Product Change Notification - GBNG-17JHCL139

Date:

30 Jan 2020

Product Category:

Broadband Gateway

Affected CPNs:

Notification subject:

CCB 3893.004 and 3893.005 Final Notice: Qualification of an additional fabrication site (Microchip – Fab 5) for Die # 2 of selected Microsemi LCLD LE9642xx and LE9652xx device families available in 48L, 53L, 56L and 64L VQFN packages.

Notification text:

PCN Status:
Final notification

PCN Type:
Manufacturing Change

Microchip Parts Affected:
Please open one of the icons found in the Affected CPNs section above.

Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change:
Qualification of an additional fabrication site (Microchip - Fab 5) for Die # 2 of selected Microsemi LCLD LE9642xx and LE9652xx device families available in 48L, 53L, 56L and 64L VQFN packages.

Pre Change:
Die # 2 Fabricated at Global Foundries, Singapore - Fab 2 site

Post Change:
Die # 2 fabricated at Global Foundries, Singapore - Fab 2 or Microchip Technology Colorado - Fab 5 site.

Pre and Post Change Summary:

		Pre Change	Post Change	
Fabrication Supplier and Location	**Die # 1**	Global Foundries, Singapore - Fab 7 (GF07)	Global Foundries, Singapore - Fab 7 (GF07)	Global Foundries, Singapore - Fab 7 (GF07)
	Die # 2	Global Foundries, Singapore - Fab 2 (GF02)	Global Foundries, Singapore - Fab 2 (GF02)	Microchip Technology Colorado - Fab 5 (MCSO)
Wafer Diameter	**Die # 1**	12 inches	12 inches	12 inches
	Die # 2	8 inches	8 inches	6 inches
Die size		No change	No change	No change
Quality Certification		ISO9001/TS16949 or IATF16949	ISO9001/TS16949 or IATF16949	ISO9001/TS16949 or IATF16949

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve manufacturability and on-time delivery performance by qualifying a second fabrication

source at Microchip Technology Colorado - Fab 5 site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
March 01, 2020 (datecode:2010)

NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Pre and Post Change Summary:

	December 2019				January 2020					>	March 2020				
Workweek	**49**	**50**	**51**	**52**	**01**	**02**	**03**	**04**	**05**		**10**	**11**	**12**	**13**	**14**
Initial PCN Issue Date			X												
Qual Report Availability									X						
Final PCN Issue Date									X						
Estimated Implementation Date											X				

Method to Identify Change:
Traceability Code

Qualification Report:
Please open the attachments included with this PCN. They are labeled as PCN_#_Qual_Report.

Revision History:
December 17, 2019: Issued initial notification.
January 30, 2020: Issued final notification. Attached are the qualification reports and added estimated first ship date by March 01, 2020. Updated PCN subject to specify affected device families.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):
PCN GBNG-17JHCL139_Qual_Report_LE9642.pdf
PCN GBNG-17JHCL139_Qual_Report_LE9652.pdf
PCN_GBNG-17JHCL139_Pre and Post Change Comparison.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

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If you wish to change your PCN profile, including opt out, please go to the PCN home page select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.

GBNG-17JHCL139 - CCB 3893.004 and 3893.005 Final Notice: Qualification of an additional fabrication site (Microchip – Fab 5) for Die # 2 of selected Microsemi LCLD LE9642xx and LE9652xx device families available in 48L, 53L, 56L and 64L VQFN packages.

Affected Catalog Part Numbers (CPN)

LE9642PQC
LE9642PQCT
LE9622RQC
LE9622RQCT
LE9662WQC
LE9662WQCT
ZL88601LDF1
ZL88601LDG1
ZL88602LDF1
ZL88602LDG1
ZL88801LDF1
ZL88801LDG1
LE9632RQC
LE9632RQCT
LE9652PQC
LE9652PQCT
LE9672WQC
LE9672WQCT
ZL88103LDF1
ZL88103LDG1
ZL88105LDF1
ZL88105LDG1
ZL88107LDF1
ZL88107LDG1
ZL88109LDF1
ZL88109LDG1
ZL88701LDF1
ZL88701LDG1
ZL88702LDF1
ZL88702LDG1

QUALIFICATION REPORT SUMMARY

PCN #: GBNG-17JHCL139

Date:
January 10, 2020

Qualification of an additional fabrication site (Microchip – Fab 5) for Die # 2 of selected Microsemi LCLD LE9642xx and LE9652xx device families available in 48L, 53L, 56L and 64L VQFN packages.

I. Summary:

The purpose of this memo is to qualify the 1C003 mask set with Le9642 parts, using the HV7W process and to verify that the qualification testing was based on the qualification plan approved by Microchip CCB.

Conclusion:

Based on the results, the 1C003 mask set and the Le9642 comply with the reliability guidelines implemented in the qualification plan. Therefore, the 1C003 mask set and the Le9642 parts on the HV7W process technology can be released to production.

