Product Change Notification - KSRA-02KYDI802

Date: 14 Feb 2017

Product Category: 8-bit PIC Microcontrollers; Sigma - Delta A/D Converters; Digital Potentiometers; System D/A Converters; Linear Op Amps

Notification subject: CCB 2853: Initial Notice: Qualification of CuPdAu bond wire for selected products of 160K & 150K wafer tech available in 14L SOIC package at MMT assembly site using 95x155 mils lead frame paddle size

Notification text:

PCN Status:
Initial notification.

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 160K 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:

	February 2017					-->	April 2017				
Workweek	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-02KYDI802_Affected CPN.pdf
PCN_KSRA-02KYDI802_Qual Plan.pdf
PCN_KSRA-02KYDI802_Affected CPN.xlsx

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

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PCN_KSRA-02KYDI802 -Qualification of CuPdAu bond wire for selected products of 160K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils leadframe paddle size

Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
HA1086-I/SL
HA1086T-I/SL
HA2038-I/SL
HA2089-I/SL
HA2089-I/SL108
HA2089-I/SL109
HA2089T-I/SL
HA2089T-I/SL040
HA2089T-I/SL043
HA2089T-I/SL054
HA2089T-I/SL057
HA2089T-I/SL077
HA2089T-I/SL086
HA2089T-I/SL097
HA2089T-I/SL100
HA2089T-I/SL103
HA2089T-I/SL104
HA2089T-I/SL106
HA2089T-I/SL108
HA2089T-I/SL109
MCP3424-E/SL
MCP3424T-E/SL
MCP3428-E/SL
MCP3428T-E/SL
MCP4231-103E/SL
MCP4231-104E/SL
MCP4231-502E/SL
MCP4231-503E/SL
MCP4231T-103E/SL
MCP4231T-104E/SL
MCP4231T-502E/SL
MCP4231T-503E/SL
MCP4241-103E/SL
MCP4241-104E/SL
MCP4241-502E/SL
MCP4241-503E/SL
MCP4241T-103E/SL
MCP4241T-104E/SL
MCP4241T-502E/SL
MCP4241T-503E/SL
MCP4251-103E/SL
MCP4251-104E/SL
MCP4251-502E/SL

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Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
MCP4251-503E/SL
MCP4251T-103E/SL
MCP4251T-104E/SL
MCP4251T-502E/SL
MCP4251T-503E/SL
MCP4261-103E/SL
MCP4261-104E/SL
MCP4261-502E/SL
MCP4261-503E/SL
MCP4261T-103E/SL
MCP4261T-104E/SL
MCP4261T-502E/SL
MCP4261T-503E/SL
MCP4902-E/SL
MCP4902T-E/SL
MCP4912-E/SL
MCP4912T-E/SL
MCP4922-E/SL
MCP4922T-E/SL
MCP6424-E/SL
MCP6424T-E/SL
MCP6474-E/SL
MCP6474T-E/SL
MCP6484-E/SL
MCP6484T-E/SL
MCP6494-E/SL
MCP6494T-E/SL
MCV14A-I/SL
MCV14A-I/SL029
MCV14A-I/SL032
MCV14A-I/SL037
MCV14A-I/SL038
MCV14A-I/SL039
MCV14A-I/SL040
MCV14A-I/SL042
MCV14A-I/SL043
MCV14A-I/SL044
MCV14A-I/SL045
MCV14A-I/SL046
MCV14A-I/SL049
MCV14A-I/SL050
MCV14A-I/SL051
MCV14A-I/SL052

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Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
MCV14A-I/SL054
MCV14A-I/SL060
MCV14A-I/SL062
MCV14A-I/SL063
MCV14A-I/SL064
MCV14A-I/SL065
MCV14A-I/SL066
MCV14AT-I/SL
MCV14AT-I/SL021
MCV14AT-I/SL025
MCV14AT-I/SL029
MCV14AT-I/SL032
MCV14AT-I/SL035
MCV14AT-I/SL037
MCV14AT-I/SL038
MCV14AT-I/SL039
MCV14AT-I/SL040
MCV14AT-I/SL042
MCV14AT-I/SL043
MCV14AT-I/SL044
MCV14AT-I/SL045
MCV14AT-I/SL046
MCV14AT-I/SL049
MCV14AT-I/SL050
MCV14AT-I/SL051
MCV14AT-I/SL052
MCV14AT-I/SL054
MCV14AT-I/SL055
MCV14AT-I/SL057
MCV14AT-I/SL058
MCV14AT-I/SL060
MCV14AT-I/SL062
MCV14AT-I/SL063
MCV14AT-I/SL064
MCV14AT-I/SL065
MCV14AT-I/SL066
PIC16F505-E/SL
PIC16F505-I/SL
PIC16F505-I/SL023
PIC16F505-I/SL033
PIC16F505-I/SL059
PIC16F505T-E/SL
PIC16F505T-I/SL

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Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
PIC16F505T-I/SL020
PIC16F505T-I/SL029
PIC16F505T-I/SL033
PIC16F505T-I/SL039
PIC16F505T-I/SL054
PIC16F505T-I/SL055
PIC16F505T-I/SL056
PIC16F505T-I/SL058
PIC16F505T-I/SL059
PIC16F505T-I/SLC03
PIC16F506-E/SL
PIC16F506-I/SL
PIC16F506T-I/SL
PIC16F506T-I/SL021
PIC16F506T-I/SL030
PIC16F506T-I/SL034
PIC16F506T-I/SL039
PIC16F506T-I/SL042
PIC16F506T-I/SL043
PIC16F506T-I/SL044
PIC16F506T-I/SL047
PIC16F526-E/SL
PIC16F526-I/SL
PIC16F526-I/SLC03
PIC16F526-I/SLC04
PIC16F526-I/SLC06
PIC16F526T-I/SL
PIC16F526T-I/SL033
PIC16F526T-I/SL034
PIC16F526T-I/SL053
PIC16F526T-I/SL061
PIC16F526T-I/SLC04
PIC16F526T-I/SLC06
PIC16F610-E/SL
PIC16F610-I/SL
PIC16F610T-I/SL
PIC16F616-E/SL
PIC16F616-E/SL087
PIC16F616-H/SL
PIC16F616-I/SL
PIC16F616-I/SL063
PIC16F616-I/SL068
PIC16F616T-E/SL

