

Product Change Notification - KSRA-200SOQ751

Date: 19 Feb 2018

Product Category: Memory; Power Management - PWM Controllers; Sigma - Delta A/D Converters; Digital Potentiometers; System D/A Converters; Instrumentation Amplifier; Battery Management and Fuel Gauges - Battery Chargers; Temperature Sensors; 8-bit PIC Microcontrollers

Notification subject: CCB 3041 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site

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

PCN Type:
Manufacturing Change

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 in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site

Pre Change:
Using gold (Au) bond wire, 8200T or 8600 die attach material, G770HCD or G700LTD molding compound material and C194 or EFTEC-64T lead frame material

Post Change:
Using palladium coated copper with gold flash (CuPdAu) bond wire 8600 die attach material, G700LTD molding compound material and C194 lead frame material

Pre and Post Change Summary:

	Pre Change			Post Change
Assembly Site	UTAC Thai Limited LTD. (NSEB)			UTAC Thai Limited LTD. (NSEB)
Wire material	Au Wire			CuPdAu Wire
Die attach material	8200T	8600	8600	8600
Molding compound material	G770HCD	G700LTD	G700LTD	G700LTD
Lead frame material	C194	C194	EFTEC-64T	C194

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve manufacturability by qualifying CuPdAu bond wire at NSEB assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
March 19, 2018 (date code: 1812)

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

Time Table Summary:

	August 2017					= >	February 2018				March 2018				
Workweek	31	32	33	34	35		05	06	07	08	09	10	11	12	13
Initial PCN Issue Date	X														
Qual Report Availability										X					
Final PCN Issue Date										X					
Estimated Implementation Date														X	

Method to Identify Change:
Traceability code

Qualification Report:
Please open the attachments included with this PCN labeled as PCN_#_Qual Report

Revision History:
August 05. 2017: Issued initial notification.
August 31. 2017: Re-issued initial notification to include CCB 3073.
February 19. 2018: Issued final notification. Attached the Qualification Report. Update subject to remove CCB 3073. Revised the affected parts list. Provided estimated first ship date on March 19, 2018.

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-200SOQ751_Affected CPN.pdf](#)
[PCN_KSRA-200SOQ751_Qual Report.pdf](#)
[PCN_KSRA-200SOQ751_Affected CPN.xlsx](#)

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

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KSRA-200SOQ751 -CCB 3041 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site

Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
11LC161T-E/MC
24AA014-I/MC
24AA014T-I/MC
24AA01T-I/MC
24AA024-I/MC
24AA024T-I/MC
24AA025-I/MC
24AA025T-I/MC
24AA02T-I/MC
24AA04-I/MC
24AA04T-I/MC
24AA08-I/MC
24AA08T-I/MC
24AA16-I/MC
24AA16T-I/MC
24AA32AT-I/MC
24AA52-I/MC
24AA52T-I/MC
24AA64T-I/MC
24C01C-E/MC
24C01C-I/MC
24C01CT-E/MC
24C01CT-I/MC
24C02C-E/MC
24C02CT-E/MC
24C02CT-I/MC
24FC64-I/MC
24FC64T-I/MC
24LC014-E/MC
24LC014-I/MC
24LC014T-E/MC
24LC014T-I/MC
24LC01B-E/MC
24LC01BT-E/MC
24LC01BT-I/MC
24LC024-E/MC
24LC024-I/MC
24LC024T-E/MC
24LC024T-I/MC
24LC025-E/MC
24LC025-I/MC
24LC025T-E/MC
24LC025T-I/MC

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
24LC02BT-E/MC
24LC02BT-I/MC
24LC04B-E/MC
24LC04B-I/MC
24LC04BT-E/MC
24LC04BT-I/MC
24LC08B-E/MC
24LC08B-I/MC
24LC08BT-E/MC
24LC08BT-I/MC
24LC16B-E/MC
24LC16B-I/MC
24LC16BT-E/MC
24LC16BT-I/MC
24LC32AT-E/MC
24LC32AT-I/MC
24LC32AT-I/MCA28
24LC64T-E/MC
24LC64T-I/MC
24LCS52-I/MC
24LCS52T-I/MC
25AA010AT-I/MC
25AA020AT-I/MC
25AA040AT-I/MC
25LC010AT-E/MC
25LC010AT-I/MC
25LC020AT-E/MC
25LC020AT-I/MC
25LC040AT-E/MC
25LC040AT-I/MC
MCP1632-AAE/MC
MCP1632-BAE/MC
MCP1632T-AAE/MC
MCP1632T-BAE/MC
MCP3422A0-E/MC
MCP3422A0T-E/MC
MCP3422A1-E/MC
MCP3422A1T-E/MC
MCP3422A2-E/MC
MCP3422A2T-E/MC
MCP3422A3-E/MC
MCP3422A3T-E/MC
MCP3422A4-E/MC

