QUALIFICATION REPORT SUMMARY

PCN #: BLAS-27NDOG454

Date:
August 14, 2025

Qualification of Microchip Technology Colorado – Fab 5 (MCSO) as a new fabrication location for selected MIC2211, MIC2212, MIC2213, MIC2214, MIC2219, MIC5245, MIC5247, MIC5248, MIC5253, MIC5264 and MIC5265 device families available in various packages.

PACKAGE QUAL REPORT

Purpose: Qualification of Microchip Technology Colorado – Fab 5 (MCSO) as a new fabrication location for selected MIC5247, MIC5255, MIC5232, MIC5259, MIC5256, MIC5253, MIC5265, MIC5159, MIC5252, MIC5249, MIC5264, MIC2202, MIC2203, MIC2204, MIC2213, MIC2214, MIC2215, MIC2210, MIC2211, and MIC2212 device families of 28k technology available in various packages. The selected MIC2211, MIC2212, MIC2213, MIC2214, MIC2219, MIC5245, MIC5247, MIC5248, MIC5253, MIC5264 and MIC5265 device families available in various packages will qualify by similarity (QBS).

I. Summary:

This report lists the Package Qualification test results required by CCB 7428.017. This is a part of the qualification of CSI12 process fabricated at Fab 5 (Colorado Spring), following guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”. Device MIC5249-1.5YMM-TR assembled in 8-lead MSOP at STAR with 1.0 mil Au wire is selected as the qualification vehicle.

II. Conclusion:

Reliability stress results on test device MIC5249-1.5YMM-TR indicate no assembly-related quality problem with CSI12 material fabricated at Fab 5 per guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements.

III. Device Description:

Device	MIC5249-1.5YMM-TR
Document Control Number	ML0820251686
Document Revision	A
CCB No.	7428.017

IV. Package Qualification Material:

Test Lot	Lot 4
WAFER LOT	MCSO525497517.510/C5A0712
ASSEMBLY LOT	STAR260900088.000
PACKAGE	8-lead MSOP
QUAL TESTS	HTSL, HAST, UHAST, TC, WBP, WBS

V. BOM:

Misc.	Assembly site	**STAR**
	BD Number	D-005290
	MP Code (MPC)	286A1YDMAA01
	Part Number (CPN)	MIC5249-1.5YMM-TR
	MSL information	MSL-1
	Assembly Shipping Media (T/R, Tube/Tray)	TRAY
	Base Quantity Multiple (BQM)	490
Lead-Frame	Paddle size	96 x 71 mils
	Material	A194
	DAP Surface Prep	Ag
	Treatment	ME2
	Process	Stamp
	Lead-lock	T-shape
	Part Number	07M7196HD80
	Lead Plating	NiPdAu
	Strip Size	70x238 mm
	Strip Density	320 units/strip
Bond Wire	Material	Au
Die Attach	Part Number	84-1LMISR4
	Conductive	Yes
MC	Part Number	G600
PKG	Package Type	MSOP
	Pin/Ball Count	8L
	PKG width/size	3x3mm

VI. Package Qualification Data:

a. Package Preconditioning:

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 4
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, VIn = +5.5V, Ta = +130°C/85%RH, 96 hrs
Sample Requirement	1 lot, minimum sample size = 77 units/lot.
Test Material	Lot 4
ATE Result (fail/sample size)	0/82
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 4
ATE Result (fail/sample size)	0/82
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	1 lot, 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 = +175 °C, 500 hrs
Sample Requirement	1 lot, minimum sample size = 45 units/lot.
Test Material	Lot 4
ATE Result (fail/sample size)	0/50
Result	**Passed**

Pre and Post testing was conducted at +25°C

PROCESS QUAL REPORT

Purpose: Qualification of Microchip Technology Colorado – Fab 5 (MCSO) as a new fabrication location for selected MIC5247, MIC5255, MIC5232, MIC5259, MIC5256, MIC5253, MIC5265, MIC5159, MIC5252, MIC5249, MIC5264, MIC2202, MIC2203, MIC2204, MIC2213, MIC2214, MIC2215, MIC2210, MIC2211, and MIC2212 device families of 28k technology available in various packages. The selected MIC2211, MIC2212, MIC2213, MIC2214, MIC2219, MIC5245, MIC5247, MIC5248, MIC5253, MIC5264 and MIC5265 device families available in various packages will qualify by similarity (QBS).

CCB No.: 7364.027 and 7364.056

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