

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LQFP48NT-7-M-CU产品考核可靠性试验报告
(Subject) 265 customer LQFP48NT-7-M-CU product reliability report

目的: 对265-N32G030C8L7产品进行可靠性试验考核
(Purpose) Evaluate the reliability of 265-N32G030C8L7

产品信息:

(LOT BACKGROUND INFORMATION)

客户(Customer):	265	圆片型号(Wafer Type):	N/A
品名(Sample Name):	N32G030C8L7		
封装形式(Package):	LQFP48NT-7-M-CU		
组装批号(Assembly Lot):	12000770101		
装片胶(Epoxy):	CRM-1076WA-B		
框架(Leadframe):	LQFP48DR		
芯片尺寸(Die Size):	2.268*1.34		
键合丝(Wire):	CLR-1A-0.8mil Pd		
塑封料(Molding Compound):	CEL8240HF10-CWK		
电镀成分(Plating Component):	Pure Sn		

试验结果:

(Result) PASS

日期: May 11, 2021
(Date)

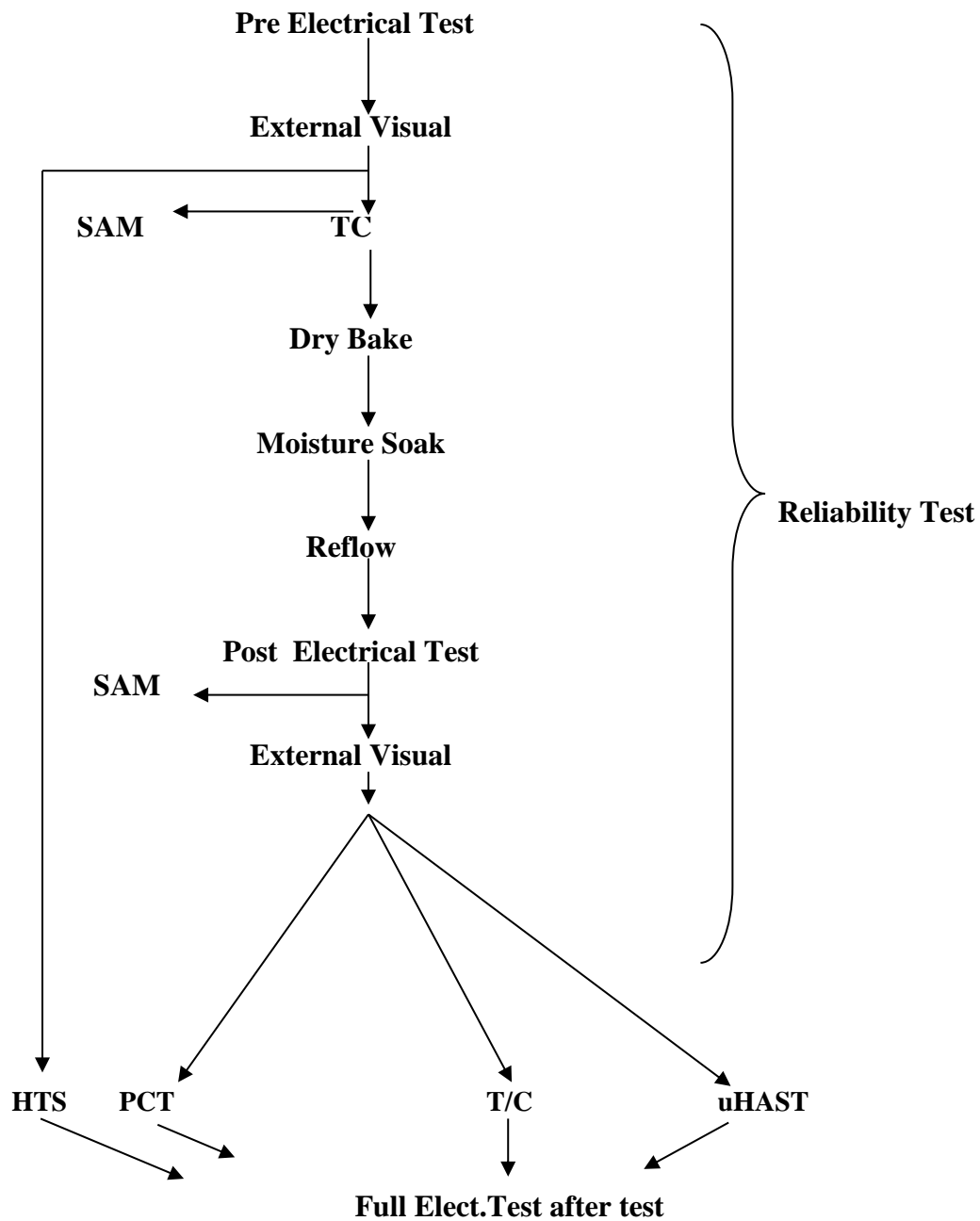
报告编号: DOE2021021902
(Report No.)

