Product Change Notification / MFOL-02NHQX172

Date:

03-Mar-2022

Product Category:

Analog to Digital Converters, Linear Op Amps

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5027 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected various device families available in 8L TSSOP (4.4mm) package at MMT assembly site.

Affected CPNs:

MFOL-02NHQX172_Affected_CPN_03032022.pdf
MFOL-02NHQX172_Affected_CPN_03032022.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 palladium coated copper with gold flash (CuPdAu) bond wire for selected various device families available in 8L TSSOP (4.4mm) package at MMT assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (MMT)	Microchip Technology Thailand (MMT)
Wire Material	Au	CuPdAu
Die Attach Material	2200D	2200D
Molding Compound Material	G600V	G600V
Lead-Frame Material	C7025	C7025
Lead-Frame Paddle Size	118x87 mils	118x87 mils
DAP Surface Prep	Ag Spot	Bare Cu

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve manufacturability and qualify palladium coated copper with gold flash (CuPdAu) bond wire.

Change Implementation Status: In Progress

Estimated First Ship Date: March 17, 2022 (date code: 2212)

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

Time Table Summary:

	March 2022				
Workweek	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:March 03, 2022: Issued final 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_MFOL-02NHQX172_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.

Affected Catalog Part Numbers (CPN)

MCP606-I/ST
MCP608-I/ST
MCP606T-I/ST
MCP608T-I/ST
MCP607-I/ST
MCP607T-I/ST
MCP6021-E/ST
MCP6023-E/ST
MCP6021-I/ST
MCP6023-I/ST
MCP6021T-I/ST
MCP6023T-I/ST
MCP6021T-E/ST
MCP6023T-E/ST
MCP6022-E/ST
MCP6022-I/ST
MCP6022-I/STAAA
MCP6022T-I/ST
MCP6022T-I/STAAA
MCP6022T-E/ST
MCP601-E/ST
MCP603-E/ST
MCP601-I/ST
MCP603-I/ST
MCP601T-I/ST
MCP603T-I/ST
MCP601T-E/ST
MCP603T-E/ST
MCP3201-CI/ST
MCP3201T-CI/ST
MCP3202-CI/ST
MCP3202T-CI/ST
MCP3001-I/ST
MCP3001T-I/ST
MCP3002-I/ST
MCP3002T-I/ST
MCP602-E/ST
MCP602-I/ST
MCP602-I/STAAA
MCP602T-I/ST
MCP602T-I/STAAA
MCP602T-E/ST
MCP3301-BI/ST

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: MFOL-02NHQX172

Date
October 08, 2015

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 120K wafer technology available in 14L TSSOP package at MMT assembly site. The qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected various device families available in 8L TSSOP (4.4mm) package at MMT assembly site. This is a qualification by similarity (QBS).

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 120K wafer technology available in 14L TSSOP package at MMT assembly site. Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected various device families available in 8L TSSOP (4.4mm) package at MMT assembly site. This is a qualification by similarity (QBS).
CN	BC151611 Rev A
QUAL ID	Q15109
MP CODE	A5AJ17D4X370
Part No.	HCS370-I/ST
Bonding No.	BDM-000808 Rev. B
CCB No.	1657 and 5027
Package	
Type	14L TSSOP
Package size	4.4 mm
Lead Frame	
Paddle size	118 x 153 mils
Material	C7025
Surface	Bare Cu
Process	Stamped
Lead Lock	No
Part Number	10101406
Treatment	BOT
Die attach material	
Epoxy	2200D
Wire	CuPdAu wire
Mold Compound	G600V
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-161800469.000	TMPE215528123.110	1531D7T
MMT-161800667.000	TMPE215528123.100	1531G71
MMT-161800677.000	TMPE215528123.110	1531GYE

Result [X] Pass [ ] Fail [ ] _____

14L TSSOP (4.4mm) assembled by MMT (ALPH) 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-020D 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 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020D)	IPC/JEDEC J-STD-020D	135	0/135	Pass	

<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test :**+25°C and 85°C System: J750	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			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 and 85°C System: J750			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		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C System: J750		231(0)	0/231	Pass	
	Bond Strength:		15 (0)	0/15	Pass	
	Wire Pull (> 3.0 grams)					
	Bond Shear (>20.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +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: J750		231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 85°C System: J750		231(0)	0/231	Pass	
	Stress Condition: (Extended) +130°C/85%RH, 192 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X			231		
	Electrical Test: +25°C and 85°C System: J750		231(0)	0/231	Pass	
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test : +25°C and 85°C System: J750		45(0)	0/45	Pass	
Bond Strength Data Assembly	Wire Pull (> 3.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>20.00 grams)	JESD22 -B116	30 (0) bonds	0/30	Pass	