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Product Change Notification - JAON-16ISFI346 [\(Printer Friendly\)](#)

Date: 18 Mar 2015

Notification subject: CCB 1155.37 Final Notice: Qualification of palladium coated copper (PdCu) bond wire and 3 90K, 120K and 121K wafer technologies available in 18L SOIC.

Notification text:

PCN Status:
Final notification

Microchip Parts Affected:
See attachments of affected catalog part numbers (CPN) labeled as...
[PCN_JAON-16ISFI346_Affected_CPN.xls](#)
[PCN_JAON-16ISFI346_Affected_CPN.pdf](#)

Description of Change:
Qualification of palladium coated copper (PdCu) bond wire and 3280 die attach epoxy and 121K wafer technologies available in 18L SOIC package at MTAI assembly site

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

Pre Change:
Gold wire and 8390A die attach epoxy

Post Change:
Gold wire and 8390A die attach epoxy or 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 10, 2015 (date code: 1515)

NOTE: Please be advised that after the estimated first ship date customers may receive

Markings to Distinguish Revised from Unrevised Devices:
Traceability code

Revision History:
February 18, 2015: Issued initial notification.

March 16, 2015: Issued final notification. Attached the qualification report.

March 18, 2015: Revised the estimated first ship date from May 27, 2015 to April 1

The change described in this PCN does not alter Microchip's current regulatory con
the applicable products.

Attachment(s): [PCN_JAON-16ISFI346_Qual_Report.pdf](#)
[PCN_JAON-16ISFI346_Affected_CPN.pdf](#)
[PCN_JAON-16ISFI346_Affected_CPN.xls](#)

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PCN_JAON-16ISFI346
CATALOG_PART_NBR
CF745-04/SO
HS10-100S0S/10SS25
MCP2140-I/SO
MCP2140-I/SORVB
MCP2140T-I/SO
MCP2140T-I/SORVB
MCP2150-I/SO
MCP2150-I/SORVB
MCP2150-I/SORVC
MCP2150T-I/SO
MCP2150T-I/SORVB
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PIC16LV54A-02I/SO
PIC16LV54A-02I/SO050
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PIC16LV54AT-02I/SO050



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: JAON-16ISFI346

**Date
February 26, 2015**

**Qualification of palladium coated copper (PdCu) bond wire
and 3280 die attach epoxy in selected products of the 90K,
120K and 121K wafer technologies available in 18L SOIC
package at MTAI assembly site.**

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MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper (PdCu) bond wire and 3280 die attach epoxy in selected products of the 90K, 120K and 121K wafer technologies available in 18L SOIC package at MTAI assembly site.
CN	BC150113
QUAL ID	Q15002-02
MP CODE	A7AB24F2XA04
Part No.	PIC16C621A-04E/SO
Bonding No.	BDM-000639 Rev. A
CCB No.	1155.37
<u>Package Type</u>	
Package size	300 mils
Die thickness	15 mils
Die size	108.4 x 82.3 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



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI153902056.000	TMPE215269272.500	1452JAB

Result

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: February 26, 2015 (Sr. Reliability Engineer)

(Mr. Udom Suksansakul)

Approved By:  Date: February 26, 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 C J-STD- 020D	45	0/45	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test :+25°C and 125°C System: J750	JESD22- A113	231(0)	231	Pass	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 System: Vitronics Soltec MR1243			231		
	Electrical Test :+25°C and 125°C System: J750			0/231		

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: + 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: 5.5 Volts System: HAST 6000X Electrical Test: +25°C and 125°C System: J750	JESD22-A110	77 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 and 125°C System: J750	JESD22-A103	45 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	