



Product Change Notification - KSRA-20PIWE587

Date:

27 Mar 2018

Product Category:

16-Bit - Microcontrollers and Digital Signal Controllers; 8-bit PIC Microcontrollers; Ethernet Controllers; 32-bit PIC Microcontrollers; Display A/D Converters

Affected CPNs:**Notification subject:**

CCB 2970.002 Final Notice: Qualification of CuPdAu bond wire in selected products available in 64L and 44L TQFP package 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 CuPdAu bond wire in selected products available in 64L and 44L TQFP package at MTAI assembly site

Pre Change:

Using palladium coated copper (PdCu) wire material

Post Change:

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

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (MTAI)	Microchip Technology Thailand (MTAI)
Wire material	PdCu	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 manufacturability by qualifying CuPdAu bond wire at MTAI assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

April 27, 2018 (date code: 1817)



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

	March 2018					April 2018				
Workweek	09	10	11	12	13	14	15	16	17	18
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 27, 2018: Issued final notification. Attached the Qualification Report. Revised the affected parts list. Provided estimated first ship date on April 27, 2018.

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_KSRA-20PIWE587_Qual_Report.pdf](#)

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

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MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: KSRA-20PIWE587

Date
November 14, 2017

**Qualification of CuPdAu bond wire in selected products
available in 64L and 44L TQFP package at MTAI assembly
site**



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of CuPdAu bond wire in selected products available in 64L and 44L TQFP package at MTAI assembly site
CN	ES108025-21326
QUAL ID	Q17130
MP CODE	YGAW19V2XVCE
Part No.	DSPIC33FJ128MC506A-H/PTVAO
Bonding No.	BDM-001373
CCB No.	2970.002
<u>Package</u>	
Type	64L TQFP
Package size	10x10x1 mm
Die thickness	11 mils
Die size	187.00 x 184.10 mils
<u>Lead Frame</u>	
Paddle size	275 x 275 mils
Material	C7025
Surface	Bare Cu on DAP
Process	Stamped
Lead Lock	No
Part Number	10106403
Treatment	Roughened
<u>Material</u>	
Epoxy	3280
Wire	CuPdAu wire
Mold Compound	G700HA
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI181702333.000	TC03917461622.140	1729WYB
MTAI181702334.000	TC03917461622.150	1729WYC
MTAI181702335.000	TC03917461622.100	1729WYD

Result

Pass Fail _____

64L TQFP (10x10x1mm) 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-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 C J-STD-020D	198	0/198	Pass	
Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test :+25°C and 150°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 150°C System: J750	JESD22-A113	693(0)	693 693 693 0/693	 Pass	Good Devices
Temp Cycle	Stress Condition: (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 150°C System: J750	JESD22-A104		231 0/231	 Pass	Parts had been pre-conditioned at 260°C
HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. Bias Volt: 3.6 Volts System: HAST 6000X Electrical Test: + 25°C and 150°C System: J750	JESD22-A110		231 0/231	 Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22-A118		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, 500 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C and 150°C System: J750		45(0)	0/45	Pass	
Solderability Temp 215°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Solderability Temp 245°C	Steam Aging: Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 30 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)

DSPIC30F2023-20E/PT
DSPIC30F2023-30I/PT
DSPIC30F2023T-30I/PT
DSPIC30F3011-10E/PTB23
DSPIC30F3011-20E/PT
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DSPIC30F3011-30I/PT
DSPIC30F3011T-20E/PT
DSPIC30F3011T-30I/PT
DSPIC30F3014-20E/PT
DSPIC30F3014-20I/PT
DSPIC30F3014-30I/PT
DSPIC30F3014T-30I/PT
DSPIC30F4011-20E/PT
DSPIC30F4011-20E/PTA22
DSPIC30F4011-20I/PT
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ENC624J600-I/PT
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HA2156-I/PT
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HA6858T-I/PT
HA9566-I/PT
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MCV443BT-I/PT
MTR2727-I/PT
MTR2727T-I/PT
MTR5117-I/PT
MTR6158-I/PT
MTR6618-I/PT
MTR6677-I/PT
MTR6853-I/PT
MTR7519-I/PT
MTR7519-I/PTC04
MTR7519T-I/PTC04
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PIC16C67-20I/PT
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PIC16C715-ME/PT
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PIC16C74B-04/PT
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PIC16C765-I/PT
PIC16C765T-I/PT
PIC16C77-04/PT
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PIC16F59T-I/PT021
PIC16F628-ME/PT
PIC16F648A-ME/PT
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