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Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
PIC16F616T-E/SL040
PIC16F616T-E/SL072
PIC16F616T-E/SL083
PIC16F616T-E/SL084
PIC16F616T-E/SL087
PIC16F616T-I/SL
PIC16F616T-I/SL029
PIC16F616T-I/SL033
PIC16F616T-I/SL038
PIC16F616T-I/SL048
PIC16F616T-I/SL050
PIC16F616T-I/SL054
PIC16F616T-I/SL055
PIC16F616T-I/SL063
PIC16F616T-I/SL064
PIC16F616T-I/SL068
PIC16F616T-I/SL069
PIC16F616T-I/SL074
PIC16F616T-I/SL077
PIC16F616T-I/SL086
PIC16F616T-I/SL089
PIC16F616T-I/SL091
PIC16F616T-I/SL092
PIC16F630-C/SL
PIC16F630-E/SL
PIC16F630-I/SL
PIC16F630-I/SL036
PIC16F630-I/SL044
PIC16F630-I/SL045
PIC16F630-I/SLC03
PIC16F630T-C/SL
PIC16F630T-E/SL
PIC16F630T-E/SL072
PIC16F630T-I/SL
PIC16F630T-I/SL026
PIC16F630T-I/SL035
PIC16F630T-I/SL043
PIC16F630T-I/SL053
PIC16F630T-I/SL066
PIC16F630T-I/SL080
PIC16F630T-I/SL081
PIC16F630T-I/SL082
PIC16F636-E/SL

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Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
PIC16F636-I/SL
PIC16F636T-E/SL
PIC16F636T-I/SL
PIC16F636T-I/SL022
PIC16F676-E/SL
PIC16F676-I/SL
PIC16F676-I/SL045
PIC16F676-I/SL050
PIC16F676-I/SL051
PIC16F676T-C/SL
PIC16F676T-E/SL
PIC16F676T-I/SL
PIC16F676T-I/SL028
PIC16F676T-I/SL038
PIC16F676T-I/SL044
PIC16F676T-I/SL051
PIC16F684-E/SL
PIC16F684-I/SL
PIC16F684-I/SL105
PIC16F684-I/SLC15
PIC16F684-I/SLC17
PIC16F684T-E/SL
PIC16F684T-I/SL
PIC16F684T-I/SL027
PIC16F684T-I/SL028
PIC16F684T-I/SL088
PIC16F684T-I/SL091
PIC16F684T-I/SL094
PIC16F684T-I/SL095
PIC16F684T-I/SL099
PIC16F684T-I/SL105
PIC16F684T-I/SLC15
PIC16F684T-I/SLC17
PIC16F688-E/SL
PIC16F688-I/SL
PIC16F688-I/SL063
PIC16F688T-E/SL
PIC16F688T-E/SL043
PIC16F688T-I/SL
PIC16F688T-I/SL051
PIC16F688T-I/SL053
PIC16F688T-I/SL057
PIC16F688T-I/SL058

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Affected Catalog Part Number (CPN)

KSRA-02KYDI802
Catalog Part Number
PIC16F688T-I/SL063
PIC16F753-E/SL
PIC16F753-I/SL
PIC16F753-I/SLC02
PIC16F753-I/SLPN1
PIC16F753-I/SLSM1
PIC16F753-I/SLSM2
PIC16F753T-I/SL
PIC16F753T-I/SL020
PIC16F753T-I/SLC02
PIC16F753T-I/SLHS2
PIC16F753T-I/SLPN1
PIC16F753T-I/SLSM1
PIC16F753T-I/SLSM2
PIC16HV610-E/SL
PIC16HV610-I/SL
PIC16HV610T-I/SL
PIC16HV616-E/SL
PIC16HV616-I/SL
PIC16HV616T-E/SL
PIC16HV616T-I/SL
PIC16HV753-E/SL
PIC16HV753-I/SL
PIC16HV753T-E/SL
PIC16HV753T-I/SL

QUALIFICATION PLAN SUMMARY

PCN #. KSRA-02KYDI802

Date:
January 26, 2017

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products of 160K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils lead frame paddle size. The selected products of 150K wafer technology available in 14L SOIC package will qualify by similarity at MMT assembly site.

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Purpose: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire for selected products of 160K wafer technology available in 14L SOIC package at MMT assembly site using 95x155 mils lead frame paddle size. The selected products of 150K wafer technology available in 14L SOIC package will qualify by similarity at MMT assembly site.

CCB#2853

Misc.	**Assembly site**	MMT
	BD Number	BDM-001261 rev A
	MP Code (MPC)	DE0444D3XB04
	Part Number (CPN)	PIC16F688-E/SL
Lead-Frame	**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
Bond Wire	**Material**	CuPdAu
Die Attach	**Part Number**	8390A
	Conductive	Yes
MC	**Part Number**	G600V
PKG	**PKG Type**	SOIC
	Pin/Ball Count	14
	PKG width/size	150 mils
Die	**Die Thickness**	15 mils
	Die Size	100.3x77.5 mils

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	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.85ºC. 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.