



MICROCHIP

QUALIFICATION REPORT SUMMARY

PCN #: JAON-20BQVK768

Date
April 6, 2017

**Qualification of Fabrication site (FAB 5) for Micrel products
manufactured with the BCD05 process technology.**

PART NUMBER	PACKAGE TYPE	ASSEMBLY LOCATION	FAB LOCATION	PROCESS NAME
MIC2104YML	QFN33-16L	UNISEM, MALAYSIA	MICROCHIP FAB-5 Colorado Springs	BCD05/CSI05

DIE QUALIFICATION RESULTS

TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	168 HR Rej/ss	500 HR Rej/ss	1000 HR Rej/ss	COMMENTS
HTOL High Temperature Operating Life Test	JESD22, Method 108	1643	R6X0362 UNIS173100082.000	0/82	0/82	0/82	*Units went straight to 1000 hours. No read out at 500 hours.
	Ta = +125°C	1702	6Y2663 UNIS174200177.100B	0/80	-*	0/80	
	Vcc = +75V	1703	6Y0748 UNIS174300027.000	0/79	-*	0/78**	

*Lot 2 under 500HR went straight to 1000 HR skipping the 500 HR read.

** Lot 3 started with 79 units, one device removed at 168 hours, 78 units went straight to straight to 1000 hours

TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	168 HR Rej/ss	408 HR Rej/ss	COMMENTS
HTOL High Temperature Operating Life Test	JESD22, Method 108	1702	R6X0362 UNIS173100082.000	0/77	0/77	*77 units went straight to 408 hours. No read out at 168 hours.
	Ta = +150°C	1703	B6Y0748 UNIS174300027.000	-*	0/77	

ELECTROSTATIC DISCHARGE

TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	STRESS	RESULT Rej/ss	COMMENTS
ESD-HBM Human Body Model ATE Test @ Room +25C	R= 1500 Ohms C= 100 pF 1X +/- Voltage	1643	R6X0362 UNIS173100082.000	+/-1000V	0/3	Note: ESD ratings are, device specific. All products, qualified on the 6" Micrel, process technologies at, Microchip Fabs will have the, same or better ESD and, Latch-up performance as the 6" products fabricated at San Jose wafer fabrication site.
ESD-CDM Charged Device Model ATE Test @ Room +25C	JESD22-C101 1X +/- Voltage	1643	R6X0362 UNIS173100082.000	+/-1500V	0/3	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	STRESS	RESULT Rej/ss	COMMENTS
LATCH-UP	JESD-78 A = +25°C	1643	R6X0362 UNIS173100082.000	I/O LU O/V LU	0/6 0/6	Same as SJ 6 inch

PACKAGE QUALIFICATION RESULTS

TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	Rej/ss	COMMENTS
Level 1 Pre-conditioning Flow Use samples to perform UHAST/BHAST/TCY	JESD22-A113	1643	R6X0362 UNIS173100082.000	0/375	
		1702	6Y2663 UNIS174200177.100	0/272	
		1703	B6Y0748 UNIS174300027.000	0/431	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	96 HR Rej/ss	COMMENTS
UHAST With Level 1 Pre-conditioning Tpeak + 260°C 3X Reflow	Ta= +131°C/85%RH JESD22-A118 (UNBIASED)	1643	R6X0362 UNIS173100082.000	0/82	
		1702	6Y2663 UNIS174200177.100	0/82	
		1703	B6Y0748 UNIS174300027.000	0/82	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	96 HR Rej/ss	COMMENTS
BHAST With Level 1 Pre-conditioning Tpeak + 260°C 3X Reflow	JESD22-A110 (BIASED) Ta= +130°C/85%RH Vcc = +75V	1643	R6X0362 UNIS173100082.000	0/82	
		1702	6Y2663 UNIS174200177.100	0/82	
		1703	B6Y0748 UNIS174300027.000	0/82	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	500 CY Rej/ss	COMMENTS
TEMP CYCLE With Level 1 Pre-conditioning Tpeak + 260°C 3X Reflow	JESD22-A104 Ta = -65°C / +150°C	1643	R6X0362 UNIS173100082.000	0/82	
		1702	6Y2663 UNIS174200177.100	0/82	
		1703	B6Y0748 UNIS174300027.000	0/82	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	500 HR Rej/ss	COMMENTS
HTSL High Temperature Storage Life	JESD22-A103 Ta = +175°C	1643	R6X0362 UNIS173100082.000	0/50	
TEST DESCRIPTION	METHOD/CONDITIONS	DATE CODE	LOT ID.	1000 HR Rej/ss	COMMENTS
HTSL High Temperature Storage Life	JESD22-A103 Ta = +150°C	1643	R6X0362 UNIS173100082.000	0/50	
FLAMMABILITY	UL-94V-0 Certified	All mold compounds used by Micrel meet this standard. See the UL website on-line list of material flammability certifications. Micrel requires a Certificate of Compliance from the assembly house and we verify the certifications on the web.			