Product Change Notification - JAON-24EPKL576

Date:

08 Nov 2019

Product Category:

Others; Clock and Timing - Clock and Data Distribution; Clock and Timing - Clock Generation; Line Drivers; Broadband Gateway; Access Networks; Jitter Attenuators; Network Synchronization; Clock Synthesis; Voice Audio

Affected CPNs:

Notification subject:

CCB 3970 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MSCC products available in various packages at ASEM assembly site.

Notification text:

PCN Status:

Final notification

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change:

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MSCC products available in various packages at ASEM assembly site.

Pre Change:

Assembled at ASEM assembly site using palladium coated copper (PdCu) or Copper (Cu) bond wire.

Post Change:

Assembled at ASEM assembly site using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	ASE Group -Malaysia (ASEM)	ASE Group -Malaysia (ASEM)
Wire material	See attached pre and post change per affected package type.	
Die attach material		
Molding compound material		
Lead frame material		

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve manufacturability by qualifying palladium coated copper with gold flash (CuPdAu) bond wire material.

Change Implementation Status:

In Progress

Estimated First Ship Date:

March 1, 2020 (date code: 2010)

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

Time Table Summary:

	November 2019					->	March 2020				
Workweek	44	45	46	47	48		10	11	12	13	14
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:

November 8, 2019: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on March 1, 2020.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachment(s):

PCN_JAON-24EPKL576_Qual_Report.pdf

PCN_JAON-24EPKL576_Pre and Post Change Summary.pdf

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

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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)

LE79112AKVCT
LE79114KVC
LE79124KVC
LE79124KVCT
LE79128KVC
LE79128KVCT
LE79234KVC
LE792388TVC
LE792388TVCT
LE792388VQC
LE792388VQCT
LE79252BTC
LE79252BTCT
LE79271AMQC
LE79271AMQCT
LE79271MQC
LE79271MQCT
LE79272PQC
LE79272PQCT
LE79Q2281DVC
LE79Q2281DVCT
LE79Q2284MVC
LE79Q2284MVCT
LE79R70-1FQC
LE87100NQC
LE87100NQCT
LE87251NQC
LE87251NQCT
LE87270NQC
LE87270NQCT
LE87281NQC
LE87281NQCT
LE87285NQC
LE87285NQCT
LE87286NQC
LE87290YQC
LE87290YQCT
LE87401NQC
LE87401NQCT
LE87411NQC
LE87411NQCT
LE87501NQC
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LE87502MQC
LE87502MQCT
LE87511NQC

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LE89156PQC
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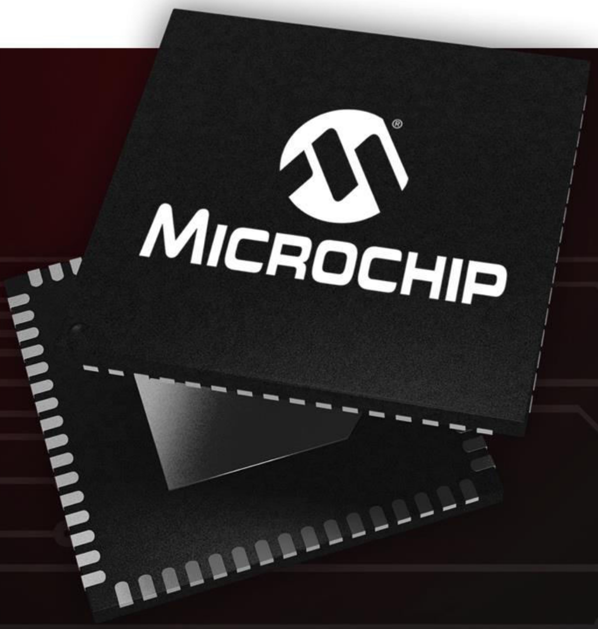

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CCB 3970_ Pre and Post Change Summary

PCN# JAON-24EPKL576

Pre and Post Change
16L VQFN package (3x3x1mm)

	Pre Change	Post Change
Assembly Site Location	ASE Group -Malaysia (ASEM)	ASE Group -Malaysia (ASEM)
Wire material	PdCu	CuPdAu
Die attach material	HR5104	HR5104
Molding compound material	CEL-9240HF10AK-G1	CEL-9240HF10AK-G1
Lead frame material	C194	C194

Pre and Post Change
164L VQFN package (13x13x0.95mm)

	Pre Change	Post Change
Assembly Site Location	ASE Group -Malaysia (ASEM)	ASE Group -Malaysia (ASEM)
Wire material	PdCu	CuPdAu
Die attach material	1076DS	1076DS
Molding compound material	G631H-Y	G631H-Y
Lead frame material	C7025	C7025

Pre and Post Change

VQFN package (Other than specified above)

	Pre Change	Post Change
Assembly Site Location	ASE Group -Malaysia (ASEM)	ASE Group -Malaysia (ASEM)
Wire material	PdCu	CuPdAu
Die attach material	1076DS	1076DS
Molding compound material	CEL-9240HF10AK-G1	CEL-9240HF10AK-G1
Lead frame material	C194	C194

