



Product Change Notification - KSRA-19MSVX727

Date:

24 Apr 2018

Product Category:

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

Affected CPNs:**Notification subject:**

CCB 3073 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 one of the icons found in the Affected CPNs section above

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:

May 24, 2018 (date code: 1821)

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

Time Table Summary:

	August 2017					-->	April 2018				May 2018				
Workweek	31	32	33	34	35		14	15	16	17	18	19	20	21	22
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 31, 2017: Issued initial notification with PCN No. **KSRA-20OSOQ751**

April 24, 2018: Issued final notification. Attached the Qualification Report. Provided estimated first ship date on May 24, 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-19MSVX727_Qual_Report.pdf

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

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KSRA-19MSVX727 - CCB 3073 Final Notice: Qualification of palladium coated copper with bond in selected products of the 160K wafer technology available in 8L DFN package at NSEB assembly site

Affected Catalog Part Numbers(CPN)
24AA04-I/MC
24AA04T-I/MC
24AA08-I/MC
24AA08T-I/MC
24AA16-I/MC
24AA16T-I/MC
24AA32AT-I/MC
24AA64T-I/MC
24FC64-I/MC
24FC64T-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
25AA010AT-I/MC
25AA020AT-I/MC
25AA040AT-I/MC
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MCP73831T-3ACI/MC
MCP73831T-4ADI/MC
MCP73831T-5ACI/MC
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MCP73832-2ATI/MC
MCP73832-2DCI/MC
MCP73832-3ACI/MC
MCP73832-4ADI/MC
MCP73832-5ACI/MC
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MCP73832T-2ATI/MC
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MCP73832T-4ADI/MC
MCP73832T-5ACI/MC
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PIC12HV752T-I/MF



QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: PCN_KSRA-19MSVX727

Date
March 23, 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**



MICROCHIP

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	ES156772
QUAL ID	Q17216
MP CODE	DEEF14B3XB00
Part No.	MCP98243-BE/MC
Bonding No.	BDM-001499 Rev. A
CCB No.	3073
<u>Package</u>	
Type	8L DFN
Package size	2x3x0.9 mm
Die thickness	8 mils
Die size	57.60 x 59.40 mils
<u>Lead Frame</u>	
Paddle size	75 x 67 mils
Material	C194-FH
Surface	Ag on lead only
Process	Stamp
Lead Lock	No
Part Number	FR1345
Treatment	Brown oxide (BOT)
<u>Material</u>	
Epoxy	8600
Wire	CuPdAu wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB183700892.000	TMPE217427845.100	17494CJ
NSEB183800145.000	TMPE217427845.100	17504D7
NSEB183800146.000	TMPE217427845.100	17504E2

Result

☒

Pass

☐

Fail

☐

8L DFN (2x3x0.9 mm) 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,85°C and 125°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 125°C System: J750	JESD22- A113	693(0)	693 693 693 0/693	 Pass	Good Devices
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 125°C System: J750	JESD22- A104	 231(0)	231 0/231	 Pass	Parts had been pre- conditione d at 260°C
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.0 Volts System: HAST 6000X Electrical Test: + 25°C and 125°C System: J750	JESD22- A110	 231(0)	231 0/231	 Pass	Parts had been pre- conditione d at 260°C 77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X			231		
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		135		45 units / lot
	Electrical Test :+25°C and 125°C System: J750		135(0)	0/135	Pass	
	Stress Condition: Bake 175°C, 1008 hrs System: SHEL LAB			135		
	Electrical Test :+25°C and 125°C System: J750		135(0)	0/135	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: ERS A RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 4.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	