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
MCP3422A4T-E/MC
MCP3422A5-E/MC
MCP3422A5T-E/MC
MCP3422A6-E/MC
MCP3422A6T-E/MC
MCP3422A7-E/MC
MCP3422A7T-E/MC
MCP3426A0-E/MC
MCP3426A0T-E/MC
MCP3426A1-E/MC
MCP3426A1T-E/MC
MCP3426A2-E/MC
MCP3426A2T-E/MC
MCP3426A3-E/MC
MCP3426A3T-E/MC
MCP3426A4-E/MC
MCP3426A4T-E/MC
MCP3426A5-E/MC
MCP3426A5T-E/MC
MCP3426A6-E/MC
MCP3426A6T-E/MC
MCP3426A7-E/MC
MCP3426A7T-E/MC
MCP4011T-103E/MC
MCP4011T-202E/MC
MCP4011T-502E/MC
MCP4011T-503E/MC
MCP4021T-103E/MC
MCP4021T-202E/MC
MCP4021T-502E/MC
MCP4021T-503E/MC
MCP4131-103E/MF
MCP4131-104E/MF
MCP4131-502E/MF
MCP4131-503E/MF
MCP4131T-103E/MF
MCP4131T-104E/MF
MCP4131T-502E/MF
MCP4131T-503E/MF
MCP4132-103E/MF
MCP4132-104E/MF
MCP4132-502E/MF
MCP4132-503E/MF

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
MCP4132T-103E/MF
MCP4132T-104E/MF
MCP4132T-502E/MF
MCP4132T-503E/MF
MCP4141-103E/MF
MCP4141-104E/MF
MCP4141-502E/MF
MCP4141-503E/MF
MCP4141T-103E/MF
MCP4141T-104E/MF
MCP4141T-502E/MF
MCP4141T-503E/MF
MCP4142-103E/MF
MCP4142-104E/MF
MCP4142-502E/MF
MCP4142-503E/MF
MCP4142T-103E/MF
MCP4142T-104E/MF
MCP4142T-502E/MF
MCP4142T-503E/MF
MCP4151-103E/MF
MCP4151-104E/MF
MCP4151-502E/MF
MCP4151-503E/MF
MCP4151T-103E/MF
MCP4151T-104E/MF
MCP4151T-502E/MF
MCP4151T-503E/MF
MCP4152-103E/MF
MCP4152-104E/MF
MCP4152-502E/MF
MCP4152-503E/MF
MCP4152T-103E/MF
MCP4152T-104E/MF
MCP4152T-502E/MF
MCP4152T-503E/MF
MCP4161-103E/MF
MCP4161-104E/MF
MCP4161-502E/MF
MCP4161-503E/MF
MCP4161T-103E/MF
MCP4161T-104E/MF
MCP4161T-502E/MF

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
MCP4161T-503E/MF
MCP4162-103E/MF
MCP4162-104E/MF
MCP4162-502E/MF
MCP4162-503E/MF
MCP4162T-103E/MF
MCP4162T-104E/MF
MCP4162T-502E/MF
MCP4162T-503E/MF
MCP4531T-103E/MF
MCP4531T-104E/MF
MCP4531T-502E/MF
MCP4531T-503E/MF
MCP4532T-103E/MF
MCP4532T-104E/MF
MCP4532T-502E/MF
MCP4532T-503E/MF
MCP4541T-103E/MF
MCP4541T-104E/MF
MCP4541T-502E/MF
MCP4541T-503E/MF
MCP4542-103PE/MF
MCP4542T-103E/MF
MCP4542T-103PE/MF
MCP4542T-104E/MF
MCP4542T-502E/MF
MCP4542T-503E/MF
MCP4551T-103E/MF
MCP4551T-104E/MF
MCP4551T-502E/MF
MCP4551T-503E/MF
MCP4552T-103E/MF
MCP4552T-104E/MF
MCP4552T-502E/MF
MCP4552T-503E/MF
MCP4561T-103E/MF
MCP4561T-104E/MF
MCP4561T-502E/MF
MCP4561T-503E/MF
MCP4561T-503E/MFOPP
MCP4562-103PE/MF
MCP4562T-103E/MF
MCP4562T-103PE/MF

