

Product Change Notification - JAON-20DZPV439

Date: 18 Oct 2016

Product Category: Memory; 8-bit Microcontrollers

Notification subject: CCB 2598 Final Notice:Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIJ package at MTAI site

Notification text: **PCN Status:**
Final 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 in selected products of the 150K and 160K wafer technologies available in 8L SOIJ package at MTAI assembly site.

Pre Change:

Using Gold (Au) or Palladium coated copper (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	MTAI assembly site	MTAI assembly site
Wire material	Au or PdCu wire	CuPdAu wire
Die attach material	8390A	8390A
Molding compound material	G600	G600
Lead frame material	CDA194	CDA194

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve manufacturability and qualify Palladium coated copper with gold flash (CuPdAu) bond wire.

Change Implementation Status:

In Progress

Estimated First Ship Date:

November 25, 2016 (date code: 1647)

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

Time Table Summary:

	June 2016	->	October 2016	November 2016
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Workweek	22	23	24	25	26		40	41	42	43	44	45	46	47
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:

June 13, 2016: Issued initial notification.

October 18, 2016: Issued final notification. Attached the qualification report. Provided estimated first ship date November 25, 2016.

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_JAON-20DZPV439_Qual Report.pdf](#)

[PCN_JAON-20DZPV439_Affected_CPN.pdf](#)

[PCN_JAON-20DZPV439_Affected_CPN.xls](#)

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

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Affected Catalog Part Numbers (CPN)

PCN_JAON-20DZPV439
CATALOG_PART_NBR
24AA128-I/SM
24AA128T-I/SM
24AA256/SM
24AA256-E/SM
24AA256-I/SM
24AA256T/SM
24AA256T-E/SM
24AA256T-I/SM
24AA32A/SM
24AA32A-I/SM
24AA32AT/SM
24AA32AT-I/SM
24AA512-I/SM
24AA512-I/SMRVE
24AA512T-I/SM
24AA512T-I/SMRVE
24AA64-E/SM
24AA64-I/SM
24AA64T-E/SM
24AA64T-I/SM
24FC128-I/SM
24FC128T-I/SM
24FC256-I/SM
24FC256T-I/SM
24FC512-I/SM
24FC512T-I/SM
24FC512T-I/SMRVE
24FC64-I/SM
24FC64T-I/SM
24LC128-E/SM
24LC128-I/SM
24LC128-I/SMRVF
24LC128T-E/SM
24LC128T-I/SM
24LC128T-I/SMG
24LC256-E/SM
24LC256-I/SM
24LC256-I/SMRVE
24LC256-I/SMRVF
24LC256T-E/SM
24LC256T-E/SMRVF
24LC256T-I/SM
24LC256T-I/SMG

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Affected Catalog Part Numbers (CPN)

PCN_JAON-20DZPV439
CATALOG_PART_NBR
24LC256T-I/SMRVE
24LC256T-I/SMRVF
24LC32A/SM
24LC32A-E/SM
24LC32A-I/SM
24LC32AT/SM
24LC32AT-E/SM
24LC32AT-I/SM
24LC512-E/SM
24LC512-I/SM
24LC512-I/SMA21
24LC512-I/SMG
24LC512-I/SMRVE
24LC512T-E/SM
24LC512T-I/SM
24LC512T-I/SMRVE
24LC64-E/SM
24LC64-I/SM
24LC64-I/SMRVE
24LC64T-E/SM
24LC64T-I/SM
24LC64T-I/SMRVE
25AA1024-I/SM
25AA1024-I/SMB21
25AA1024T-I/SM
25AA1024T-I/SMB21
25AA128-I/SM
25AA128T-I/SM
25AA256-E/SM
25AA256-I/SM
25AA256T-E/SM
25AA256T-I/SM
25AA512-I/SM
25AA512T-I/SM
25LC1024-E/SM
25LC1024-I/SM
25LC1024-I/SMA21
25LC1024-I/SMA23
25LC1024T-E/SM
25LC1024T-I/SM
25LC1024T-I/SMA23
25LC128-E/SM
25LC128-I/SM

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Affected Catalog Part Numbers (CPN)

PCN_JAON-20DZPV439
CATALOG_PART_NBR
25LC128T-E/SM
25LC128T-I/SM
25LC256-E/SM
25LC256-I/SM
25LC256T-E/SM
25LC256T-I/SM
25LC512-E/SM
25LC512-I/SM
25LC512T-E/SM
25LC512T-I/SM
PIC12F509-E/SM
PIC12F509-I/SM
PIC12F509T-E/SM
PIC12F509T-I/SM
PIC12F509T-I/SM034
PIC12F509T-I/SM035
PIC12F509T-I/SM036
PIC12F509T-I/SM037
PIC12F509T-I/SM038



QUALIFICATION REPORT
RELIABILITY LABORATORY

PCN #: JAON-20DZPV439

Date
September 27, 2016

**Qualification of palladium coated copper with gold flash
(CuPdAu) bond wire in selected products of the 150K and
160K wafer technologies available in 8L SOIJ package at
MTAI assembly site.**

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MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products of the 150K and 160K wafer technologies available in 8L SOIJ package at MTAI assembly site.
CN	BC161272
QUAL ID	Q16145
MP CODE	DEBD24C3XVB1
Part No.	PIC12F509-E/SMVAO
Bonding No.	BDM-001037 Rev. A
CCB No.	2598

Package

Type	8L SOIJ
Package size	208 mils
Die thickness	15 mils
Die size	41.50 x 48.0 mils

Lead Frame

Paddle size	140 x 160 mils
Material	CDA194
Surface	Bare Cu on DAP
Process	Stamp
Lead Lock	No
Part Number	10100840
Treatment	Brown Oxide Treatment

Die attach material

Epoxy	8390A
Wire	CuPdAu wire
Mold Compound	G600V
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI171901553.000	TMPE217046513.100	1631Y5V
MTAI171901906.000	TMPE217046513.100	1631YV0
MTAI171901907.000	TMPE217046513.100	1631YV1

Result

☒ Pass ☐ Fail ☐ _____

8L SOIJ (.208") 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.

Prepared By: Thinnapol Date: September 27, 2016 (Sr. Reliability Engineer)

(Mr. Thinnapol Nakkasun)

Approved By: Somnuek Date: September 27, 2016 (Reliability Manager)

(Mr. Somnuek Thongprasert)

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	

<u>Precondition Prior Perform Reliability Tests (At MSL Level 1)</u>	Electrical Test :+25°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)	693 693 693 693 0/693	 Pass	Good Devices
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PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: (Standard) 65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 125°C System: J750 Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	JESD22-A104		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	
			15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
			231(0)	0/231	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	Stress Condition: (Standard) +130°C/85%RH,96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	JESD22- A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C and 125°C System: J750		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22- A103		45		45 units
	Electrical Test :+25°C and 125°C System: J750		45(0)	0/45	Pass	
Bond Strength	Wire Pull (>2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
Data Assembly	Bond Shear (>15.00 grams)	JESD22- B116	30 (0) bonds	0/30	Pass	