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Product Change Notification - KSRA-05DWWG372 (Printer Friendly)

Date:	14 Feb 2017
Product	8-bit PIC Microcontrollers; USB Bridge
Category:	
Notification subject:	CCB 2854: Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site
Notification text:	<p>PCN Status: Initial notification.</p>

Microchip Parts Affected:

Please open the attachments found in the attachments field below labeled as PCN_#_Affected_CPN.

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 for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils lead frame paddle size

Pre Change:

Assembled at MMT using gold (Au) bond wire, 90X110 mils lead frame paddle size, spot LF plating and assembled in MTAI using Palladium coated copper (PdCu) bond wire, 95X155 mils lead frame paddle size, and Bare Cu LF surface

Post Change:

Assembled in MMT using palladium coated copper with gold flash

(CuPdAu) bond wire, 95X155 mils lead frame paddle size, and Bare Cu LF surface

Pre and Post Change Summary:

	Pre Change		Post Change
Assembly Site	MMT	MTAI	MMT
Wire material	Au Wire	PdCu Wire	CuPdAu Wire
Die attach material	8390A	8390A	8390A
Molding compound material	G600V	G600V	G600V
Lead frame material	C194	C194	C194
Lead Frame Paddle Size	90x110 mils	95x155 mils	95x155 mils
LF Surface	Spot	Bare Cu	Bare Cu

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 at MMT assembly site.

Change Implementation Status:

In Progress

Estimated Qualification Completion Date:

April 2017

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date.

Time Table Summary:

Workweek	February 2017					-->	April 2017				
	05	06	07	08	09		14	15	16	17	18
Initial PCN Issue Date			X								
Qual Report Availability								X			
Final PCN Issue Date								X			

Method to Identify Change:

Traceability code

Qualification Plan:

Please open the attachments included with this PCN labeled as PCN_#_Qual Plan.

Revision History:

February 14, 2017: Issued initial notification.

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-05DWWG372_Affected CPN.pdf](#)
[PCN_KSRA-05DWWG372_Qual Plan.pdf](#)
[PCN_KSRA-05DWWG372_Affected CPN.xlsx](#)

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PCN_KSRA-05DWWG372 -Qualification of CuPdAu bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils leadframe paddle size

Affected Catalog Part Number (CPN)

KSRA-05DWWG372
Catalog Part Number
HA4923-I/SL
HA4923T-I/SL
HA4986-I/SL
HA4986T-I/SL
MCP2221A-I/SL
MCP2221AT-I/SL
MCP2221-I/SL
MCP2221T-I/SL
PIC16F1455-E/SL
PIC16F1455-I/SL
PIC16F1455T-I/SL
PIC16F1503-E/SL
PIC16F1503-I/SL
PIC16F1503-I/SL052
PIC16F1503T-E/SL
PIC16F1503T-I/SL
PIC16F1503T-I/SL020
PIC16F1503T-I/SL034
PIC16F1503T-I/SL036
PIC16F1503T-I/SL038
PIC16F1503T-I/SL041
PIC16F1503T-I/SL046
PIC16F1503T-I/SL052
PIC16F1574-E/SL
PIC16F1574-I/SL
PIC16F1574T-I/SL
PIC16F1575-E/SL
PIC16F1575-I/SL
PIC16F1575T-E/SL
PIC16F1575T-I/SL
PIC16F1613-E/SL
PIC16F1613-I/SL
PIC16F1613T-I/SL
PIC16F1614-E/SL
PIC16F1614-I/SL
PIC16F1614T-I/SL
PIC16F1615-E/SL
PIC16F1615-I/SL
PIC16F1615T-I/SL
PIC16F1703-E/SL
PIC16F1703-I/SL
PIC16F1703T-I/SL
PIC16F1704-E/SL

PCN_KSRA-05DWWG372 -Qualification of CuPdAu bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils leadframe paddle size

Affected Catalog Part Number (CPN)

KSRA-05DWWG372
Catalog Part Number
PIC16F1704-I/SL
PIC16F1704T-E/SL
PIC16F1704T-I/SL
PIC16F1705-E/SL
PIC16F1705-I/SL
PIC16F1705T-E/SL
PIC16F1705T-I/SL
PIC16F1764-E/SL
PIC16F1764-I/SL
PIC16F1764T-I/SL
PIC16F1765-E/SL
PIC16F1765-I/SL
PIC16F1765T-I/SL
PIC16F1823-E/SL
PIC16F1823-I/SL
PIC16F1823-I/SL024
PIC16F1823-I/SL037
PIC16F1823-I/SLC04
PIC16F1823T-E/SL
PIC16F1823T-I/SL
PIC16F1823T-I/SL024
PIC16F1823T-I/SL025
PIC16F1823T-I/SL026
PIC16F1823T-I/SL037
PIC16F1823T-I/SLC04
PIC16F1824-E/SL
PIC16F1824-I/SL
PIC16F1824-I/SLC09
PIC16F1824T-E/SL
PIC16F1824T-I/SL
PIC16F1824T-I/SL021
PIC16F1824T-I/SL023
PIC16F1824T-I/SL024
PIC16F1824T-I/SL027
PIC16F1824T-I/SL032
PIC16F1824T-I/SLC09
PIC16F1825-E/SL
PIC16F1825-H/SL
PIC16F1825-I/SL
PIC16F1825T-E/SL
PIC16F1825T-H/SL
PIC16F1825T-I/SL
PIC16F1825T-I/SL029