II. Device Description:

Device	Le9642
CCB No.	3893.004
Document Revision	ML01202000OQ Rev. A

III. Qualification Material:

Test Lot	Lot 1
WAFER LOT	9X0663
ASSEMBLY LOT	ASEM203000091.000
PACKAGE	48L QFN
QUAL TESTS	HTOL, ESD/LU

IV. Qualification Data:

High Temperature Operating Life (HTOL)

Test Method	JESD22-A108 & MIL-STD 1686
Test Condition	125°C / 1000 hours
Sample Size (77 ea. Min)	(Fail/Pass)
Lot 1	0 / 78

Pre & Post Test was @ 25°C

ESD and Latch Up

Test	Reference Method	Sample Size	Result
ESD – HBM	JEDEC JS-001	54ea	±1250V [bd]
Latch Up	JEDEC JESD78	24ea	12 Pass @ +25°C[bc] 12 Pass @ +85°C[bc]
CDM	ANSI/ESD	30ea	+/- 1000V

a) (HV) defines testing with respect to High Voltage pins (@ ±100mA L-U).
b) (LV) defines testing with respect to Low Voltage pins (@ ±100mA L-U).
c) Multiple Pin Stress combinations were used.

All Pre & Post Testing was done @ +25 °C

QUALIFICATION REPORT SUMMARY

PCN #: GBNG-17JHCL139

Date:
January 10, 2020

Qualification of an additional fabrication site (Microchip – Fab 5) for Die # 2 of selected Microsemi LCLD LE9642xx and LE9652xx device families available in 48L, 53L, 56L and 64L VQFN packages.

I. Summary:

The purpose of this report is to qualify the 1C008 mask set with Le9652 parts, using the HV7W process and to verify that the qualification testing was based on the qualification plan approved by Microchip CCB.

Conclusion:

Based on the results, the 1C008 mask set and the Le9652 comply with the reliability guidelines implemented in the qualification plan. Therefore, the 1C008 mask set and the Le9652 parts on the HV7W process technology can be released to production.

II. Device Description:

Device	Le9652
Mask	3893.005
Document Revision	ML01202000O8 Rev. A

III. Qualification Material:

Test Lot	Lot 1	Lot 2	Lot 3
WAFER LOT	9X0666	9U5473	A9X0666
ASSEMBLY LOT	ASEM202800131.000	921LE97	ASEM202700098.000
PACKAGE	48L QFN	48L QFN	48L QFN
QUAL TESTS	HTOL, ESD/LU	HTOL	HTOL

IV. Qualification Data:

High Temperature Operating Life (HTOL)

Test Method	JESD22-A108 & MIL-STD 1686
Test Condition	105°C / 1168 hours
Sample Size (77 ea. Min)	(Fail/Pass)
Lot 1	0 / 78
Lot 2	0 / 100
Lot 3	0 / 78

Pre & Post Test was @ 85°C

ESD and Latch Up

Test	Reference Method	Sample Size	Result
ESD – HBM	JEDEC JS-001	Lot 4, 54ea	±1250V [bd]
Latch Up	JEDEC JESD78	Lot 4, 24ea	12 Pass @ +25°C[bc] 12 Pass @ +85°C[bc]
CDM	ANSI/ESD	Lot 4, 30ea	+/- 1000V

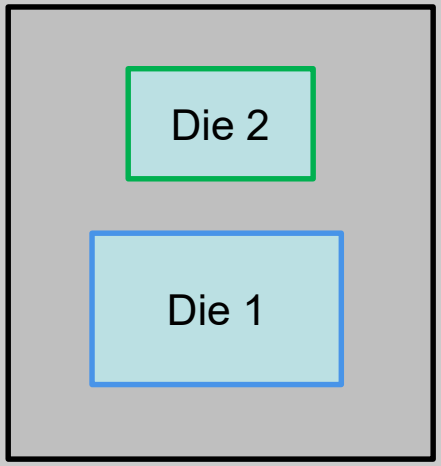
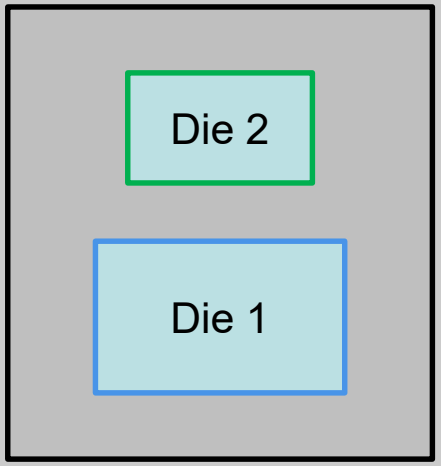
a) (HV) defines testing with respect to High Voltage pins (@ ±100mA L-U).

b) (LV) defines testing with respect to Low Voltage pins (@ ±100mA L-U).

c) Multiple Pin Stress combinations were used.

All Pre & Post Testing was done @ +25 °C

Pre and Post Change
Fabrication Supplier / Location for Die # 2

	Pre-Change	Post-Change
Fabrication Supplier / Location for Die # 2 ***Note:*** ***No change for Die # 1***	**Die # 2** – Global Foundries, Singapore - Fab 2 (GF02)  **Die # 1** – Global Foundries, Singapore - Fab 7 (GF07)	**Die # 2** – Global Foundries, Singapore - Fab 2 (GF02) or Microchip Technology Colorado – Fab 5 (MCSO)  **Die # 1** – Global Foundries, Singapore - Fab 7 (GF07)