



Product Change Notification - KSRA-01FYVO522

Date:

14 Jun 2018

Product Category:

8-bit PIC Microcontrollers; 16-Bit - Microcontrollers and Digital Signal Controllers; Ethernet Controllers; Touch Controllers; Interface- Infrared Products; USB Bridge; Interface- Serial Peripherals; Wireless Modules; Others; Capacitive Touch Sensors; Battery Management and Fuel Gauges- Battery Management Devices (Powersmart)

Affected CPNs:**Notification subject:**

CCB 3254 and CCB 3254.001 Final Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products available in 20L and 28L SSOP package at MTAI 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 wire in selected products available in 20L and 28L SSOP package at MTAI assembly site.

Pre Change:

Using palladium coated copper wire (PdCu) bond wire

Post Change:

Using palladium coated copper with gold flash (CuPdAu) bond wire.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand HQ (MTAI)	Microchip Technology Thailand HQ (MTAI)
Wire material	PdCu	CuPdAu
Die attach material	3280	3280
Molding compound material	G600	G600
Lead frame material	CDA194	CDA194

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.

Change Implementation Status:



In Progress

Estimated First Ship Date:

July 14, 2018 (date code: 1828)

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

Time Table Summary

Workweek	March 2018					->	June 2018					July 2018				
	09	10	11	12	13		22	23	24	25	26	27	28	29	30	31
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:

March 08, 2018: Issued initial notification.

June 14, 2018: Issued final notification. Attached the qualification report. Updated the Affected CPN list. Provided estimated first ship date to be on July 14, 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-01FYVO522_QUAL_REPORT.pdf](#)

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

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Affected Catalog Part Numbers (CPN)

A010201-I/SS
A010201T-I/SS
AR1010-I/SS
AR1010T-I/SS
AR1011-I/SS
AR1011T-I/SS
AR1020-I/SS
AR1020T-I/SS
AR1021-I/SS
AR1021T-I/SS
AR1100-I/SS
AR1100T-I/SS
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C0001RIC00T-I/SS
C0003RIC03T-I/SS028
C0026RIC01-I/SS029
C0026RIC01T-I/SS029
CFPIC-I/SSC01
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DSPIC33FJ12MC201-E/SS
DSPIC33FJ12MC201-I/SS
DSPIC33FJ12MC201T-E/SS
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HA0130T-I/SS
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HA0140T-I/SS
HA1018-I/SS
HA1027-I/SS
HA1027T-I/SS
HA1030-I/SS
HA1030T-I/SS
HA1031-I/SS
HA1031T-I/SS
HA1127-I/SS
HA1127T-I/SS
HA1138-I/SS
HA1138T-I/SS
HA1218-I/SS
HA1515-I/SS
HA1515T-I/SS
HA1631-I/SO
HA1631T-I/SO
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HA2022-I/SS
HA2022T-I/SS
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HA4768T-I/SS
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HA4854T-I/SS
HA5288-I/SS
HB12-100P0S/12PB30
HC12-100PAS/12PC51
HI12-100PAS/12PI30
HI12-100PIS/12PI30
HI12-100PIS/12PI30TR
HS12-100P0/12PS0F
HS12-100P0/12PS0FTR
HS12-100P0S/12PS25
HS12-100P0S/12PS25TR
HS12-100P0S/12PS30
HS12-100P0S/12PS30TR
HS12-100PAS/12PS30TR
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HT12-100PDS/12PA49
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MCW1001A-I/SS
MCWA01-I/SS800
MCWA01T-I/SS800
MTCH108-I/SS
MTCH108T-I/SS
MTCH6102-I/SS
MTCH6102T-I/SS
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MTR9833T-I/SS
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PIC16C717T-I/SS
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PIC16C72A-20I/SS
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PIC16C72AT-20I/SS
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PIC16C73B-04I/SS
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PIC16F1847-E/SS
PIC16F1847-I/SS
PIC16F1847T-E/SS
PIC16F1847T-I/SS
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PIC16F1933-I/SS
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PIC18F23K22-E/SS
PIC18F23K22-I/SS
PIC18F23K22T-E/SS
PIC18F23K22T-I/SS
PIC18F24J10-I/SS
PIC18F24J10T-I/SS
PIC18F24J11-I/SS
PIC18F24J11T-I/SS
PIC18F24J50-I/SS
PIC18F24J50T-I/SS
PIC18F24K20-E/SS
PIC18F24K20-I/SS
PIC18F24K20-I/SSC03
PIC18F24K20T-E/SS
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PIC18F25J11-I/SS
PIC18F25J11T-I/SS
PIC18F25J50-I/SS
PIC18F25J50-I/SS022
PIC18F25J50-I/SS024
PIC18F25J50-I/SS027
PIC18F25J50-I/SS028
PIC18F25J50-I/SS029
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PIC24FV32KA302T-I/SS

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PIC24HJ32GP202-I/SS
PS501T-I/SSC01
PS501T-I/SSC05
SW1100T-I/SS



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: KSRA-01FYVO522

Date
May 23, 2018

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products available in 28L SSOP package at MTAI assembly site. The 20L SSOP package will qualify by similarity(QBS).



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products available in 28L SSOP package at MTAI assembly site. The 20L SSOP package will qualify by similarity(QBS).

CN ES163549-23950
QUAL ID Q18034
MP CODE A7AS27N2XC40
Part No. PIC16C773-I/SS
Bonding No. BDM-001634 Rev. B
CCB NO: 3254, 3254.001

Package

Type 28L SSOP
Package size 209 mils
Die thickness 15 mils
Die size 172.50 x 134.50 mils

Lead Frame

Paddle size 153 x 200 mils
Material CDA194
Surface Bare Cu on Paddle
Process Stamped
Lead Lock No
Part Number 10102834
Treatment Roughened

Material

Epoxy 3280
Wire CuPdAu
Mold Compound G600
Plating Composition Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI184403941.000	TMPE218248096.000	1804T7W
MTAI184403942.000	TMPE218248096.D10	1804T7Y
MTAI184403943.000	TMPE218248096.D00	1804T80

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.

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	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	Electrical Test :+25°C and 85°C System: J750	JESD22-A113	693(0)	693	Pass	Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			693		
	Electrical Test :+25°C and 85°C System: J750			0/693		

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22- A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 85°C System: J750		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C System: J750		231(0)	0/231	Pass	
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.7 Volts System: HAST 6000X	JESD22- A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 25°C and 85°C System: J750		231(0)	0/231	Pass	

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	JESD22-A103		45		45 units
	Electrical Test :+25°C and 85°C System: J750		45(0)	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	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	