



Product Change Notification / JAON-18TQGC397

Date:

10-May-2023

Product Category:

Broadband Gateway

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5014.001 and 6259 Final Notice: Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9641PQC, LE9651PQC, LE9641PQCT, and LE9651PQCT catalog part numbers (CPN) available in 48L VQFN (7x7x1.0mm) package assembled at MMT assembly site.

Affected CPNs:

[JAON-18TQGC397_Affected_CPN_05102023.pdf](#)

[JAON-18TQGC397_Affected_CPN_05102023.csv](#)

Notification Text:

PCN Status:Final Notification

PCN Type:Manufacturing Change

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

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

Description of Change:Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9641PQC, LE9651PQC, LE9641PQCT, and LE9651PQCT catalog part numbers (CPN) available in 48L VQFN (7x7x1.0mm) package assembled at MMT assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
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Fabrication Location	Die # 1	Global Foundries, Singapore - Fab 7 (GF07)		Global Foundries, Singapore - Fab 7 (GF07)	
	Die # 2	Global Foundries, Singapore - Fab 2 (GF02)	Microchip Technology Colorado – Fab 5 (MCSO)	Global Foundries, Singapore - Fab 2 (GF02)	Microchip Technology Colorado – Fab 5 (MCSO)
Die Size	Die # 1	2.204 x 2.258 mm		1.932x1.860mm	
		Please see attached pre and post change comparison for Die # 1 Location			
	Die # 2	1.57 x 1.72 mm		1.57 x 1.72 mm	
Assembly Site		Microchip Technology Thailand (Branch) (MMT)		Microchip Technology Thailand (Branch) (MMT)	
Wire Material		CuPdAu		CuPdAu	
Die Attach Material		3280		3280	
Molding Compound Material		G700LTD		G700LTD	
Lead Frame Material		A194		A194	

Impacts to Data Sheet:None

Change ImpactNone

Reason for Change:To improve productivity by qualifying a new die size.

Change Implementation Status:In Progress

Estimated First Ship Date:May 15, 2023 (date code: 2320)

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

Time Table Summary:

	May 2022					>	May 2023				
Workweek	1 9	2 0	2 1	2 2	2 3		1 8	1 9	2 0	2 1	22
Initial PCN Issue Date			X								
Qual Report							X				

Availability												
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 labeled as PCN_#_Qual_Report.

Revision History:May 24, 2022: Issued initial notification.
 May 10, 2023: Issued final notification. Attached Qual report and added the estimated first ship date May 15, 2023.

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

Attachments:

- [PCN_JAON-18TQGC397_Qualification Report.pdf](#)
- [PCN_JAON-18TQGC397_Pre and Post Change_Summary.pdf](#)

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

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our **PCN home page** select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the **PCN FAQ** section.

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.



MICROCHIP

**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN# JAON-18TQGC397

**Date:
March 31, 2023**

Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9641PQC, LE9651PQC, LE9641PQCT, and LE9651PQCT catalog part numbers (CPN) available in 48L VQFN (7x7x1.0mm) package assembled at MMT assembly site.



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9641PQC, LE9651PQC, LE9641PQCT, and LE9651PQCT catalog part numbers (CPN) available in 48L VQFN (7x7x1.0mm) package assembled at MMT assembly site.
CN	E000127808
QUAL ID	R2200974 Rev A
MP CODE	3413J7M9CA01
Part No.	LE9641PQC
Bonding No.	BD-000488 Rev.02
CCB#	5014.001 and 6259
<u>Package</u>	
Type	48L VQFN
Package size	7 x 7 x 1.0 mm
Die thickness	11 mils
<u>Lead Frame</u>	
Paddle size	232 x 232 mils
Material	A194
Surface	Selective Ag Plating
Process	Etched
Lead Lock	Yes
Part Number	10104808
<u>Material</u>	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G700LTD
Plating Composition	Matte Sn



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-231802103.000	GF07923119810.100	2231R5Y

Result

Pass Fail _____

48L VQFN (7x7x1.0 mm) assembled by MMT pass reliability test per QCI-39000.
This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 260°C
reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 3)	<p>Electrical Test: +25°C System: Chroma3650</p> <p>Bake 150°C, 24 hrs. System: CHINEE</p> <p>30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH</p> <p>3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243</p> <p>Electrical Test: +25°C System: Chroma3650</p>	<p>JESD22- A113</p> <p>JIP/ IPC/JEDEC J-STD-020E</p>	<p>154(0)</p> <p>154(0)</p>	<p>0/154</p> <p>0/154</p> <p>0/154</p> <p>0/154</p> <p>0/154</p>	<p></p> <p></p> <p></p> <p></p> <p>Pass</p>	<p>Good Devices</p>