PCN_KSRA-05DWWG372 -Qualification of CuPdAu bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils leadframe paddle size

Affected Catalog Part Number (CPN)

KSRA-05DWWG372
Catalog Part Number
PIC16F1825T-I/SL041
PIC16LF1503-E/SL
PIC16LF1503-E/SLC04
PIC16LF1503-I/SL
PIC16LF1503-I/SL021
PIC16LF1503T-E/SL
PIC16LF1503T-E/SLC04
PIC16LF1503T-I/SL
PIC16LF1503T-I/SL020
PIC16LF1503T-I/SL027
PIC16LF1503T-I/SL028
PIC16LF1554-E/SL
PIC16LF1554-I/SL
PIC16LF1554T-I/SL
PIC16LF1574-E/SL
PIC16LF1574-I/SL
PIC16LF1574T-I/SL
PIC16LF1575-E/SL
PIC16LF1575-I/SL
PIC16LF1575T-I/SL
PIC16LF1613-E/SL
PIC16LF1613-I/SL
PIC16LF1613T-I/SL
PIC16LF1614-E/SL
PIC16LF1614-I/SL
PIC16LF1614T-I/SL
PIC16LF1615-E/SL
PIC16LF1615-I/SL
PIC16LF1615T-I/SL
PIC16LF1703-E/SL
PIC16LF1703-I/SL
PIC16LF1703T-I/SL
PIC16LF1704-E/SL
PIC16LF1704-I/SL
PIC16LF1704-I/SLC01
PIC16LF1704T-I/SL
PIC16LF1704T-I/SLC01
PIC16LF1705-E/SL
PIC16LF1705-I/SL
PIC16LF1705T-I/SL
PIC16LF1764-E/SL
PIC16LF1764-I/SL
PIC16LF1764T-I/SL

PCN_KSRA-05DWWG372 -Qualification of CuPdAu bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils leadframe paddle size

Affected Catalog Part Number (CPN)

KSRA-05DWWG372
Catalog Part Number
PIC16LF1765-E/SL
PIC16LF1765-I/SL
PIC16LF1765T-I/SL
PIC16LF1823-E/SL
PIC16LF1823-I/SL
PIC16LF1823-I/SLC03
PIC16LF1823T-E/SL
PIC16LF1823T-I/SL
PIC16LF1823T-I/SL023
PIC16LF1823T-I/SLC03
PIC16LF1824-E/SL
PIC16LF1824-I/SL
PIC16LF1824-I/SLC01
PIC16LF1824T-E/SL
PIC16LF1824T-I/SL
PIC16LF1824T-I/SL026
PIC16LF1824T-I/SL027
PIC16LF1824T-I/SL028
PIC16LF1824T-I/SLC01
PIC16LF1825-E/SL
PIC16LF1825-I/SL
PIC16LF1825T-E/SL
PIC16LF1825T-I/SL
PIC16LF1825T-I/SL020
PIC16LF1825T-I/SL022



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QUALIFICATION PLAN SUMMARY

PCN#: KSRA-05DWWG372

**Date:
January 26, 2017**

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils lead frame paddle size

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Purpose: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products of 200K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils lead frame paddle size.

CCB#2854

<u>Misc.</u>	Assembly site	MMT
	BD Number	BDM-001262 rev A
	MP Code (MPC)	LECW14D3XAXX
	Part Number (CPN)	PIC16F1615-E/SL
<u>Lead-Frame</u>	Paddle size	95x155 mils
	Material	CDA194
	Surface	Bare Cu
	Treatment	BOT
	Process	Stamped
	Lead-lock	No
	Part Number	10101401
	Lead Plating	Matte Tin
	LF Matrix (RowxColumn)	7x16
	Strip test capable	Yes
<u>Bond Wire</u>	Material	CuPdAu
<u>Die Attach</u>	Part Number	8390A
	Conductive	Yes
<u>MC</u>	Part Number	G600V
<u>PKG</u>	PKG Type	SOIC
	Pin/Ball Count	14
	PKG width/size	150 mils
<u>Die</u>	Die Thickness	15 mils
	Die Size	100.0x84.9 mils

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly identified)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	24	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	24		5	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		Required for any reduction in wire bond thickness.
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp.85°C. 1 lot to be tested at 125C	45	5	1	50	0	25	
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020D for package type; Electrical test pre and post stress at +25°C. MSL1 @ 260°C	231	15	3	738	0	15	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test.
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp. 1 lot to be tested at 125C	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. 1 lot to be tested at 125C	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.