CYPRESS
EMBEDDED IN TOMORROW™

Document No. 002-20017 Rev.*A
ECN# 6190416

信頼性試験成績書

0.18um Process Technology Product and Package

Legacy Fujitsu Reliability Engineering Test Report

Wafer Process : Aizu Fujitsu
Assembly : J-Devices

Reliability Test 1

Device Type : **MCU 1**
Package Type : **Plastic LQFP-120 Package**

Test Item	Test Condition	Tested Number		Tested Time	Failed Number
High Temperature Operation Life 高温連続動作試験	125 ℃ V_{DD}=Maximum Rating	231 (77x3Lots)	(a)	1000h	0
Temperature Humidity Bias 高湿連続動作試験	85 ℃ / 85% RH V_{DD}=Maximum Rating	138 (46x3Lots)	(a)	1000h	0
Low Temperature Operation Life 低温連続動作試験	-55 ℃ V_{DD}=Maximum Rating	78 (26x3Lots)	(a)	1000h	0
High Temperature Storage 高温保存試験	150 ℃	231 (77x3Lots)	(a)	1000h	0
Temperature Cycling 温度サイクル	-65℃～150℃	231 (77x3Lots)	(a)	500cyc	0
Pressure Cooker Test	121℃, 100%RH: 2.03E5 Pa	231 (77x3Lots)	(a)	168h	0
Pressure Cooker Test with Bias	130℃, 85%RH: 2.33E5 Pa V_{DD}=Maximum Rating	99 (33x3Lots)	(a)	96h	0

(a) Pre-condition: Baking (125℃, 24h) +Moisture Absorption (30℃/70%RH, 192h) +IR 260℃ Max. x3

Reliability Test 2

Device Type : **MCU 2**
Package Type : **Plastic FBGA-192 Package**

Test Item	Test Condition	Tested Number		Tested Time	Failed Number
High Temperature Operation Life 高温連続動作試験	125 ℃ V_{DD}=Maximum Rating	77	(b)	1000h	0
Temperature Humidity Bias 高湿連続動作試験	85 ℃ / 85% RH V_{DD}=Maximum Rating	46	(b)	1000h	0
High Temperature Storage 高温保存試験	150 ℃	77	(b)	1000h	0
Temperature Cycling 温度サイクル	-65℃～150℃	77	(b)	500cyc	0
Unbiased HAST	110℃, 85%RH	77	(b)	264h	0
HAST	110℃, 85%RH V_{DD}=Maximum Rating	33	(b)	264h	0

(b) Pre-condition: Baking (125℃, 24h) +Moisture Absorption (30℃/70%RH, 72h) +IR 250℃ Max.
+Moisture Absorption (30℃/70%RH, 48h) +IR 250℃ Max.

Endurance + Data Retention Test

Device Type : **MCU 3**
Package Type : **Plastic QFP-100 Package**

Test Condition (Ta)	Tested Number	Failed Number
1Kcyc (85℃) + Data Retention Bake : 1344h (150℃)	231 (3Lots)	0
10Kcyc (85℃) + Data Retention Bake : 672h (150℃)	231 (3Lots)	0
100Kcyc (85℃) + Data Retention Bake : 336h (150℃)	231 (3Lots)	0

Document History Page

Document Title: Qualification Report of 0.18um technology product with J-Devices Package (CU80FUL)
Document Number: 002-20017

Rev.	ECN No.	Orig. of Change	Description of Change
**	5769775	KUMI	Initial release.
*A	6190416	KUMI	Document Title Change from CU80F to CU80FUL