Product Change Notification / JAON-18YCSW720

Date:

24-May-2022

Product Category:

Broadband Gateway

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5014.003 Initial Notice: Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9653AQC, LE9653AQCT, LE9621AQC, LE9643AQC, LE9621AQCT, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.

Affected CPNs:

JAON-18YCSW720_Affected_CPN_05242022.pdf
JAON-18YCSW720_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 LE9653AQC, LE9653AQCT, LE9621AQC, LE9643AQC, LE9621AQCT, 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 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:

	May 2022	June 2022

Workweek	19	20	21	22	23	24	25	26	27
Initial PCN Issue Date				X					
Qual Report Availability							X		
Final PCN Issue Date							X		

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-18YCSW720_Pre and Post Change_Summary.pdf
PCN_JAON-18YCSW720_Qual_Plan.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.

QUALIFICATION PLAN SUMMARY

PCN #: JAON-18YCSW720

Date:
April 20, 2022

Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9653AQC, LE9653AQCT, LE9621AQC, LE9643AQC, LE9621AQCT, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.

Purpose: Qualification of a new die size (1.932x1.860mm) for Die #1 of selected Microsemi LE9653AQC, LE9653AQCT, LE9621AQC, LE9643AQC, LE9621AQCT, and LE9643AQCT catalog part numbers (CPN) available in 36L VQFN (4x6x1mm) package assembled at ASEM assembly site.

CCB No.: 5014.003

Misc.	Assembly site	ASEM
	BD Number	BD-000475-01
	MP Code (MPC)	3411E to 3412G 3411X to 3413H
	Part Number (CPN)	Le9643
	MSL information	MSL3
	Assembly Shipping Media (T/R, Tube/Tray)	Tray and T/R
	Base Quantity Multiple (BQM)	2450
	Reliability Site	ASEM
Lead-Frame	Paddle size	5 x 3 mm
	Material	C194 FH
	DAP Surface Prep	Selective Ag plating
	Treatment	No surface treatment
	Process	Etch leadframe
	Lead-lock	Yes – Lead side with bottom half etch design
	Part Number	170036804135UHD
	Lead Plating	Ag plating 70~250microinch
	Strip Size	78 x 258mm
	Strip Density	39 x 15 = 585
Bond Wire	Material	CuPdAu
Die Attach	Part Number	CRM1076DS
	Conductive	Yes
MC	Part Number	CEL-9240HF10AK-G1
PKG	PKG Type	VQFN
	Pin/Ball Count	36
	PKG width/size	4x6x1
	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-18YCSW720

Date:
April 20, 2022

Qualification of ASEM for selected Microsemi products available in 36L VQFN (4x6x1mm) package.

Package Description	Green (Lead and Halide Free) Quad Flat No Lead Pack with thermal exposed pad in 36 Leads using Gold Flash, Palladium coated Copper Bond Wire.
Qualification Package	QFN at ASE, Malaysia for the following Body Sizes and Lead Counts: - 4x6, 36L
Qualification Vehicle	Le9643AQC (QFN 4x6, 36L) Key References: QFN with Pd-Copper Bond Wire Package Qualification - ASE, Malaysia (Report #137968)
Report #	PD-000298427

Package 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 +/- 5°C (Performed prior to Temperature Cycle, High Temp Storage, Autoclave)	0/480 (MSL3) 0/1919 (MSL3 - Ref #137968)
Temperature Cycle (-65°C/+150°C)	0/150 (1000 cycles) 0/600 (1000 cycles, Ref #137698)
Autoclave (100%R.H., 121°C)	0/150 (168 hrs) 0/599 (168 hrs, Ref #137968)
High Temp Storage (150°C)	0/150 (1000 hrs) 0/583 (1000 hrs, Ref #137968)
Package Construction and Workmanship Analysis	Complete / Pass

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

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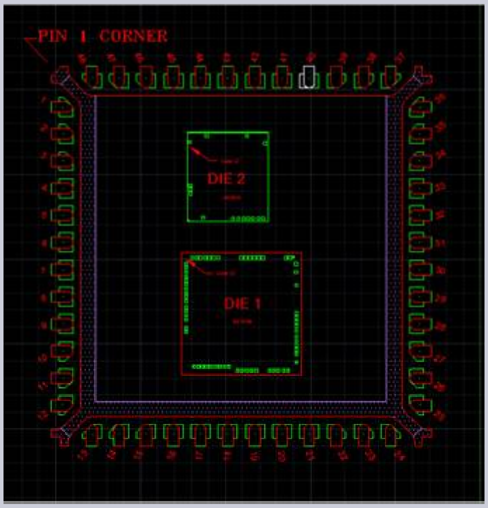
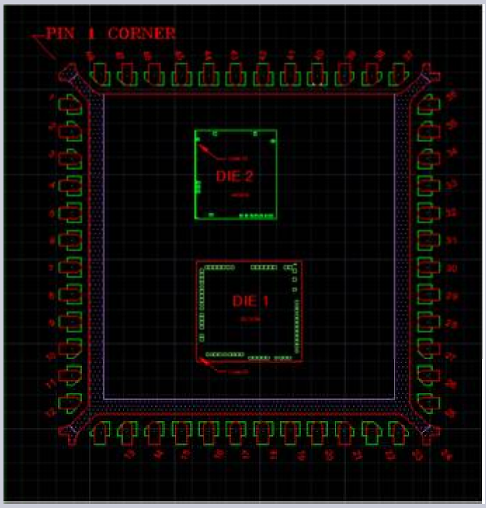
SMART | CONNECTED | SECURE

Pre and post change comparison

Pre change	Post Change
	

Note: Not-to-scale

JAON-18YCSW720 - CC LE9653AQ LE9621AQ LE9643AQ LE9621AQ and LE9643AQCT catalog part nur

Affected Catalog Part Numbers(CPN)

LE9653AQC
LE9653AQCT
LE9621AQC
LE9643AQC
LE9621AQCT
LE9643AQCT