

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 : Test Chip (Logic)
Package Type : Plastic QFP-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 °C V _{DD} =Maximum Rating	77	(a)	1000h	0
Temperature Humidity Bias 高温連続動作試験	85 °C / 85% RH V _{DD} =Maximum Rating	46	(a)	1000h	0
Low Temperature Operation Life 低温連続動作試験	-55°C V _{DD} =Maximum Rating	26	(a)	1000h	0
High Temperature Storage 高温保存試験	150 °C	26	(a)	1000h	0
Temperature Cycling 温度サイクル	-65°C~150°C	46	(a)	500cyc	0
Pressure Cooker Test	121°C, 100%RH: 2.03E5 Pa	46	(a)	168h	0
Pressure Cooker Test with Bias	121°C, 100%RH: 2.03E5 Pa V _{DD} =Maximum Rating	26	(a)	96h	0

(a) Pre-condition: Baking (125°C, 24h) +Moisture Absorption (30°C/80%RH, 72h) +Reflow 240°C Max
+Moisture Absorption (30°C/80%RH, 48h) +Reflow 240°C Max

Reliability Test 2

Device Type : Test Chip (SRAM)
Package Type : Plastic QFP-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 °C V _{DD} =Maximum Rating	77	(b) 1000h	0
Temperature Humidity Bias 高温連続動作試験	85 °C / 85% RH V _{DD} =Maximum Rating	46	(b) 1000h	0
Low Temperature Operation Life 低温連続動作試験	-55°C V _{DD} =Maximum Rating	26	(b) 1000h	0
High Temperature Storage 高温保存試験	150 °C	26	(b) 1000h	0
Temperature Cycling 温度サイクル	-65°C~150°C	46	(b) 500cyc	0
Pressure Cooker Test	121°C, 100%RH: 2.03E5 Pa	46	(b) 168h	0
Pressure Cooker Test with Bias	121°C, 100%RH: 2.03E5 Pa V _{DD} =Maximum Rating	26	(b) 96h	0

(b) Pre-condition: Baking (125°C, 24h) +Moisture Absorption (30°C/80%RH, 72h) +Reflow 240°C Max
+Moisture Absorption (30°C/80%RH, 48h) +Reflow 240°C Max

Reliability Test 3

Device Type : Test Chip (Analog)
Package Type : Plastic QFP-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 °C V _{DD} =Maximum Rating	77	(c)	1000h	0
Temperature Humidity Bias 高温連続動作試験	85 °C / 85% RH V _{DD} =Maximum Rating	46	(c)	1000h	0
Low Temperature Operation Life 低温連続動作試験	-55°C V _{DD} =Maximum Rating	26	(c)	1000h	0
High Temperature Storage 高温保存試験	150 °C	26	(c)	1000h	0
Temperature Cycling 温度サイクル	-65°C~150°C	46	(c)	500cyc	0
Pressure Cooker Test	121°C, 100%RH: 2.03E5 Pa	46	(c)	168h	0
Pressure Cooker Test with Bias	121°C, 100%RH: 2.03E5 Pa V _{DD} =Maximum Rating	26	(c)	96h	0

(c) Pre-condition: Baking (125°C, 24h) +Moisture Absorption (30°C/80%RH, 72h) +Reflow 240°C Max
+Moisture Absorption (30°C/80%RH, 48h) +Reflow 240°C Max

Reliability Test 4

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

Test Item	Test Condition	Tested Number		Tested Time	Failed Number
High Temperature Storage 高温保存試験	150 °C	45 (15x3Lot)	(d)	1000h	0
Temperature Cycling 温度サイクル	-65°C~150°C	231 (77x3Lots)	(d)	500cyc	0
Pressure Cooker Test	131°C, 85%RH: 2.33E5 Pa	231 (77x3Lots)	(d)	96h	0

(d) Pre-condition: Baking (125°C, 24h) +Moisture Absorption (30°C/0%RH, 192h) +Reflow 260°C Max. x3

Reliability Test 5

Device Type : MCU 2
Package Type : Plastic LQFP-176 Package

Test Item	Test Condition	Tested Number		Tested Time	Failed Number
High Temperature Storage 高温保存試験	150 °C	77	(e)	1000h	0
Temperature Cycling 温度サイクル	-65°C~150°C	77	(e)	500cyc	0
Pressure Cooker Test	130°C, 85%RH: 2.33E5 Pa	77	(e)	96h	0

(e) Pre-condition: Baking (125°C, 24h) +Moisture Absorption (30°C/70%RH, 192h) +Reflow 260°C Max. x3

Reliability Test 6

Device Type : Test chip (Logic + SRAM Large die)
Package Type : Plastic FBGA-288 Package

Test Item	Test Condition	Tested Number		Tested Time	Failed Number
High Temperature Storage 高温保存試験	150 °C	33	(f)	1000h	0
Temperature Cycling 温度サイクル	-55°C~125°C	54	(f)	500cyc	0
Pressure Cooker Test	121°C, 85%RH: 1.72E5 Pa	54	(f)	264h	0
Pressure Cooker Test with Bias	121°C, 85%RH: 1.72E5 Pa V _{DD} =Maximum Rating	33	(f)	96h	0

(f) Pre-condition: Baking (125°C, 24h) +Moisture Absorption (30°C/80%RH, 48h) +Reflow 250°C Max
+Moisture Absorption (30°C/80%RH, 24h) +Reflow 250°C Max



Document History Page

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**	5768984	KUMI	Initial release.