re:

结果(Results):

预处理前后(Pre and Post Rreconditioning)

77units

0/1

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

外观检查(Visual Readouts):

样品数(Sample Size):

Ac/Re:

结果(Results):

预处理前后(Pre and Post Preconditioning)

77units

0/1

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

### 2 预处理后uHAST试验(Preconditioning uHAST Test)

条件(Conditions):

130±2℃/85±5%RH/96hrs

样品数(Sample Size):

77units

Ac/Re:

0/1

结果(Results):

试验后(After Test): 0/77

外观检查(Visual Readouts):

样品数(Sample Size):

Ac/Re:

结果(Results):

试验后(After Test)

77units

0/1

试验后(After Test): 0/77

## 可靠性试验和结果

(Reliability Test and Result)

### 1 高温储存试验(High Temperature Storage Test)

条件(Conditions): 150 (-0/+10) °C / 1000hrs

样品数(Sample Size): 77units

Ac/Re: 0/1

结果(Results): 试验后(After Test): 0/77

外观检查(Visual Readouts): 试验后(After Test)

样品数(Sample Size): 77units

Ac/Re: 0/1

结果(Results): 试验后(After Test): 0/77

## 可靠性试验和结果

(Reliability Test and Result)

### 1 预处理(Solderability)

条件(Conditions): ①蒸汽老化(Steam ageing) 93 (+3/-5) °C/8hrs±15min

外观检查(Visual Readouts): 预处理前后(Pre and Post Preconditioning)

样品数(Sample Size): 22units

Ac/Re: 0/1

结果(Results): 预处理前(Pre Pre.): 0/22

预处理后(Post Pre.): 0/22

### 2 预处理后易焊性试验(Preconditioning Solderability Test)

条件(Conditions): Sn:Ag:Cu=96.5:3.0:0.5/245±5°C/5±0.5s

外观检查(Visual Readouts): 试验后(After Test)

样品数(Sample Size): 22units

Ac/Re: 0/1

结果(Results): 试验后(After Test): 0/22

### 备注(Remark):

焊料类型(Solder): 锡银铜(SnAgCu) J-STD-006

助焊剂(Flux): MS-002D02

清洗液(Lotion): 无水乙醇(Absolute Alcohol)

速度(Speed): 25±6mm/s

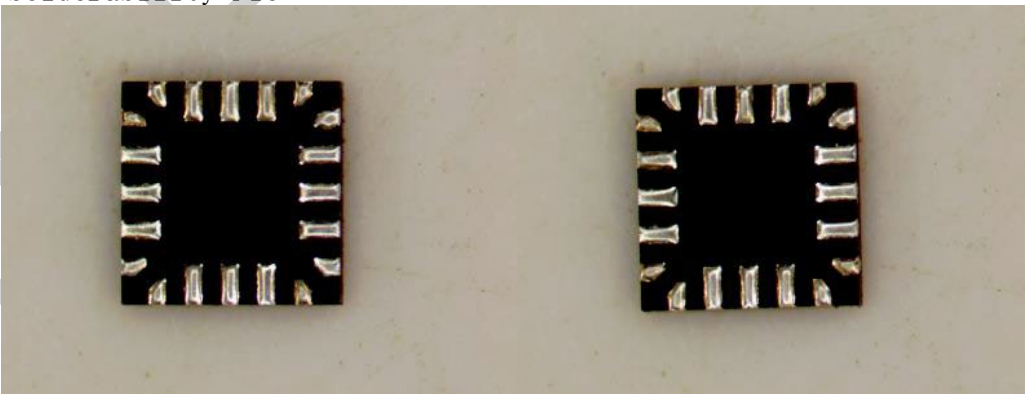
检查倍数(Magnification): 10X-30X



## Reflow Profile



Solderability Pic



超声波扫描图(Pics of SAM)

before Pre

after Pre

