



QUALIFICATION REPORT SUMMARY

PCN#: ALAN-01IZZC624

**Date:
February 09, 2026**

Qualification of Microchip Technology Colorado – Fab 5 (MCSO) as a new fabrication location for MD1711, MD1211, MD1210, MD1213, MD1811, and MD1810 device families of 69K technology available in various packages.

PROCESS QUALIFICATION

Purpose: Qualification of Microchip Technology Colorado –Fab 5 (MCSO) as a new fabrication location for MD1711, MD1211, MD1210, MD1213, MD1811, and MD1810 device families of 69K technology available in various packages.

CCB No.: 7364.032

Test	Lot Qty	# units/lot	Total Samples	Result
HTOL 1000HRS at +125°C. Pre / Post ATE at Room temp	3	77	231	Passed
ESD/HBM Pre / Post ATE at Room	1	12	12	Passed
Latch Up Pre / Post ATE at Room	1	12	12	Passed

PACKAGE QUALIFICATION

Purpose: Qualification of Microchip Technology Colorado – Fab 5 (MCSO) as a new fabrication location for MD1711, MD1211, MD1210, MD1213, MD1811, and MD1810 device families of 69K technology available in various packages will qualify by similarity (QBS).

I. Summary:

This report lists the Package Qualification test results required by CCB 7428.027. This is a part of the qualification of VM1C process fabricated at Fab 5 (Colorado Spring), following guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”. Device MD1210K6-G (mask 69001) in 12-lead VQFN 4x4mm (UHX) with 1.0 mil Au wire assembled at ASEM is selected as the qualification vehicle.

Conclusion:

Reliability stress results on test device MD1210K6-G indicate no assembly-related quality problem with VM1C material fabricated at Fab 5 as per guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”.

II. Device Description:

Device	MD1210K6-G
Document Control Number	ML0220263984
Document Revision	A
CCB No.	7428.027 and 7364.032

III. Qualification Material:

Test Lot	Lot 1
WAFER LOT	MCS0526058486.100/5B0286
ASSEMBLY LOT	ASEM262400048.000
PACKAGE	12-lead VQFN 4x4mm
QUAL TESTS	HTSL, MSL1, HAST, UHAST, TC

IV. BOM:

<u>Misc.</u>	Assembly site	ASEM
	BD Number	A-077959 rev A
	MP Code (MPC)	69001QUHXA00
	Part Number (CPN)	MD1210K6-G
	MSL information	MSL-1
	Assembly Shipping Media (T/R, Tube/Tray)	T/R
	Base Quantity Multiple (BQM)	5000
	Reliability Site	San Jose
<u>Lead-Frame</u>	Paddle size	96 x 96 mils
	Material	C194
	DAP Surface Prep	Ring Ag
	Treatment	Roughened
	Process	Etched
	Lead-lock	Yes
	Part Number	170012145201UHD
	Lead Plating	Matte Tin
	Strip Size	258x78 mm
	Strip Density	855/strip
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	QMI519
	Conductive	Yes
<u>MC</u>	Part Number	G770HCD
<u>PKG</u>	Package Type	VQFN
	Pin/Ball Count	12L
	PKG width/size	4x4

V. Qualification Data:

a. Package Preconditioning MSL1

Test Method/Condition	JEDEC J-STD-020 and JESD22-A113, MSL Level 1 soak at +85°C/85%RH/168hrs, 3x at 260°C peak Reflow Temperature
Sample Requirement	1 lot, minimum sample size = 231 units/lot.
Test Material	Lot 1
ATE Result (fail/sample size)	0/255
Result	Passed

Pre and Post testing was conducted at +25°C

b. HAST Post MSL1 Preconditioning.

Test Method/Condition	JESD22-A110, Ta = +130°C/85%RH, 96 hrs. Vdd = 12V
Sample Requirement	1 lot, minimum sample size = 77 units/lot.
Test Material	Lot 1
ATE Result (fail/sample size)	0/80
Result	Passed

Pre and Post testing was conducted at +25°C

c. Unbiased HAST post MSL1 Preconditioning.

Test Method/Condition	JESD22-A118, Ta = +130°C/85%RH, 96hrs.
Sample Requirement	1 lot, minimum sample size = 77 units/lot.
Test Material	Lot 1
ATE Result (fail/sample size)	0/81
Result	Passed

Pre and Post testing was conducted at +25°C

d. Temperature Cycling post MSL1 Preconditioning

Test Method/Condition	JESD22-A104, Ta = -65°C/+150 °C, 500 cycles.
Sample Requirement	3 lots, minimum sample size = 77 units/lot.
Test Material	Lot 1
ATE Result (fail/sample size)	0/82
Result	Passed

Pre and Post testing was conducted at +25°C

e. High Temperature Storage Life

Test Method/Condition	JESD22-A103, Ta = +150 °C, 1000 hrs
Sample Requirement	1 lot, minimum sample size = 45 units/lot.
Test Material	Lot 1
ATE Result (fail/sample size)	0/50
Result	Passed

Pre and Post testing was conducted at +25°C

VI. Assembly Data

Wire Bond Pull / Shear (WBP / WBS):

Assembly Lot No.	Result
ASEM262400048.000	Passed