

Product Change Notification: DSNO-10JHUT663

Date:

19-Sep-2024

Product Category:

8-Bit Microcontrollers

Notification Subject:

CCB 7041 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) as an additional bond wire material for selected ATTINY16x, ATTINY204, ATTINY214, ATTINY322, ATTINY4x, ATTINY8x, ABR16EB14, PIC16F131, PIC16F152, PIC16F171, PIC16F180 and PIC16F181 device families available in 14L SOIC (.150in) package at MTAI assembly site.

Affected CPNs:

DSNO-10JHUT663_Affected_CPN_09192024.pdf DSNO-10JHUT663 Affected CPN 09192024.csv

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 an additional bond wire material for selected ATTINY16x, ATTINY204, ATTINY214, ATTINY322, ATTINY4x, ATTINY8x, ABR16EB14, PIC16F131, PIC16F152, PIC16F171, PIC16F180 and PIC16F181 device families available in 14L SOIC (.150in) package at MTAI assembly site.

Pre and Post Summary Changes:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (HQ)	Microchip Technology
,	(MTAI)	Thailand (HQ)

			(MTAI)
Wire Material	Au	Au	CuPdAu
Die Attach Material	8390A	8390)A
Molding Compound Material	G600V	G600	VC
Lead-Frame Material	A194	A194	4

Impacts to Datasheet: None

Change Impact: None

Reason for Change: To improve productivity and on-time delivery performance by qualifying palladium coated copper with gold flash (CuPdAu) as an additional bond wire material at MTAI assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: 14 November 2024 (date code: 2446)

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

Timetable Summary:

	June 2024			>	September 2024			>	November 2024								
Work Week	22	23	24	25	26		36	37	38	39	40		44	45	46	47	48
Initial PCN Issue Date			Х														
Qual Report Availability									Х								
Final PCN Issue Date									Х								

Estimated Implementation Date								Х	

Method to Identify Change: Traceability Code

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

Revision History: June 14, 2024: Issued initial notification.

June 19, 2024: Reissued the initial notification to correct typographical error in the Notification Subject.

September 19, 2024: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on November 14, 2024.

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

Attachments:

PCN_DSNO-10JHUT663_Qual_Report.pdf

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

Terms and Conditions:

If you wish to <u>receive Microchip PCNs via email</u> 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 <u>change your PCN profile</u>, <u>including opt out</u>, 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)

