Product Change Notification / JAON-18YCSW720

Date:

05-May-2023

Product Category:

Broadband Gateway

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5014.003 and 6256 Final Notice: Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9653AQC, LE9653AQCT, LE9643AQC, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.

Affected CPNs:

JAON-18YCSW720_Affected_CPN_05052023.pdf
JAON-18YCSW720_Affected_CPN_05052023.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 LE9653AQC, LE9653AQCT, LE9643AQC, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change

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		ASE Group -Malaysia (ASEM)		ASE Group -Malaysia (ASEM)	
Wire Material		CuPdAu		CuPdAu	
Die Attach Material		CRM1076DS		CRM1076DS	
Molding Compound Material		CEL-9240HF10AK-G1		CEL-9240HF10AK-G1	
Lead Frame Material		C194FH		C194FH	

Impacts to Data Sheet: None

Change Impact: None

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

Change Implementation Status: In Progress

Estimated First Ship Date: May 06, 2023 (date code: 2318)

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	19	20	21	22		18	19	20	21	22
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 labeled as PCN_#_Qual_Report.

Revision History: May 24, 2022: Issued initial notification.
May 05, 2023: Issued final notification. Attached the Qualification Report. Updated the affected CPN list. Provided estimated first ship date to be on May 06, 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-18YCSW720_Pre and Post Change_Summary.pdf
PCN_JAON-18YCSW720_Qual Report.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.

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN ID#: JAON-18YCSW720

Date:
March 31, 2023

Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9653AQC, LE9653AQCT, LE9643AQC, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.

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PACKAGE QUALIFICATION REPORT

Purpose	**Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9653AQC, LE9653AQCT, LE9643AQC, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.**
CN	E000123114
QUAL ID	R2200915 Rev. A
MP CODE	3413G7M2CA01
Part No.	LE9643AQC
Bonding No.	BD-000475 Rev.03
CCB No.	6256 and 5014.003
Package	
Type	36LD VQFN
Package size	4 x 6 x 1 mm
Lead Frame	
Paddle size	118 x 197 mils
Material	C194
Surface	Selective Ag plating
Process	Etched
Lead Lock	Yes - Lead side with bottom half etch design
Part Number	170036804135UHD
Material	
Epoxy	CRM1076DS
Wire	CuPdAu wire
Mold Compound	CEL-9240HF10AK-G1
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASEM231800028.000	3413G7M2CA01	22314PR

Result ☒ Pass ☐ Fail ☐ ____________________

36LD VQFN (4x6x1 mm) assembled by ASEM 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
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test:** +25°C System: Chroma3650	JESD22-A113	154(0)	0/154		Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		0/154		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			0/154		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/154		
	Electrical Test: +25°C System: Chroma3650		154(0)	0/154	Pass	

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	

CCB 5014.003
Pre and Post Change Summary
PCN#: JAON-18YCSW720

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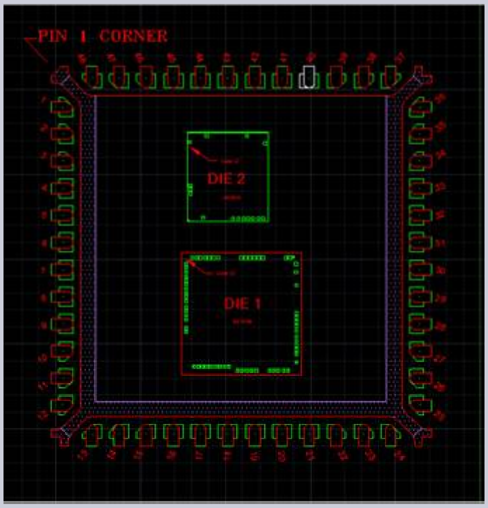
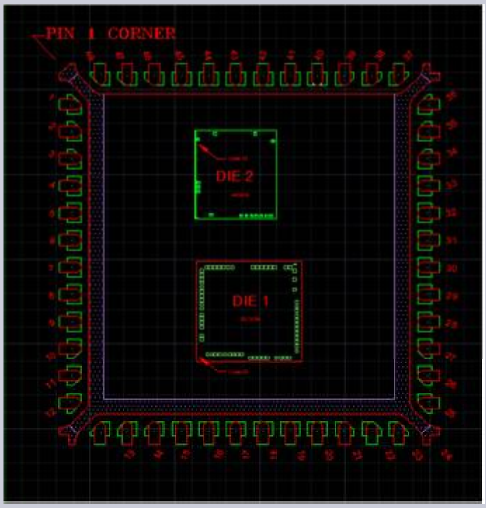
SMART | CONNECTED | SECURE

Pre and post change comparison

Pre change	Post Change
	

Note: Not-to-scale

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JAON-18YCSW720 - CC LE9653AQ LE9643AQ and LE9643AQCT catalog part numbers (CPN) available ir

Affected Catalog Part Numbers(CPN)

LE9653AQC
LE9653AQCT
LE9643AQC
LE9643AQCT