

Product Change Notification / JAON-28QFPB827

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24-May-2022

Product Category:

Broadband Gateway

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5014 Initial 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 ASEM assembly site.

Affected CPNs:

JAON-28QFPB827_Affected_CPN_05242022.pdf JAON-28QFPB827_Affected_CPN_05242022.csv

Notification Text:

PCN Status:Initial 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 ASEM assembly site.

Pre and Post Change Summary:

		Pre Cl	hange	Post C	hange	
	Die # 1		ies, Singapore - Fab Global Foundries, Singapo (GF07) 7 (GF07)			
Fabrication Location	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 E Location		
	Die # 2	1.57 x 1.72 mm		1.57 x 1.72 mm		
Assemb	ly Site	ASE Group -Ma	alaysia (ASEM)	ASE Group -Malaysia (ASEM)		
Wire Ma	aterial	CuPdAu		CuPdAu		
Die Attach	Material	CRM1076DS		CRM1076DS		
Molding Co Mate	•	CEL-9240H	IF10AK-G1	CEL-9240HF10AK-G1		
Lead Frame	Material	C194FH C194FH		4FH		

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 Qualification Completion Date:June 2022

Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	ſ	Vlay	2022	2		Jur	ne 20)22	
Workweek	1	2	2	2	2	2	2	2	2

	9	0	1	2	3	4	5	6	7
Initial PCN Issue				X					
Date				^					
Qual Report							\ \		
Availability							^		
Final PCN Issue							\ \		
Date							^		

Method to Identify Change:Traceability code

Qualification Plan: Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History: May 24, 2022: Issued initial notification.

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-28QFPB827_Pre and Post Change_Summary.pdf PCN_JAON-28QFPB827_Qual_Plan.pdf

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

Terms and Conditions:

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

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



QUALIFICATION PLAN SUMMARY

PCN #: JAON-28QFPB827

Date: April 20, 2022

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 ASEM assembly site.

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 ASEM assembly site.

CCB No.: 5014

	Assembly site	ASEM
	BD Number	BD-000310-02
	MP Code (MPC)	3410X to 3413J
		3411Y to 3413K
Misc.	Part Number (CPN)	Le9641
4	MSL information	MSL3
	Assembly Shipping Media (T/R, Tube/Tray)	Tray and T/R
	Base Quantity Multiple (BQM)	1300
	Reliability Site	ASEM
	Paddle size	5.9 x 5.9 mm
	Material	C194FH
	DAP Surface Prep	Selective AG Plating (Anti Tarnish & Anti EBO control)
Je Je	Treatment	No
Lead-Frame	Process	etched
ad-l	Lead-lock	No
<u>e</u>	Part Number	170048372135XL
	Lead Plating	Matte Sn
	Strip Size	78x258
	Strip Density	33x9 = 297
Bond	Material	CuPdAu
<u>Die</u> Attach	Part Number	CRM1076DS
Atts	Conductive	Yes
MC	Part Number	CEL-9240HF10AK-G1
	PKG Type	VQFN
O	Pin/Ball Count	48
PKG	PKG width/size	7x7x1
	Die Size	1.932x1.860mm

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Wire Sweep	Max limit 15%	77	0	1	77	No shorting		Due to long wires
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C.	154	15	1	169	0	15	Spares should be properly identified.



QUALIFICATION REPORT SUMMARY

PCN #: JAON-28QFPB827

Date: April 20, 2022

Qualification of ASEM for selected Microsemi products available in 48L VQFN (7x7x1.0mm) package.

Product Nomenclature	miSLIC™: Le9641, Le9651
Report No:	155270 (PD-000248242)

Package:	ASE Malaysia QFN
UL flammability class	UL 94 V-0
Lead Frame Material	Copper alloy
Mold Compound	CEL9240HF10AK-G1
Die Attach	CRM 1076DS
Bond Wire	CuPdAu
Lead Finish	Matte Tin (Pb Free)

RELIABILITY QUALIFICATION REPORT SUMMARY

Preconditioning Jedec Moisture Sensitivity Level 3 (30°C/60%RH/192hrs) with Pb-Free Reflow at 260°C (JEDEC J-STD-020) (Performed prior to Temperature Cycle, High Temp Storage, Unbiased-HAST, Autoclave)	0/160 (ASEM - MSL3. Ref #151245) 0/319 (ASEM - MSL3, Ref #151237, #151243) 0/450 (ASEM - MSL3, Ref Project #2018) 0/2328 (ASEM - MSL3, Ref #137968, #145713, #148338) 0/480 (UTL - MSL3, Ref #160139) 0/480 (UTL - MSL3, Ref #146107)
Temperature Cycle (JESD22-A104) (-65°C/+150°C)	0/100 (ASEM - 500 cycles, Ref #151243, #151245) 0/150 (ASEM - 500 cycles, Ref Project #2018) 0/749 (ASEM - 1000 cycles, Ref #137968, #145713, #148338) 0/480 (UTL - MSL3, Ref #160139) 0/480 (UTL - MSL3, Ref #146107)
High Temperature Storage (JESD22-A103) (150°C)	0/100 (ASEM - 500 hrs, Ref #151243, #151245) 0/150 (ASEM - 500 hrs, Ref Project #2018) 0/693 (ASEM - 1000 hrs, Ref #137968, #145713, #148338) 0/150 (UTL - MSL3, Ref #160139) 0/150 (UTL - MSL3, Ref #146107)
Autoclave (JESD22-A102) (100%R.H., 121°C)	0/100 (ASEM - 96 hrs, Ref #151243, #151245) 0/150 (ASEM - 96 hrs, Ref Project #2018) 0/699 (ASEM - 168 hrs, Ref #137968, #145713, #148338) 0/150 (UTL - 168 hrs, Ref #146107)
Unbiased HAST (JESD22-A110) (85 %R.H., 130°C)	0/150 (UTL - 168 hrs, Ref #160139)

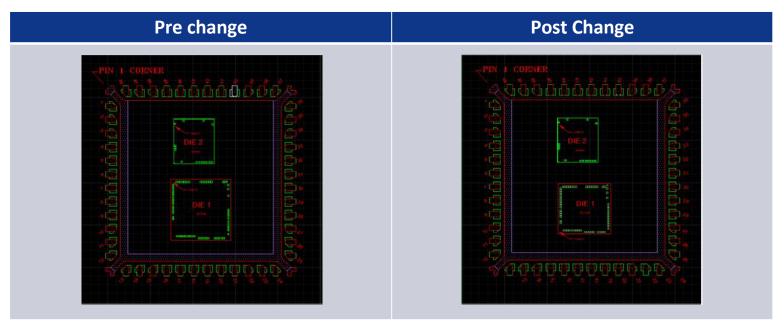
CCB 5014 Pre and Post Change Summary PCN#: JAON-28QFPB827



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Pre and post change comparison



Note: Not-to-scale



JAON-28QFPB827 LE9651PQL LE9641PQL and LE9651PQCT catalog part numbers (CPN) available in 48L VQFN

Affected Catalog Part Numbers(CPN)

LE9641PQC

LE9651PQC

LE9641PQCT

LE9651PQCT