



Product Change Notification: LIAL-12QHCQ792

Date:

20-Sep-2024

Product Category:

Linear Comparators, Linear Op Amps, Linear Programmable Gain Amplifiers, Power Management - System Supervisors/Voltage Detectors

Notification Subject:

CCB 5280 and 5280.001 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) as a new bond wire material for selected MCP11xxx, MCP60xxx, MCP61xxx, MCP62xxx, MCP64xxx, MCP65xxx, MCP6Gxxx, MCP6Lxxx, and TC127xxx device families available in 6L and 5L SOT-23 package assembled at MMT assembly site.

Affected CPNs:

[LIAL-12QHCQ792_Affected_CPN_09202024.pdf](#)

[LIAL-12QHCQ792_Affected_CPN_09202024.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) as a new bond wire material for selected MCP11xxx, MCP60xxx, MCP61xxx, MCP62xxx, MCP64xxx, MCP65xxx, MCP6Gxxx, MCP6Lxxx, and TC127xxx device families available in 6L and 5L SOT-23 package assembled at MMT assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
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Method to Identify Change:Traceability code

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

Revision History:September 15, 2022: Issued initial notification.
September 20, 2024: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on October 18, 2024.

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-12QHCQ792 Qualification 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.

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Affected Catalog Part Numbers (CPN)

MCP6273T-E/CH
MCP6283T-E/CH
MCP6293T-E/CH
MCP603T-I/CH
MCP603T-E/CH
MCP6043T-I/CH
MCP6043T-E/CH
MCP6143T-E/CH
MCP111T-360E/OT
MCP111T-370E/OT
MCP6541T-I/OT
MCP6541RT-I/OT
MCP6541T-E/OT
MCP6541RT-E/OT
MCP6546T-I/OT
MCP6546RT-I/OT
MCP6546T-E/OT
MCP6546RT-E/OT
MCP6271T-E/OT
MCP6281T-E/OT
MCP6291T-E/OT
MCP6271RT-E/OT
MCP6281RT-E/OT
MCP6291RT-E/OT
MCP6L71T-E/OT
MCP6L71RT-E/OT
MCP6L91T-E/OT
MCP6L91RT-E/OT
MCP6021RT-E/OT
TC1270ARVCTTR
TC1270ASVCTTR
TC1270ATVCTTR
TC1270AMVCTTR
TC1270ALVCTTR
TC1270ANRVCTTR
TC1270ANSVCTTR
TC1270ANTVCTTR
TC1270ANMVCTTR
TC1270ANLVCTTR
TC1271ARVCTTR
TC1271ASVCTTR
TC1271ATVCTTR
TC1271AMVCTTR
TC1271ALVCTTR
TC1270ARAVCTTR
TC1270ASAVCTTR

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TC1270AMAVCTTR
TC1270ALAVCTTR
TC1270ANRAVCTTR
TC1270ANSAVCTTR
TC1270ANTAVCTTR
TC1270ANMAVCTTR
TC1270ANLAVCTTR
TC1271ARAVCTTR
TC1271ASAVCTTR
TC1271ATAVCTTR
TC1271AMAVCTTR
TC1271ALAVCTTR
TC1270ARBVCTTR
TC1270ASBVCTTR
TC1270ATBVCTTR
TC1270AMBVCTTR
TC1270ALBVCTTR
TC1270ANRBVCTTR
TC1270ANSBVCTTR
TC1270ANTBVCTTR
TC1270ANMBVCTTR
TC1270ANLBVCTTR
TC1271ARBVCTTR
TC1271ASBVCTTR
TC1271ATBVCTTR
TC1271AMBVCTTR
TC1271ALBVCTTR
MCP601RT-I/OT
MCP601RT-E/OT
MCP6L1RT-E/OT
MCP6001T-I/OT
MCP6001RT-I/OT
MCP6001T-E/OT
MCP6001RT-E/OT
MCP6L01T-E/OT
MCP6L01RT-E/OT
MCP6231RT-E/OT
MCP6241RT-E/OT
MCP6G01RT-E/OT
MCP6401RT-E/OT
MCP6001T-I/OT-HCM
MCP6561RT-E/OT
MCP6566RT-E/OT



QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN# LIAL-12QHCQ792

Date:
September 6, 2024

Qualification of palladium coated copper with gold flash (CuPdAu) as a new bond wire material for selected MCP11xxx, MCP60xxx, MCP61xxx, MCP62xxx, MCP64xxx, MCP65xxx, MCP6Gxxx, MCP6Lxxx, and TC127xxx device families available in 6L and 5L SOT-23 package assembled at MMT assembly site.



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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper with gold flash (CuPdAu) as a new bond wire material for selected MCP11xxx, MCP60xxx, MCP61xxx, MCP62xxx, MCP64xxx, MCP65xxx, MCP6Gxxx, MCP6Lxxx, and TC127xxx device families available in 6L and 5L SOT-23 package assembled at MMT assembly site.
CN	E000209531
QUAL ID	R2400596 Rev. A
MP CODE	A7BZ4YC8XF00
Part No.	MCP6293T-E/CH
Bonding No.	BD-002025 Rev. 01
CCB No.:	5280 and 5280.001
<u>Package</u>	
Type	6L SOT-23
<u>Lead Frame</u>	
Paddle size	72 x 41 mils
Material	CDA194
Surface	Ag Ring Plated
Process	Stamped
Lead Lock	No
Part Number	10100607
Treatment	BOT
<u>Material</u>	
Epoxy	84-3J/8006NS
Wire	CuPdAu
Mold Compound	G600V
Plating Composition	MATTE Sn



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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-250300986.000	TMPE223515732.130	2416548
MMT-250300987.000	TMPE223515732.130	241654Q
MMT-250400823.000	TMPE223515732.130	2417559

Result

☒ Pass ☐ Fail ☐ _____

6L SOT-23 assembled by MMT 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, 85°C and 125°C System: ETS-300	JESD22- A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDEC		693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	J-STD-020E		693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test: +25°C, 85°C and 125°C System: ETS-300		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 Electrical Test: +85°C and 125°C System: ETS-300 Bond Strength: Wire Pull (>2.50 grams)	JESD22-A104	231(0) 15(0)	0/231 0/231 0/15	Pass Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: ETS-300	JESD22-A118	231(0)	0/231 0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X Electrical Test: +25°C, 85°C and 125°C System: ETS-300	JESD22-A110	231(0)	0/231 0/231	Pass	Parts had been pre-conditioned at 260°C 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, 504 hrs System: TPS Bake Oven	JESD22-A103		0/135		45 units
	Electrical Test: +25°C, 85°C and 125°C System: ETS-300		135(0)	0/135	Pass	
Bond Line Thickness	Bond Line Thickness	SPI-45528	15(0)	15(0)	Pass	5 units / lot
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Bond Strength Data Assembly	Wire Pull (>2.50 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	CDF-AEC-Q100-001	30(0) bonds	0/30	Pass	