



QUALIFICATION REPORT SUMMARY

PCN #: DSNO-25WTGY139

**Date:
February 24, 2026**

Qualification of Microchip Technology Colorado – Fab 5 (MCSO) as a new fabrication location for the selected CL8800, CL8801, HV9110, HV9112, HV9113, HV9120, HV9123, HV9901, HV9910, HV9910B, HV9911, HV9921, HV9922, HV9923, HV9930, HV9931, HV9961, LR645, LR745 and LR8 device families of BIC8 800V (6TK, 6SK, 68K, 66K) technology available in various packages.

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I. Summary:

This report lists the Package Qualification test results required by CCB 7428.026. This is a part of the qualification of BIC8_800V process fabricated at Fab 5 (Colorado Spring), following guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”. Device CL8800K63-G (mask 66AA1) in 33-lead VQFN 6x6mm with 1.0 mil Au wire assembled at ASEM is selected as the qualification vehicle.

Conclusion:

Test device CL8800K63-G passed all environmental stresses. However, Post MSL 3 CSAM detected delamination at the die attach to die paddle interface primarily under the die. Due to the high power dissipation of CL8800K63-G, this might pose a reliability concern. A corrective action request has been issued to ASEM to address the die attach separation. The delamination is unrelated to the new fab site under qualification. As the purpose of CCB 7428.026 is to qualify Fab 5 for the BIC8_800V process we can consider this qualification as passing in support of the new fab site release as per guidelines established in Microchip specification QCI-39000, “Worldwide Quality Conformance Requirements”.

II. Device Description:

Device	CL8800K63-G
Product	Sequential Linear LED Driver
Document Control Number	ML0220265344
Document Revision	A
CCB No.	7428.026

III. Qualification Material:

Test Lot	Lot 1
WAFER LOT	MCS0526038097.000
ASSEMBLY LOT	ASEM263100030.000
PACKAGE	33-lead VQFN 6x6mm
QUAL TESTS	HTSL, MSL3, HAST, UHAST, TC

IV. BOM:

Assembly site	ASEM
BD Number	A-076770 rev B
MP Code (MPC)	66AA143FXA00
Part Number (CPN)	CL8800K63-G
MSL information	MSL-3
Assembly Shipping Media (T/R, Tube/Tray)	TRAY
Base Quantity Multiple (BQM)	490
Reliability Site	San Jose
Paddle size	187 x 159 mils
Material	C194 FH
DAP Surface Prep	Bare Cu
Treatment	No
Process	Etched
Lead-lock (<i>Locking Hole, Half Etched, Dimple, etc. If none, please put No or N/A</i>)	Yes– locking hold and half etch bottom
Part Number	170033002135UHD
Lead Plating	Matte Tin
Strip Size	78x258 mm
Strip Density	390 units/strip
Material	Au
Part Number	QMI519
Conductive	Yes
Part Number	G770HCD
Package Type	VQFN
Pin/Ball Count	33L
PKG width/size	6x6

V. Qualification Data:

a. Package Preconditioning MSL3

Test Method/Condition	JEDEC J-STD-020 and JESD22-A113, MSL Level 3 soak at +30°C/60%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 MSL3 Preconditioning.

Test Method/Condition	JESD22-A110, Ta = +130°C/85%RH, 96 hrs. Vdd = 35V
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

c. Unbiased HAST post MSL3 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)	0/82
Result	Passed

Pre and Post testing was conducted at +25°C

d. Temperature Cycling post MSL3 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

f. Post-Stress Decapsulation and Inspection

Result: Passed

g. Post TCY WBP

Result: Passed

IV. Assembly Data

Wire Bond Pull / Shear (WBP / WBS):

Result: Passed



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PROCESS QUALIFICATION REPORT

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CCB No.: 7364.029

Test Item	Lot Quantity	Sample size per lot	Total no. of samples	Result
HTOL 1000HRS at +125°C	3	77	231	Passed
ESD/HBM	1	12	12	Passed
Latch Up	1	12	12	Passed