PIC16F17125T-I/SL

PIC16F17125-E/SL

PIC16F15225-E/SL

PIC16F15225-I/SL

PIC16F15225T-I/SL

PIC16F18025-E/SL

PIC16F18025-I/SL

PIC16F18025T-I/SL

PIC16F13125-E/SL

PIC16F13125-I/SL

PIC16F13125T-I/SL

ATTINY214-SSF

ATTINY404-SSF

ATTINY414-SSF

ATTINY1614-SSF

ATTINY414-SSFR

ATTINY404-SSFR

ATTINY214-SSFR

ATTINY1614-SSFR

ATTINY814-SSN

ATTINY214-SSN

ATTINY414-SSN

ATTINY814-SSNR

ATTINY814-SSNRA1

ATTINY214-SSNR

ATTINY414-SSNR

ATTINY1614-SSNR

ATTINY804-SSF

ATTINY804-SSFR

ATTINY804-SSN

ATTINY804-SSNR

PIC16F15224-E/SL

PIC16F15224-I/SL

PIC16F15224T-I/SL

PIC16F15224T-E/SL

PIC16F18124-I/SL

PIC16F18124T-I/SL

PIC16F18124-E/SL

PIC16F17124-I/SL

PIC16F17124T-I/SL

PIC16F17124-E/SL

PIC16F13124-E/SL

PIC16F13124-I/SL

PIC16F13124T-I/SL

PIC16F18024-E/SL

PIC16F18024-I/SL

Date: Wednesday, September 18, 2024

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ATTINY404-SSN

ATTINY404-SSNR

PIC16F15223-E/SL

PIC16F15223-I/SL

PIC16F15223T-I/SL

PIC16F13123-E/SL

PIC16F13123-I/SL

PIC16F13123T-I/SL

PIC16F18023-E/SL

PIC16F18023-I/SL

PIC16F18023T-I/SL

ATTINY204-SSF

ATTINY204-SSFR

ATTINY204-SSN

ATTINY204-SSNR

PIC16F17126-I/SL

PIC16F17126T-I/SL

PIC16F17126-E/SL

PIC16F18126-I/SL

PIC16F18126T-I/SL

PIC16F18126-E/SL

PIC16F18026-E/SL

PIC16F18026-I/SL

PIC16F18125-I/SL

PIC16F18125T-I/SL

PIC16F18125-E/SL

PIC16F17125-I/SL

PIC16F18026T-I/SL

ATTINY814-SSFR

ATTINY814-SSF

ATTINY1614-SSN

ATTINY824-SSU

ATTINY824-SSUR

ATTINY824-SSF

ATTINY824-SSFR

ATTINY424-SSU

ATTINY424-SSUR

ATTINY424-SSF

ATTINY424-SSFR

ATTINY3224-SSU

ATTINY3224-SSUR

ATTINY3224-SSF

ATTINY3224-SSFR

ATTINY1624-SSU

ATTINY1624-SSUR

ATTINY1624-SSF

ATTINY1624-SSFR

ATTINY1604-SSF

Date: Wednesday, September 18, 2024

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ATTINY1604-SSN

ATTINY1604-SSNR

AVR16EB14-E/SL

AVR16EB14-I/SL

AVR16EB14T-I/SL

AVR16EB14T-E/SL

Date: Wednesday, September 18, 2024



QUALIFICATION REPORT SUMMARY RELIABILITY LABORATORY

PCN #: DSNO-10JHUT663

Date: September 12, 2024

Qualification of palladium coated copper with gold flash (CuPdAu) as an additional bond wire material for selected ATTINY16x, ATTINY204, ATTINY214, ATTINY322, ATTINY4x, ATTINY8x, ABR16EB14, PIC16F131, PIC16F152, PIC16F171, PIC16F180 and PIC16F181 device families available in 14L SOIC (.150in) package at MTAI assembly site.



PACKAGE QUALIFICATION REPORT

Purpose Qualification of palladium coated copper with gold flash (CuPdAu) as an additional bond

wire material for selected ATTINY16x, ATTINY204, ATTINY214, ATTINY322, ATTINY4x,

ATTINY8x, ABR16EB14, PIC16F131, PIC16F152, PIC16F171, PIC16F180 and

PIC16F181 device families available in 14L SOIC (.150in) package at MTAI assembly site.

CN E000232744

QUAL ID R2400804 Rev. A

MP CODE 59B0G4D3XFB2

Part No. PIC16F18126-E/SL

Bonding No. BD-001006 Rev. 01

CCB No.: 7041

Package

Type 14L SOIC Package size 150 mils

Lead Frame

Paddle size 104 x 150 mils

Material A194

Surface Bare Cu
Process Stamped

Lead Lock No

Part Number 10101413

Treatment Yes

Material

Epoxy 8390A

Wire CuPdAu wire

Mold Compound G600V

Plating Composition Matte Sn



Manufacturing Information

Assemly Lot No.	Wafer Lot No.	Date Code
MTAI251201431.000	GRSM423353547.000	2425HAY
MTAI251201468.000	GRSM423353547.000	2425HEC
MTAI251201470.000	GRSM423353547.000	2425HEE

Result	X Pass	Fail	

14L SOIC (150 mils) assembled by MTAI 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 QUALIFIC	ATION	REPO	DRT		
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform	Electrical Test: +25°C, 85°C and 125°C System: J750	JESD22- A113	693(0)	0/693		Good Devices
(At MSL Level 1)	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: J750		693(0)	0/693	Pass	

	PACKAGE QUALIFIC	ATION	REP	ORT		
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
	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
Temp Cycle	Electrical Test: +85°C and 125°C System: J750		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>3.00 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: J750		231(0)	0/231	Pass	77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	JESD22- A110		0/231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C and 125°C System: J750		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, 504 hrs. System: CHINEE, TPS Bake Oven Electrical Test: +25°C, 85°C and 125°C System: J750	JESD22- A103	135(0)	0/135	Pass	45 units					