This is applicable to below package types, lead counts and package dimension:

Lead Count	Package Type	Package Dimension
16L	VQFN	4x4x1mm
24L	VQFN	4x4x1mm
28L	VQFN	4x5x1mm
48L	VQFN	7x7x1mm
32L	VQFN	8x8xmm
32L	VQFN	5x5x1mm
24L	VQFN	6x6x1mm
64L	VQFN	9x9x1mm
40L	VQFN	6x6x1mm
53L	VQFN	7x7x1mm
56L	VQFN	8x8x1mm
64L	VQFN	9x9x1mm
48L	VQFN	7x7x1mm
53L	VQFN	7x7x1mm
56L	VQFN	8x8x1mm

Pre and Post Change
LQFP, MQFP and TQFP packages

	Pre Change	Post Change
Assembly Site Location	ASE Group -Malaysia (ASEM)	ASE Group -Malaysia (ASEM)
Wire material	Cu or PdCu	CuPdAu
Die attach material	Yiz8143	Yiz8143
Molding compound material	CEL-9240HF10AK-G1	CEL-9240HF10AK-G1
Lead frame material	C7025	C7025

This is applicable to below package types, lead counts and package dimension:

Lead Count	Package Type	Package Dimension
64L	LQFP	14x14x1.4mm
176L	LQFP	20x20x1.4mm
80L	LQFP	12x12x1.4mm
44L	LQFP	10x10x1.4mm
80L	LQFP	14x14x1.4mm
48L	LQFP	7x7x1.4mm
64L	LQFP	10x10x1.4mm
100L	LQFP	14x14x1.4mm
100L	MQFP	14x20x2.72mm
44L	TQFP	10x10x1mm
128L	TQFP	14x14x1mm
64L	TQFP	10x10x1mm
48L	TQFP	7x7x1mm
32L	TQFP	7x7x1mm

Pre and Post Change BGA packages

	Pre Change	Post Change
Assembly Site Location	ASE Group -Malaysia (ASEM)	ASE Group -Malaysia (ASEM)
Wire material	PdCu	CuPdAu
Die attach material	AB2100A	AB2100A
Molding compound material	G750E	G750E
Substrate material	830/832NX	830/832NX

This is applicable to below package types, lead counts and package dimension:

Lead Count	Package Type	Package Dimension
144L	BGA	13x13x1.95mm
64L	LBGA	9x9x1.72mm
100L	LBGA	11x11x1.55mm
196L	LBGA	15x15x1.65mm
100L	LFBGA	9x9x1.72mm
256L	HBGA	17x17x1.97mm
96L	VFBGA	7x7mm

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-24EPKL576

Date:
Oct 18, 2019

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MSCC products available in various packages at ASEM assembly site.

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PACKAGE QUALIFICATION REPORT

Purpose Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected MSCC products available in various packages at ASEM assembly site.

QUAL ID CCB#3970

CCB No.: 3970

Package Qualification Information

Package	44L PLCC	80L LQFP	48L VQFN	100L LBGA
Lead frame material	C194	C7025	C194	830/832NX
Epoxy / Die Attach material	YIZ8143	YIZ8143	1076DS	2100A
Bond wire material	CuPdAu	CuPdAu	CuPdAu	CuPdAu
Mold compound material	CEL 9240HF10AK-G1	CEL 9240HF10AK-G1	CEL 9240HF10AK-G1	G750E
Plating	100% Sn	100% Sn	100% Sn	SAC305

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Part No.	Package
904LE98B01	MT8816	PLCC44
904LE97B01	Le88266	LQFP80 14X14
903LE93B01	Le9641	QFN48 7X7
903LE92B01	ZL80018	LBGA100 11X11

Result ☒ Pass ☐ Fail ☐ ____________________

All four qual packages pass reliability test per Qual plan. These packages were qualified per 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**
Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)	85°C/ 85%RH Moisture Soak 168 hrs. System: 3x Convection-Reflow 265°C max (IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	1015	0/1015	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test**:+25°C and 85°C	JESD22-A113	635	0/1015		Good Devices
	Bake 150°C, 24 hrs System:			0/1015		
	85°C/85%RH Moisture Soak 168 hrs. System:			0/1015		
	3x Convection-Reflow 265°C max			0/1015		
	System:					
	Electrical Test :+25°C and 85°C			0/1015	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** Lead frame package: -65°C to +150°C, 500 Cycles BGA/Substrate package: -55°C to +125°C, 500 Cycles Sub **Electrical Test:** + 25°C System:	JESD22-A104	340	340 0/340	Pass Pass	Parts had been pre-conditioned at 260°C 255 L/F 3 lot 85 Sub 1 lot
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: **Electrical Test:** +25°C System:	JESD22-A118	340	340 0/340	Pass	Parts had been pre-conditioned at 260°C 85 units /4 lot
High Temperature Storage Life	**Stress Condition:** Bake 150°C, 500 hrs System: N/A **Electrical Test:**+ 25°C System:	JESD22-A103	335	335 0/335	Pass	Parts had been pre-conditioned at 260°C 3 lot/85 L/F 1 lot/80 sub