



Product Change Notification / JAON-27QDPG251

Date:

26-Jun-2020

Product Category:

16-Bit - Microcontrollers and Digital Signal Controllers, 32-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4156 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 64L QFN (9x9x0.9mm) package at MTAI assembly site.

Affected CPNs:

[JAON-27QDPG251_Affected_CPN_06262020.pdf](#)

[JAON-27QDPG251_Affected_CPN_06262020.csv](#)

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 products available in 64L QFN (9x9x0.9mm) package at MTAI assembly site.

Pre Change:

Using gold (Au) bond wire

Post Change:

Using palladium coated copper with gold flash (CuPdAu) bond wire

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand HQ (MTAI)	Microchip Technology Thailand HQ (MTAI)
Lead frame material	C194	C194
Bond wire material	Au wire	CuPdAu wire
Die attach material	3280	3280
Mold compound material	G700LTD	G700LTD

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 at MTAI assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

July 26, 2020 (date code: 2031)

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

Time Table Summary:

	March 2020				->	June 2020					July 2020			
	10	11	12	13		23	24	25	26	27	28	29	30	31
Workweek														
Initial PCN Issue Date	X													
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 3, 2020: Issued initial notification.

June 26, 2020: Issued final notification. Attached the qualification report. Updated the affected CPN list. Provided estimated first ship date to be on July 26, 2020.

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

Attachments:

[PCN_JAON-27QDPG251_Qual_Report.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: JAON-27QDPG251

Date
June 11, 2020

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 64L QFN (9x9x0.9mm) package at MTAI assembly site.



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PACKAGE QUALIFICATION REPORT

Purpose Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products available in 64L QFN (9x9x0.9mm) package at MTAI assembly site.

CCB No. 4156
CN ES338496
QUAL ID R2000128 Rev.A
MP CODE TLAk17R4XQDB
Part No. DSPIC33EP256GM306-I/MR
Bonding No. BDM-002348 Rev. A

Package

Type 64L QFN
Package size 9x9x0.9 mm

Lead Frame

Paddle size 264 x 264 mils
Material C194
Surface Bare Cu DAP
Process Etched
Lead Lock Yes
Part Number 10106409

Material

Epoxy 3280
Wire CuPdAu wire
Mold Compound G700LTD
Plating Composition Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer No.	Date Code
MTAI204702400.000	TC11920432228.110	2008J40
MTAI204702401.000	TC11920432228.120	2008J41
MTAI204702849.000	TC11920432228.110	2008JSU

Result

Pass Fail _____

64L QFN (9x9x0.9 mm) 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 QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C and 85°C System: J750 Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test: +25°C and 85°C System: J750	JESD22- A113 JIP/ IPC/JEDE C J-STD- 020E	693(0)	693 693 693 693 0/693	Pass	Good Devices

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 System: J750	JESD22- A104		231		Parts had been pre-conditioned at 260°C	
	Stress Condition: -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H Electrical Test: +85°C System: J750		231(0)	0/231	Pass	77 units / lot	
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15 (0)			Pass	
			15 (0)	0/15		Pass	
UNBIASED- HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22- A118		231		Parts had been pre-conditioned at 260°C	
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X Electrical Test: + 25°C System: J750		231(0)	0/231	Pass	77 units / lot	
			231(0)	0/231	Pass		
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 3.6Volts, 1.98 Volts System: HAST 6000X Electrical Test: + 25°C and 85°C System: J750	JESD22- A110		231		Parts had been pre-conditioned at 260°C	
	Stress Condition: +130°C/85%RH, 192 hrs. Bias Volt: 3.6Volts, 1.98 Volts System: HAST 6000X Electrical Test: + 25°C and 85°C System: J750		231(0)	0/231	Pass	77 units / lot	
			231(0)	0/231	Pass		

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		45		45 units
	Electrical Test: +25°C and 85°C System: J750		45(0)	0/45	Pass	
	Stress Condition: Bake 175°C, 1000 hrs System: SHEL LAB			45		
	Electrical Test: +25°C and 85°C System: J750		45 (0)	0/45	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	

Affected Catalog Part Numbers (CPN)

DSPIC33EP256MU806-E/MR
DSPIC33EP512GP806-E/MR
DSPIC33EP512MC806-E/MR
PIC24EP512GP806-E/MR
DSPIC33EP256MU806-I/MR
DSPIC33EP512GP806-I/MR
DSPIC33EP512MC806-I/MR
PIC24EP512GP806-I/MR
DSPIC33EP256MU806T-I/MR
DSPIC33EP512GP806T-I/MR
DSPIC33EP512MC806T-I/MR
PIC24EP512GP806T-I/MR
DSPIC33EP256MU806T-E/MR
DSPIC33EP512GP806T-E/MR
DSPIC33EP512MC806T-E/MR
PIC24EP512GP806T-E/MR
PIC32MX575F512H-80I/MR
PIC32MX575F256H-80I/MR
PIC32MX695F512H-80I/MRD21
PIC32MX695F512H-80I/MR
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PIC32MX675F256H-80I/MR
PIC32MX775F512H-80I/MRE21
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PIC32MX170F512H-50I/MR
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PIC32MX250F256H-50I/MR21
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PIC32MX530F128H-50I/MR
PIC32MX570F512H-50I/MR
PIC32MX270F512HT-50I/MR021
PIC32MX270F512HT-50I/MR022
PIC32MX150F256HT-50I/MR
PIC32MX170F512HT-50I/MR
PIC32MX130F128HT-50I/MR
PIC32MX120F064HT-50I/MR
PIC32MX250F256HT-50I/MR21
PIC32MX250F256HT-50I/MR
PIC32MX230F128HT-50I/MR
PIC32MX270F512HT-50I/MR
PIC32MX550F256HT-50I/MR
PIC32MX530F128HT-50I/MR
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