Product Change Notification / JAON-16AAOX023

Date:

27-Oct-2022

Product Category:

Switching Regulators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4777 Final Notice: Qualification of UAT as an additional Cu Pillar bumping site for selected LX7220 and LX7219 device families available in 14L VQFN (2x3x1.0mm) package and selected Microsemi LX7180A device family available in 12L VQFN (2x2x1.0mm) package.

Affected CPNs:

JAON-16AAOX023_Affected_CPN_10272022.pdf
JAON-16AAOX023_Affected_CPN_10272022.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 UAT as an additional Cu Pillar bumping site for selected LX7220 and LX7219 device families available in 14L VQFN (2x3x1.0mm) package and selected Microsemi LX7180A device family available in 12L VQFN (2x2x1.0mm) package.

Pre and Post Change Summary:

	Pre Change	**Post Change**

Cu Pillar Bumping location	Unisem Chengdu Co.,Ltd. (UNIC)	Unisem Chengdu Co.,Ltd. (UNIC)	Unisem Advance Tech (UAT)
Bump Material	CuSn	CuSn	CuSn
Bump Diameter	130um	130um	130um

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity by qualifying UAT as an additional Cu pillar bumping site.

Change Implementation Status: In Progress

Estimated First Ship Date: November 26, 2022 (date code: 2248)

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

Time Table Summary:

	August 2021					**>**	**October 2022**					**November 2022**				
Workweek	32	33	34	35	36		40	41	42	43	44	45	46	47	48	49
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:

August 19, 2021: Issued initial notification.
October 27, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on November 26, 2022.

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-16AAOX023_Qual_Report.pdf

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

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-16AAOX023

Date:
October 11, 2022

Qualification of UAT as an additional Cu Pillar bumping site for selected LX7220 and LX7219 device families available in 14L VQFN (2x3x1.0mm) package and selected Microsemi LX7180A device family available in 12L VQFN (2x2x1.0mm) package.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of UAT as an additional Cu Pillar bumping site for selected LX7220 and LX7219 device families available in 14L VQFN (2x3x1.0mm) package and selected Microsemi LX7180A device family available in 12L VQFN (2x2x1.0mm) package.
CCB	4777
CN	E000073773
QUAL ID	R2200255 Rev A
MP CODE	U0126TNVCA01
Part No.	LX7220-03ILQ-TR
Bonding No.	D-034148

Package

Type	14L VQFN
Package size	2 x 3 x 1.0 mm

BOM

Structure	1P1M
Polymer 1&2	PI
Polymer thickness	5 um
UBM	0.1um sputtered Ti + 0.4um sputtered Cu
Part Number	LX7220-LQ

Material

Epoxy	C194
Wire	Cu pillar
Mold Compound	G770HP
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
UNIC223100033.100	MC04922175910.100	2143JDU
UNIC223100034.100	MC04922175910.120	2143JDV
UNIC223100035.100	MC04922175910.110	2143JE2

Result ☒ Pass ☐ Fail ☐ ____________________

14L VQFN (2x3x1.0mm) assembled by UNIC pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 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 1)	**Electrical Test:** +25°C System: ETS364B	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test: +25°C System: ETS364B			0/693	Pass	
Temp Cycle	**Stress Condition:** -55°C to +125°C, 1000 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS364B		231(0)	0/231	Pass	77 units / lot
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS364B		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 150°C, 504 hrs. System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test: +25°C System: ETS364B		45(0)	0/45	Pass	
	Stress Condition: Bake 150°C, 1008 hrs. System: SHEL LAB			45		45 units
	Electrical Test: +25°C System: ETS364B		45(0)	0/45	Pass	

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Affected Catalog Part Numbers(CPN)

LX7180A-01CLQ-TR
LX7180A-11CLQ-TR
LX7180A-21CLQ-TR
LX7180A-31CLQ-TR
LX7219-01ILQ-TR
LX7219-02ILQ-TR
LX7220-03ILQ-TR