Product Change Notification - JAON-16HTIO720

Date: 07 Apr 2015

Product Category: 16-bit Microcontrollers and Digital Signal Controllers; Analog (Linear & Mixed Signal) AND Interface; 8-bit Microcontrollers

Notification subject: CCB 1155.39 Final Notice: Qualification of palladium coated copper (PdCu) bond wire and 3280 die attach epoxy in selected products of the 150K and 160K wafer technologies available in 18L SOIC package

Notification text:

PCN Status:

Final notification

Microchip Parts Affected:

See attachments of affected catalog part numbers (CPN) labeled as…

PCN_JAON-16HTIO720_Affected_CPN.xls

PCN_JAON-16HTIO720_Affected_CPN.pdf

Description of Change:

Qualification of palladium coated copper (PdCu) bond wire and 3280 die attach epoxy in selected products of the 150K and 160K wafer technologies available in 18L SOIC package at MTAI assembly site.

NOTE: Selected products are non-automotive devices. Please review the

affected CPN lists (attached) to identify the actual parts affected.

Pre Change:

Gold wire and 8390A die attach epoxy

Post Change:

PdCu wire and 3280 die attach epoxy

Impacts to Data Sheet:

None

Reason for Change:

To improve manufacturability and qualify PdCu bond wire at MTAI assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

April 24, 2015 (date code: 1517)

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

Markings to Distinguish Revised from Unrevised Devices:

Traceability code

Revision History:

February 18, 2015: Issued initial notification.

April 07, 2015: Issued final notification. Attached the qualification report. Revised the estimated first ship date from May 27, 2015 to April 24, 2015.

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_JAON-16HTIO720_Qual_Report.pdf PCN_JAON-16HTIO720_Affected_CPN.pdf PCN_JAON-16HTIO720_Affected_CPN.xls

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

Terms and Conditions:

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To opt out of future offer or information emails (other than product change notification emails), click here to go to microchipDIRECT and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

PCN_JAON-16HTIO720
CATALOG_PART_NBR
DSPIC30F2011-20E/SO
DSPIC30F2011-20I/SO
DSPIC30F2011-30I/SO
DSPIC30F2011T-20E/SO
DSPIC30F2011T-20I/SO
DSPIC30F2011T-30I/SO
DSPIC30F3012-20E/SO
DSPIC30F3012-20I/SO
DSPIC30F3012-30I/SO
MCP2140A-I/SO
MCP2140AT-I/SO
MCP23008-E/SO
MCP23008T-E/SO
MCP23009-E/SO
MCP23009T-E/SO
MCP23S08-E/SO
MCP23S08T-E/SO
MCP23S09-E/SO
MCP23S09T-E/SO
MCP2515-E/SO
MCP2515-E/SORB2
MCP2515-E/SORB4
MCP2515-I/SO
MCP2515-I/SOGRB2
MCP2515-I/SORB2
MCP2515-I/SORB4
MCP2515T-E/SO
MCP2515T-E/SORB2
MCP2515T-E/SORB4
MCP2515T-I/SO
MCP2515T-I/SORB2
MCP2515T-I/SORB4
MCV18A-I/SO
MCV18E-I/SO
PIC16F54-E/SO
PIC16F54-E/SO037
PIC16F54-I/SO
PIC16F54-I/SO023
PIC16F54-I/SO033
PIC16F54-I/SO034
PIC16F54-I/SOG
PIC16F54T-E/SO
PIC16F54T-E/SO037
PIC16F54T-E/SO039
PIC16F54T-E/SO040
PIC16F54T-I/SO
PIC16F54T-I/SO028
PIC16F54T-I/SO029

PIC16F54T-I/SO033
PIC16F54T-I/SO034
PIC16F54T-I/SO036
PIC16F627A-E/SO
PIC16F627A-I/SO
PIC16F627AT-E/SO
PIC16F627AT-I/SO
PIC16F627AT-I/SO034
PIC16F628A-E/SO
PIC16F628A-I/SO
PIC16F628A-I/SO065
PIC16F628A-I/SOG
PIC16F628AT-E/SO
PIC16F628AT-I/SO
PIC16F628AT-I/SO044
PIC16F628AT-I/SO051
PIC16F628AT-I/SO052
PIC16F628AT-I/SO064
PIC16F628AT-I/SO065
PIC16F628AT-I/SOG
PIC16F648A-E/SO
PIC16F648A-I/SO
PIC16F648A-I/SOC06
PIC16F648AT-E/SO
PIC16F648AT-I/SO
PIC16F648AT-I/SO044
PIC16F648AT-I/SO047
PIC16F648AT-I/SO050
PIC16F648AT-I/SO052
PIC16F648AT-I/SOC12
PIC16F716-E/SO
PIC16F716-I/SO
PIC16F716-I/SO030
PIC16F716-I/SO4AP
PIC16F716T-E/SO
PIC16F716T-I/SO
PIC16F716T-I/SO048
PIC16F716T-I/SO061
PIC16F818-E/SO
PIC16F818-I/SO
PIC16F818-I/SOTSL
PIC16F818-I/SOV04
PIC16F818T-E/SO
PIC16F818T-I/SO
PIC16F819-E/SO
PIC16F819-I/SO
PIC16F819-I/SOTSL
PIC16F819-I/SOV05
PIC16F819T-E/SO
PIC16F819T-I/SO

