



**MICROCHIP**

**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: KSRA-02YQDG601**

**Date**

**May 4, 2018**

**Qualification of UAT as a new assembly site for selected Atmel Memory products available in 8L WLCSP package. The selected Atmel Memory products available in 4L and 12L WLCSP package will qualify by similarity.**

**Purpose:** Qualification of UAT as a new assembly site for selected Atmel Memory products available in 8L WLCSP package. The selected Atmel Memory products available in 4L and 12L WLCSP package will qualify by similarity.

Test Lot	Lot Descriptions
Device	AT35833
Wafer Lot	5Y1902
Assembly site	Unisem
CCB No.	3089, 3089.002 and 3089.003
Document Control Number and Rev	ML0520180010 Rev. A
Qual Tests	HTS + BS, uHAST, TC, bHAST

**Qualification Data:**

High Temperature Storage + Post Stress Ball Shear

Test Method	JESD22-A103
Test Condition	Ta = 175°C / 504 hours
Sample Size	(77 ea. Per lot minimum)
Lot 1 / 7W4772_W22	0/93
Lot 2 / 7W3224_W14	0/93
Lot 3 / 7W4794_W22	0/93
Test Method	JESD22-B117
Test Condition	All samples shear with > 3.0gm/um <sup>2</sup>
Sample Size	(40 Balls Per lot minimum) Data in Appendix 1

Note: Devices were pre and post tested at 25°C.

### MSL 1 Precondition + Temperature Cycling

Precondition Test Method	JESD22-A113
Test Condition	24hr 125C Bakeout + 168hr 85C / 85% RH Humidity 3x Solder Reflow (265C Peak Temp)
Test Method	JESD22-A104
Test Condition	-65C / +150C Air to Air, 1000 Cycles
Sample Size	(77 ea. Per lot minimum)
Lot 1 / 5W1902_W16	0/93
Lot 2 / 5W1902_W15	0/93
Lot 3 / 5W1902_W17	0/93

Note: Devices were pre and post tested at 25°C.

### MSL 1 Precondition + Unbiased HAST

Precondition Test Method	JESD22-A113
Test Condition	24hr 125C Bakeout + 168hr 85C / 85% RH Humidity 3x Solder Reflow (265C Peak Temp)
Test Method	JESD22-A118
Test Condition	+130C, 85% RH 96 hours
Sample Size	(77 ea. Per lot minimum)
Lot 1 / 5W1902_W16	0/93
Lot 2 / 5W1902_W15	0/93
Lot 3 / 5W1902_W17	0/93

Note: Devices were pre and post tested at 25°C.

### MSL 1 Precondition + biased HAST

Precondition Test Method	JESD22-A113
Test Condition	24hr 125C Bakeout + 168hr 85C / 85% RH Humidity 3x Solder Reflow (265C Peak Temp)
Test Method	JESD22-A118
Test Condition	+130C, 85% RH 96 hours, $V_{CC} = 5.0V$
Sample Size	(77 ea. Per lot minimum)
Lot 4 / 5W1902_W18	0/84
Lot 5 / 5W1902_W19	0/84
Lot 6 / 5W1902_W20	0/84