

Product Change Notification - JAON-09VRYL655

Date: 08 Jan 2015

Product Category: Analog (Linear & Mixed Signal) AND Interface; 8-bit Microcontrollers; Analog (Thermal, Power Management & Safety)

Notification subject: CCB 1155.35 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 28L SSOP package

Notification text: **PCN Status:**
Final notification

Microchip Parts Affected:

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

PCN_JAON-09VRYL655_Affected_CPN.xls

PCN_JAON-09VRYL655_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 28L SSOP 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:

January 23, 2015 (date code: 1504)

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:

December 17, 2014: Issued initial notification.

January 8, 2015: Issued final notification. Attached the qualification report.

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-09VRYL655_Qual_Report.pdf](#) [PCN_JAON-09VRYL655_Affected_CPN.pdf](#) [PCN_JAON-09VRYL655_Affected_CPN.xls](#)

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

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PCN_JAON-09VRYL655
CATALOG_PART_NBR
HA1930-I/SS
HA1930T-I/SS
HA2030-I/SS
HA2030T-I/SS
HA4314-I/SS021
HA4315T-I/SS
HA4315T-I/SS022
MCP23016-I/SS
MCP23016T-I/SS
MCP23017-E/SS
MCP23017T-E/SS
MCP23S17-E/SS
MCP23S17T-E/SS
PIC16F570-E/SS
PIC16F570-I/SS
PIC16F570T-I/SS
PIC16F57-E/SS
PIC16F57-I/SS
PIC16F57T-E/SS
PIC16F57T-I/SS
PIC16F57T-I/SS024
PIC16F57T-I/SS025
PIC16F57T-I/SS027
PIC16F72-E/SS
PIC16F72-I/SS
PIC16F72-I/SSG
PIC16F72T-E/SS
PIC16F72T-I/SS
PIC16F737-I/SS
PIC16F737T-I/SS
PIC16F73-E/SS
PIC16F73-I/SS
PIC16F73T-E/SS
PIC16F73T-I/SS
PIC16F73T-I/SS059
PIC16F73T-I/SS155
PIC16F73T-I/SSC15
PIC16F767-E/SS
PIC16F767-I/SS
PIC16F767T-I/SS
PIC16F76-E/SS
PIC16F76-I/SS
PIC16F76-I/SS098
PIC16F76T-E/SS
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PIC16F873AT-I/SS

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PIC16F882-E/SS
PIC16F882-I/SS
PIC16F882T-E/SS
PIC16F882T-I/SS
PIC16F882T-I/SS026
PIC16F882T-I/SS029
PIC16F883-E/SS
PIC16F883-I/SS
PIC16F883-I/SS021
PIC16F883-I/SS023
PIC16F883-I/SS032
PIC16F883-I/SS035
PIC16F883-I/SS037
PIC16F883-I/SS038
PIC16F883-I/SS045
PIC16F883-I/SS046
PIC16F883-I/SS062
PIC16F883-I/SS063
PIC16F883-I/SS064
PIC16F883-I/SSC02
PIC16F883T-E/SS
PIC16F883T-I/SS
PIC16F883T-I/SS022
PIC16F883T-I/SS032
PIC16F883T-I/SS062
PIC16F883T-I/SS063
PIC16F883T-I/SS064
PIC16F883T-I/SS070
PIC16F883T-I/SSC02
PIC16F886-E/SS
PIC16F886-I/SS
PIC16F886T-E/SS
PIC16F886T-I/SS
PIC16F886T-I/SS026
PIC16F886T-I/SS052
PIC16F913-E/SS
PIC16F913-I/SS
PIC16F913T-E/SS
PIC16F913T-I/SS
PIC16F913T-I/SS025
PIC16F913T-I/SS027
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PIC16F916-E/SS

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PIC16F916T-I/SS031
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PIC16LF73-I/SS
PIC16LF73T-I/SS
PIC16LF767-I/SS
PIC16LF767T-I/SS
PIC16LF76-I/SS
PIC16LF76T-I/SS
PIC16LF873A-I/SS
PIC16LF873AT-I/SS
PIC16LF876A-I/SS
PIC16LF876AT-I/SS
PIC16LF876AT-I/SSC26
PIC18F2221-E/SS
PIC18F2221-I/SS
PIC18F2221T-I/SS
PIC18F2321-E/SS
PIC18F2321-I/SS
PIC18F2321T-E/SS
PIC18LF2221-I/SS
PIC18LF2221T-I/SS
PIC18LF2321-I/SS
PIC18LF2321T-I/SS
PS501-I/SSC05
PS501T-I/SSC01
PS501T-I/SSC05



MICROCHIP

**QUALIFICATION REPORT
RELIABILITY LABORATORY**

PCN #: JAON-09VRYL655

**Date
December 17, 2014**

**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 28L SSOP 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 150K and 160K wafer technologies available in 28L SSOP package at MTAI assembly site.

CN BC141394

QUAL ID Q14121-03

MP CODE DECU2YN2XV06

Part No. PIC16F883T-E/SSV06

Bonding No. BDM-000635 Rev. A

CCB No.: 1155.35

Package Type

Package size 209 mils

Die thickness 15 mils

Die size 101.5 x 96.3 mils

Lead Frame

Paddle size 153 x 200 mils

Material A194

Surface Bare copper on paddle

Process Stamp

Lead Lock Yes

Part Number 10102834

Treatment Brown Oxide Treatment

Die attach material

Epoxy 3280

Wire PdCu wire

Mold Compound G600

Plating Composition Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI152201370.000	TMPE214417952.100	1435Q5E


Result

Pass Fail _____

28L SSOP (.209") 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: December 17, 2014 (Sr. Reliability Engineer)

(Mr. Udom Suksansakul)

Approved By:  Date: December 17, 2014 (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 85°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 85°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 Electrical Test: + 85°C System: J750	JESD22- A104	77(0)	77 0/77	Pass	Parts had been pre-conditioned at 260°C
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22- A118	77(0)	77 0/77	Pass	Parts had been pre-conditioned at 260°C

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 85°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 85°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	10 (0) Wires	0/10	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	10 (0) bonds	0/10	Pass	