作成 (Write By): 石微微

审核 (Review By): 吴卫华

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 500/1000cls)		0/77	5
13	uHAST (130±2℃/85±5％RH/96hrs)		0/77	6
14	HTS (150(-0/+10)℃/500/1000hrs)		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(Accept No.):

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(Accept No.):

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(Accept No.):

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(Accept No.):

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°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(Accept No.):

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(Accept No.):

0/1

结果(Results):

预处理前(Pre Pre.): 0/77

预处理后(Post Pre.): 0/77

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

条件(Conditions):

-65℃ (+0/-10) ~ +150℃ (+10/-0) 0.5h/c 500/1000cls

样品数(Sample Size):

77units

Ac/Re(Accept No.):

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(Accept No.):

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 (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°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(Accept No.):

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(Accept No.):

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uHAST试验(Preconditioning uHAST Test)

条件(Conditions):

130±2°C/85±5%RH/96hrs

样品数(Sample Size):

77units

Ac/Re(Accept No.):

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(Accept No.):

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 高温储存试验(High Temperature Storage Test)

条件(Conditions):	150 (-0/+10) °C / 500/1000hrs		
样品数(Sample Size):	77units		
Ac/Re(Accept No.):	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(Accept No.):	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(Accept No.): 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(Accept No.): 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)

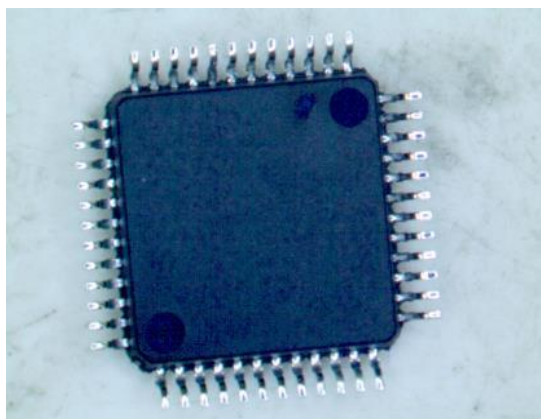
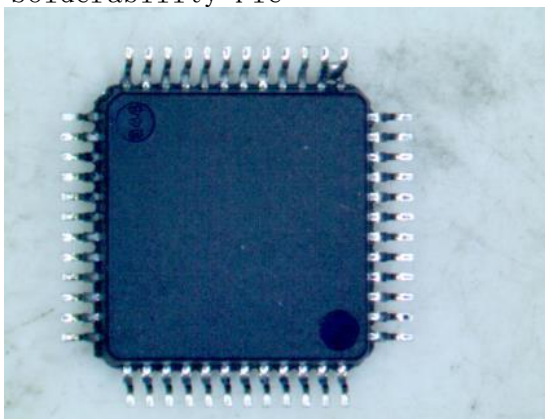
速度(Speed): 25±6mm/s

检查倍数(Magnification): 10X-30X

Reflow Profile

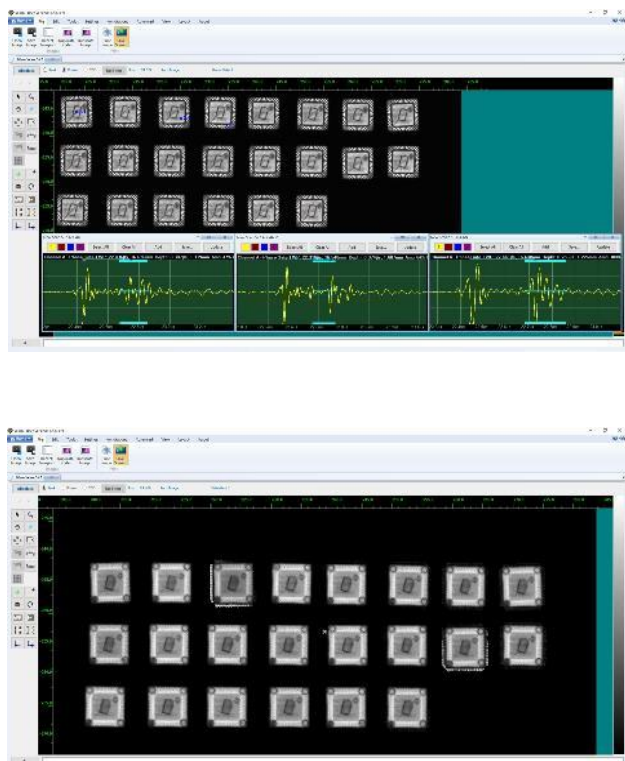


Solderability Pic



超声波扫描图(Pics of SAM)

before Pre



after Pre