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UNBIASED- HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		0/77		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: Chroma3650		77(0)	0/77	Pass	77 units
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X			0/77		
	Electrical Test: +25°C System: Chroma3650		77(0)	0/77	Pass	
Wire sweep	Wire sweep Inspection 20 Wires	-	20(0) Wires	0/20	Pass	

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Affected Catalog Part Numbers (CPN)

LE9641PQC

LE9651PQC

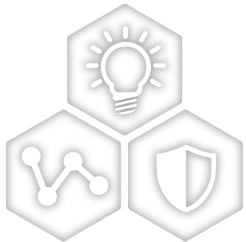
LE9641PQCT

LE9651PQCT

CCB 5014.001
Pre and Post Change Summary
PCN#: JAON-18TQGC397



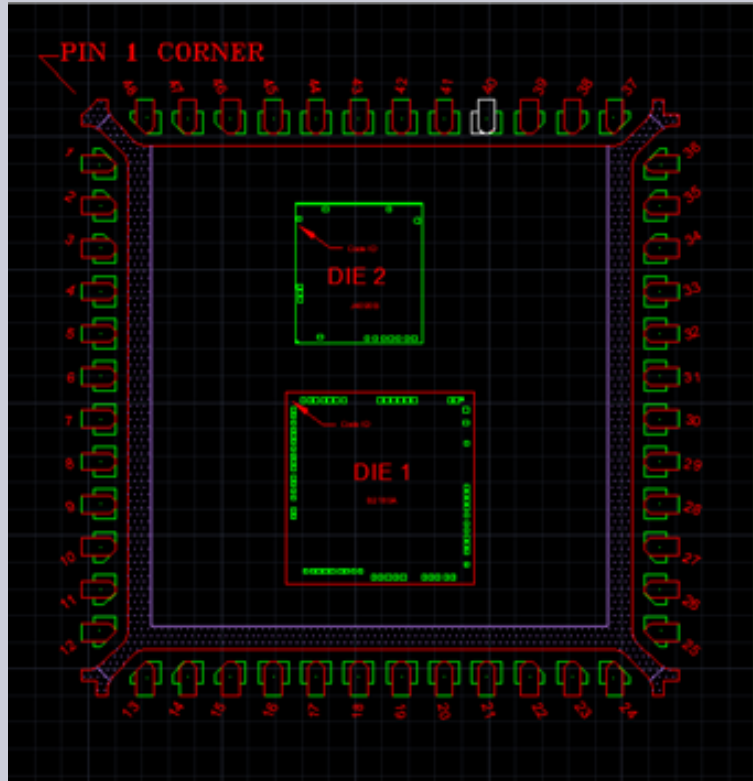
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions



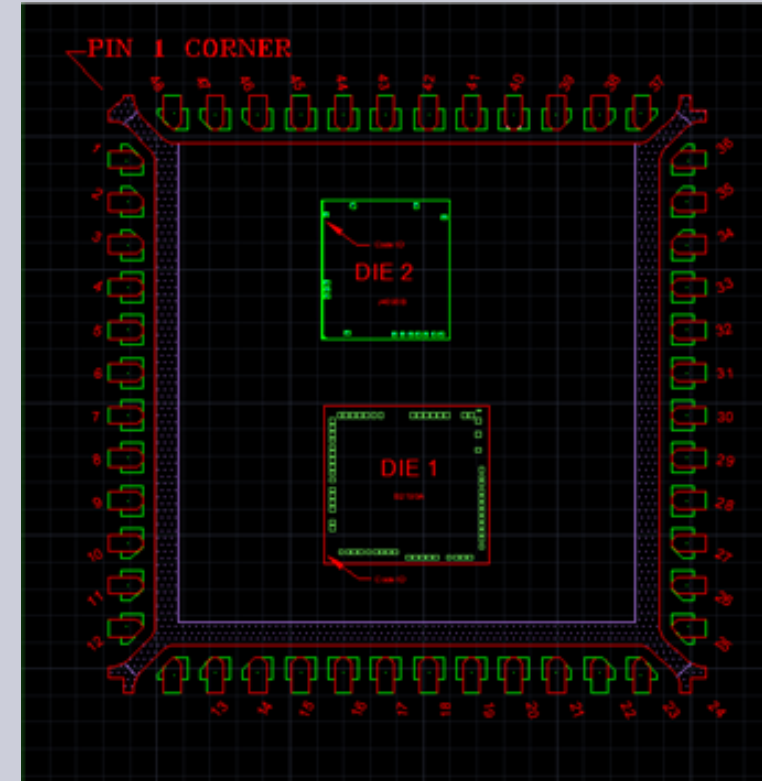
SMART | CONNECTED | SECURE

Pre and post change comparison

Pre change



Post Change



Note: Not-to-scale