PIC16F819T-I/SOG
PIC16F819T-I/SOTSL
PIC16F87-E/SO
PIC16F87-I/SO
PIC16F87T-E/SO
PIC16F87T-I/SO
PIC16F88-E/SO
PIC16F88-I/SO
PIC16F88T-I/SO
PIC16LF627A-I/SO
PIC16LF627A-I/SOC12
PIC16LF627AT-I/SO
PIC16LF627AT-I/SOC12
PIC16LF628A-I/SO
PIC16LF628AT-I/SO
PIC16LF648A-I/SO
PIC16LF648AT-I/SO
PIC16LF648AT-I/SO045
PIC16LF648AT-I/SO053
PIC16LF818-I/SO
PIC16LF818T-I/SO
PIC16LF818T-I/SOTSL
PIC16LF819-I/SO
PIC16LF819-I/SOC07
PIC16LF819-I/SOC23
PIC16LF819-I/SOG
PIC16LF819-I/SOTSL
PIC16LF819T-I/SO
PIC16LF819T-I/SO043
PIC16LF819T-I/SO044
PIC16LF819T-I/SO045
PIC16LF819T-I/SO048
PIC16LF819T-I/SO050
PIC16LF819T-I/SO055
PIC16LF819T-I/SOTSL
PIC16LF87-I/SO
PIC16LF87T-I/SO
PIC16LF88-I/SO
PIC16LF88-I/SOG
PIC16LF88T-I/SO
PIC18F1220-E/SO
PIC18F1220-H/SO
PIC18F1220-I/SO
PIC18F1220T-I/SO
PIC18F1230-E/SO
PIC18F1230-I/SO
PIC18F1320-E/SO
PIC18F1320-H/SO
PIC18F1320-I/SO
PIC18F1320-I/SOC04

PIC18F1320-I/SOC10
PIC18F1320T-E/SO
PIC18F1320T-I/SO
PIC18F1320T-I/SOG
PIC18F1330-E/SO
PIC18F1330-I/SO
PIC18F1330T-E/SO
PIC18F1330T-I/SO
PIC18LF1220-I/SO
PIC18LF1230-I/SO
PIC18LF1320-I/SO
PIC18LF1320-I/SOG
PIC18LF1320T-I/SO
PIC18LF1330-I/SO

QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-16HTIO720

Date:
March 19, 2015

Qualification of palladium coated copper (PdCu) bond wire and 3280 die attach epoxy in selected products of the 150K and 160K wafer technologies available in 18L SOIC package at MTAI assembly site.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper (PdCu) bond wire and 3280 die attach epoxy in selected products of the 150K and 160K wafer technologies available in 18L SOIC package at MTAI assembly site.
CN	BC150113
QUAL ID	Q15002-01
MP CODE	DE0204F2XB04
Part No.	PIC16F54-E/SO
Bonding No.	BDM-000638 Rev. A
CCB No.	1155.39

<u>Package Type</u>

Package size	300 mils
Die thickness	15 mils
Die size	40.2 x 46.2 mils

<u>Lead Frame</u>

Paddle size	120 x 120 mils
Material	CDA194
Surface	Bare copper on paddle
Process	Stamp
Lead Lock	No
Part Number	10101815
Treatment	Brown Oxide Treatment

<u>Die attach material</u>

Epoxy	3280
Wire	PdCu wire
Mold Compound	G600V
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI153902055.000	TMPE215279485.100	1452JAA

Result [X] Pass [ ] Fail [ ] ___________________

18L SOIC (.300") 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.

Prepared By:____________________**Date:** March 19, 2015 **(Sr.Reliability Engineer)**

(Mr.Udom Suksansakul)

Approved By:____________________**Date:** March 19, 2015 **(Reliability Manager)**

(Mr. Somnuek Thongprasert)

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 J-STD-020D	45	0/45	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test :**+85°C and 125°C System: J750	JESD22-A113	231(0)	231		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			231		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			231		
	3x Convection-Reflow 265°C max			231		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C,85°C and 125°C System: J750			0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		77		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C and 125°C System: J750		77(0)	0/77	Pass	
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		77		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750		77(0)	0/77	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X **Electrical Test:**+25°C ,85°C and 125°C System: J750	JESD22-A110	77(0)	77 0/77	Pass	Parts had been pre-conditioned at 260°C
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB **Electrical Test:**+25°C ,85°C and 125°C System: J750	JESD22-A103	45(0)	45 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	
Cross section	Cross section Inspection 3 units / lot	-	3(0) Wires	0/3		
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	