Product Change Notification / LIAL-09VUUA424

Date:

27-Dec-2022

Product Category:

Ethernet Controllers, Ethernet PHYs

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5151 Final Notice: Qualification of a new lead frame DAP surface prep material for selected KSZ8041xx, SPNZ80105xx and KSZ8851xx device families available in 32L VQFN (5x5x0.9mm) package assembled at MTAI assembly site.

Affected CPNs:

LIAL-09VUUA424_Affected_CPN_12272022.pdf
LIAL-09VUUA424_Affected_CPN_12272022.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 lead frame DAP surface prep material for selected KSZ8041xx, SPNZ80105xx and KSZ8851xx device families available in 32L VQFN (5x5x0.9mm) package assembled at MTAI assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (HQ) (MTAI)	Microchip Technology Thailand (HQ) (MTAI)
Wire Material	Au/2N	Au/2N
Die Attach Material	3280	3280
Molding Compound Material	G700LTD	G700LTD
Lead-Frame Material	A194	A194
Lead Frame DAP Surface Prep	Ag selective plating	Ag selective plating (Add more Ag area)
	See Pre and Post Change Summary for comparison.	

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity by qualifying a new lead frame DAP surface prep material.

Change Implementation Status: In Progress

Estimated First Ship Date: January 20, 2023 (date code: 2303)

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

Time Table Summary:

	June 2022				>	December 2022					January 2023				
Workweek	23	24	25	26		49	50	51	52	53	1	2	3	4	5
Initial PCN Issue Date			x												
Qual Report Availability										x					
Final PCN Issue Date										x					
Estimated Implementation													x		

Date															

Method to Identify Change: Traceability code

Qualification Report: Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History: June 15, 2022: Issued initial notification.
December 27, 2022: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on January 20, 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_LIAL-09VUUA424_ Qualification Report.pdf
PCN_LIAL-09VUUA424_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.

Affected Catalog Part Numbers (CPN)

KSZ8041NL
KSZ8041RNL
SPNZ801059
KSZ8041NLI
KSZ8041RNLI
KSZ8041NL-TR
KSZ8041RNL-TR
SPNZ801059-TR
KSZ8041NLI-TR
KSZ8041RNLI-TR
KSZ8851SNL
KSZ8851SNLI
KSZ8851SNL-TR
KSZ8851SNLI-TR

QUALIFICATION REPORT SUMMARY

PCN#: LIAL-09VUUA424

Date:
December 16, 2022

Qualification of a new lead frame DAP surface prep material for selected KSZ8041xx, SPNZ80105xx and KSZ8851xx device families available in 32L VQFN (5x5x0.9mm) package assembled at MTAI assembly site.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of a new lead frame DAP surface prep material for selected KSZ8041xx, SPNZ80105xx and KSZ8851xx device families available in 32L VQFN (5x5x0.9mm) package assembled at MTAI assembly site.
CN	E000095963
QUAL ID	R2200691 Rev. A
MP CODE	TKDB17PFAA01
Part No.	KSZ8851SNLI
Bonding No.	BD-000678 Rev.05.
CCB No.	5151
Package	
Type	32L VQFN
Package size	5 x 5 x 0.9 mm
Lead Frame	
Paddle size	150 x 150 mils
Material	A194
Surface	Ag selective plating (Add more Ag area)
Process	Etched
Lead Lock	Yes
Part Number	10103214
Material	
Epoxy	3280
Wire	Au/2N wire
Mold Compound	G700LTD
Plating Composition	Matte Sn

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI230702067.000	DU02923045587.100	222024Y
MTAI230702276.000	DU02923045587.100	222030E
MTAI230702291.000	DU02923045587.100	222031C

