Product Change Notification - LIAL-26JKUB646

Date:
01 Jan 2019
Product Category:
32-bit Microcontrollers
Affected CPNs:
Notification subject:
CCB 3300, 3300.001 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 0.18 µm wafer technology available in 100L and 64L TQFP packages at MTAI 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 in selected products of the 0.18 µm wafer technology available in 100L and 64L TQFP packages 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)
Wire material	Au	CuPdAu
Die attach material	3280	3280
Molding compound material	G700HA	G700HA
Lead frame material	C7025	C7025

Impacts to Data Sheet:
None
Change Impact:
None
Reason for Change:
To improve productivity by qualifying palladium coated copper with gold flash (CuPdAu) bond wire
Change Implementation Status:
In Progress
Estimated First Ship Date:
February 01, 2019 (date code: 1906)

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

Time Table Summary:

	March 2018					>	January 2019					February 2019			
Workweek	9	10	11	12	13		01	02	03	04	05	06	07	08	09
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 29, 2018: Issued initial notification.
January 01, 2019: Issued final notification. Attached the qualification report and provided estimated first ship date to be on February 01, 2019.
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_LIAL-26JKUB646_Qual_Report.pdf

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

Terms and Conditions:

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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.

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Affected Catalog Part Numbers (CPN)

PIC32MX350F128H-I/PT
PIC32MX350F128HT-I/PT
PIC32MX350F128HT-V/PT
PIC32MX350F128H-V/PT
PIC32MX350F256H-I/PT
PIC32MX350F256HT-I/PT
PIC32MX350F256HT-V/PT
PIC32MX350F256H-V/PT
PIC32MX450F128H-I/PT
PIC32MX450F128HT-I/PT
PIC32MX450F128HT-V/PT
PIC32MX450F128H-V/PT
PIC32MX450F256H-120/PT
PIC32MX450F256H-I/PT
PIC32MX450F256H-I/PTB21
PIC32MX450F256HT-120/PT
PIC32MX450F256HT-I/PT
PIC32MX450F256HT-V/PT
PIC32MX450F256H-V/PT
PIC32MX350F128L-I/PT
PIC32MX350F128LT-I/PT
PIC32MX350F128LT-V/PT
PIC32MX350F128L-V/PT
PIC32MX350F256L-I/PT
PIC32MX350F256LT-I/PT
PIC32MX350F256LT-V/PT
PIC32MX350F256L-V/PT
PIC32MX450F128L-I/PT
PIC32MX450F128LT-I/PT
PIC32MX450F128LT-V/PT
PIC32MX450F128L-V/PT
PIC32MX450F256L-120/PT
PIC32MX450F256L-I/PT
PIC32MX450F256LT-120/PT
PIC32MX450F256LT-I/PT
PIC32MX450F256LT-V/PT
PIC32MX450F256L-V/PT

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: LIAL-26JKUB646

Date
Nov 01,2018

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 0.18 µm wafer technology available in 100L TQFP package at MTAI assembly site. The selected products available in 64L TQFP package will be qualify 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 0.18 µm wafer technology available in 100L TQFP package at MTAI assembly site. The selected products available in 64L TQFP package will be qualify by similarity (QBS).

CCB No. 3300 and 3300.001

CN	ES221251
QUAL ID	Q18129 Rev. A
MP CODE	TRAE19V7XAB4
Part No.	PIC32MX350F256L-V/PT
Bonding No.	BDE-004919 REV: 02
Package	
Type	100L TQFP
Package size	12 x 12 x 1 mm
Die thickness	11 mils
Die size	132.1 x 197.3 mils
Lead Frame	
Paddle size	240 x 240 mils
Material	C7025
Surface	Bare Cu on Paddle
Process	Stamped
Lead Lock	No
Part Number	10110002
Treatment	Roughening
Material	
Epoxy	3280
Wire	CuPdAu
Mold Compound	G700HA
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI191502991.000	TC11918374924.000	1828MJK
MTAI191502992.000	TC11918374924.120	1828MJM
MTAI191504051.000	TC11918374924.120	1828TYW

Result [X] Pass [ ] Fail [ ] _____

100L TQFP 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
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-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	
<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test :**+25°C,105°C and -40°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 105°C System: J750	JESD22-A113	693(0)	693 693 693 693 0/693	 Pass	Good Devices
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H **Electrical Test:** + 105°C System: J750 **Stress Condition:** -65°C to +150°C, 1000 Cycles System : TABAI ESPEC TSA-70H **Electrical Test:** + 105°C System: J750 **Bond Strength:** Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-A104	 231(0) 231(0) 5(0) Units 15 (0)	231 0/231 231 0/231 0/5 0/15	 Pass Pass Pass 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
UNBIASED-HAST	**Stress Condition:** +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	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X			231		
	Electrical Test: + 25°C System J750		231(0)	0/231	Pass	
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 3.6,1.98 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test:+ 25°C and 105°C System: J750		231(0)	0/231	Pass	
	Stress Condition: +130°C/85%RH,192 hrs. **Bias Volt:** 3.6,1.98 Volts System: HAST 6000X			231		
	Electrical Test: + 25°C and 105°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 105°C System: J750		45(0)	0/45	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	