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
MCP4562T-104E/MF
MCP4562T-104QE/MF
MCP4562T-502E/MF
MCP4562T-503E/MF
MCP4562T-503QE/MF
MCP4801-E/MC
MCP4801T-E/MC
MCP4811-E/MC
MCP4811T-E/MC
MCP4821-E/MC
MCP4821T-E/MC
MCP4901-E/MC
MCP4901T-E/MC
MCP4911-E/MC
MCP4911T-E/MC
MCP4921-E/MC
MCP4921T-E/MC
MCP6N16-001E/MF
MCP6N16-010E/MF
MCP6N16-100E/MF
MCP6N16T-001E/MF
MCP6N16T-010E/MF
MCP6N16T-100E/MF
MCP73831-2ACI/MC
MCP73831-2ATI/MC
MCP73831-2DCI/MC
MCP73831-3ACI/MC
MCP73831-4ADI/MC
MCP73831-5ACI/MC
MCP73831T-2ACI/MC
MCP73831T-2ATI/MC
MCP73831T-2DCI/MC
MCP73831T-3ACI/MC
MCP73831T-4ADI/MC
MCP73831T-5ACI/MC
MCP73832-2ACI/MC
MCP73832-2ATI/MC
MCP73832-2DCI/MC
MCP73832-3ACI/MC
MCP73832-4ADI/MC
MCP73832-5ACI/MC
MCP73832T-2ACI/MC
MCP73832T-2ATI/MC

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
MCP73832T-2DCI/MC
MCP73832T-3ACI/MC
MCP73832T-4ADI/MC
MCP73832T-5ACI/MC
MCP9804-E/MC
MCP9804-E/MCBBB
MCP9804T-E/MC
MCP9804T-E/MCBBB
MCP9805-BE/MC
MCP9805T-BE/MC
MCP9808T-E/MC
MCP98242-BE/MC
MCP98242-BE/MCBA2
MCP98242-CE/MC
MCP98242T-BE/MC
MCP98242T-BE/MCBA2
MCP98242T-BE/MCBA3
MCP98242T-BE/MCBAA
MCP98242T-BE/MCBAB
MCP98242T-BE/MCBAC
MCP98242T-CE/MC
MCP98243-BE/MC
MCP98243T-BE/MC
MCP98243T-BE/MCAA
MCP98243T-BE/MCAB
MCP9843-BE/MC
MCP9843T-BE/MC
PIC10F200-E/MC
PIC10F200-I/MC
PIC10F200T-E/MC
PIC10F200T-I/MC
PIC10F202-E/MC
PIC10F202-I/MC
PIC10F202T-E/MC
PIC10F202T-I/MC
PIC10F204-E/MC
PIC10F204-I/MC
PIC10F204T-E/MC
PIC10F204T-I/MC
PIC10F206-E/MC
PIC10F206-I/MC
PIC10F206T-E/MC
PIC10F206T-I/MC

KSRA-200SOQ751 -CCB 3041 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site

Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
PIC10F220-E/MC
PIC10F220-I/MC
PIC10F220T-E/MC
PIC10F220T-I/MC
PIC10F222-E/MC
PIC10F222-I/MC
PIC10F222T-E/MC
PIC10F222T-I/MC
PIC10F222T-I/MC051
PIC12F508-E/MC
PIC12F508-I/MC
PIC12F508-I/MC075
PIC12F508T-I/MC
PIC12F508T-I/MC075
PIC12F509-E/MC
PIC12F509-I/MC
PIC12F509T-I/MC
PIC12F510-E/MC
PIC12F510-I/MC
PIC12F510T-E/MC
PIC12F510T-I/MC
PIC12F519-E/MC
PIC12F519-I/MC
PIC12F519T-E/MC
PIC12F519T-E/MC046
PIC12F519T-I/MC
PIC12F519T-I/MC034
PIC12F519T-I/MC045
PIC12F529-I/MC
PIC12F609-E/MD
PIC12F609-E/MF
PIC12F609-I/MD
PIC12F609-I/MF
PIC12F609T-E/MF
PIC12F609T-I/MD
PIC12F609T-I/MF
PIC12F615-E/MD
PIC12F615-E/MF
PIC12F615-H/MD
PIC12F615-I/MD
PIC12F615-I/MF
PIC12F615T-E/MF
PIC12F615T-I/MD

KSRA-200SOQ751 -CCB 3041 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site

Affected Catalog Part Numbers (CPN)

PCN_KSRA-200SOQ751
CATALOG_PART_NBR
PIC12F615T-I/MD029
PIC12F615T-I/MF
PIC12F617-E/MF
PIC12F617-I/MF
PIC12F617T-E/MF
PIC12F617T-E/MF049
PIC12F617T-E/MF061
PIC12F617T-E/MF064
PIC12F617T-I/MF
PIC12F635-I/MD
PIC12F635T-I/MD
PIC12F635T-I/MD070
PIC12F683-E/MD
PIC12F683-I/MD
PIC12F683T-E/MD
PIC12F683T-I/MD
PIC12F752-E/MF
PIC12F752-I/MF
PIC12F752T-I/MF
PIC12HV609-E/MD
PIC12HV609-E/MF
PIC12HV609-I/MD
PIC12HV609-I/MF
PIC12HV609T-E/MF
PIC12HV609T-I/MD
PIC12HV609T-I/MF
PIC12HV615-E/MD
PIC12HV615-E/MF
PIC12HV615-I/MD
PIC12HV615-I/MF
PIC12HV615T-E/MF
PIC12HV615T-I/MD
PIC12HV615T-I/MF
PIC12HV615T-I/MF026
PIC12HV615T-I/MF027
PIC12HV615T-I/MF028
PIC12HV615T-I/MF030
PIC12HV752-E/MF
PIC12HV752-I/MF
PIC12HV752T-I/MF



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**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN#: KSRA-20OSOQ751

**Date
January 29, 2018**

**Qualification of palladium coated copper with gold flash
(CuPdAu) bond in selected products of the 160K wafer
technology available in 8L DFN package at NSEB assembly
site**



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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper with gold flash (CuPdAu) bond in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site
CN	ES136961
QUAL ID	Q17181
MP CODE	DEEL24A7XB04
Part No.	PIC12HV752-E/MF
Bonding No.	BDM-001458
CCB No.	3041

Package

Type	8L DFN
Package size	3x3x0.9 mm
Die thickness	8 mils
Die size	60.40 x 91.10 mils

Lead Frame

Paddle size	71 x 102 mils
Material	C194-FH
Surface	Ag on lead only
Process	Etched
Lead Lock	Yes
Part Number	FR1347
Treatment	Micro-Etched

Material

Epoxy	8600 Conductive
Wire	CuPdAu wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB182601105.000	TMPE218064751.130	1738228
NSEB182700015.000	TMPE218064751.130	173922H
NSEB182700016.000	TMPE218064751.130	173922S

Result

☒

Pass

☐

Fail

☐

8L DFN (3x3x0.9mm) assembled by UTL (NSEB) 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.

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	198	0/198	Pass	
<u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u>	Electrical Test :+25°C and 85°C System: J750 Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test :+25°C and 85°C System: J750	JESD22- A113	693(0)	693 693 693 0/693	 Pass	Good Devices
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	 231(0)	231 0/231	 Pass	Parts had been pre- conditioned at 260°C
HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. Bias Volt: 5.0 Volts System: HAST 6000X Electrical Test: + 25°C and 85°C System: J750	JESD22- A110	 231(0)	231 0/231	 Pass	Parts had been pre- conditioned at 260°C 77 units / lot
UNBIASED- HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22- A118	 231(0)	231 0/231	 Pass	Parts had been pre- conditioned at 260°C 77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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(0)	45 0/45	Pass	45 units
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	
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 7.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	