Result [X] Pass [ ] Fail [ ] ____________________

32L VQFN (5x5x0.9 mm) assembled by MTAI pass reliability test per QCI-39000. This package was qualified the Moisture/Reflow Sensitivity Classification Level 2 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 2)	**Electrical Test:** +25°C, 85°C and -43°C System: CHROMA3360P	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		0/693		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			0/693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/693		
	Electrical Test: +25°C and 85°C System: CHROMA3360P		693(0)	0/693	Pass	

PACKAGE QUALIFICATION REPORT

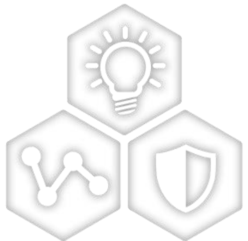
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C System: SMB600		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>2.50 grams)		15(0)	0/15	Pass	
	Bond Shear (>12.60 grams)		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: SMB600		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.3 Volts System: HAST 6000X	JESD22-A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: CHROMA3360P		231(0)	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 500 hrs. System: SHEL LAB	JESD22-A103		0/45		45 units
	Electrical Test: +25°C and 85°C System: SMB600		45(0)	0/45	Pass	
Bond Strength Data Assembly	Wire Pull (>2.50 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>12.60 grams)	CDF-AEC-Q100-001	30(0) bonds	0/30	Pass	

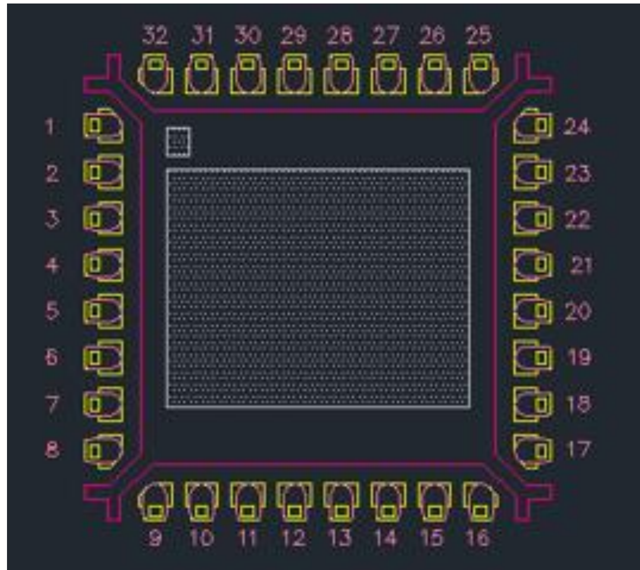
CCB#: 5151
Pre and Post Change Summary
PCN #: LIAL-09VUUA424

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



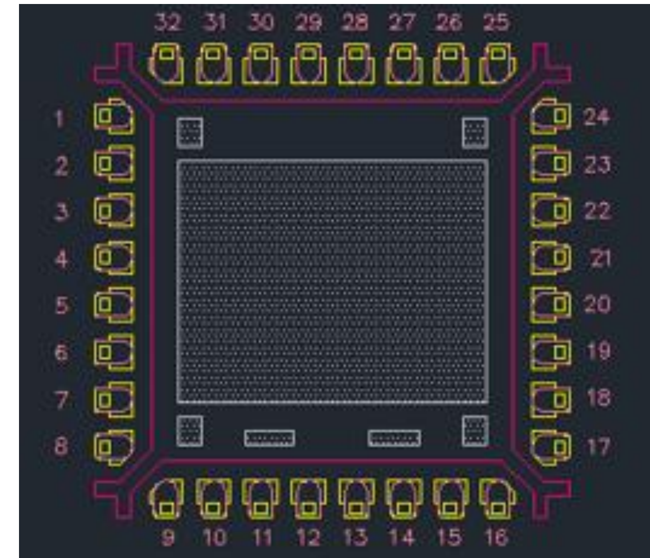
Lead Frame Comparison

Pre Change



Lead frame DAP surface prep	Ag selective plating

Post Change



Lead frame DAP surface prep	Ag selective plating (Add more Ag area)

MICROCHIP