Product Change Notification - KSRA-25CZMD564

Date: 27 Oct 2017

Product Category:

Notification subject: CCB 3135 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products for 250K wafer technology available in 40L UQFN package at NSEB assembly site

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 in selected products for 250K wafer technology available in 40L UQFN package at NSEB assembly site

Pre Change:

Using gold (Au) bond wire material.

Post Change:

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

Pre and Post Change Summary:

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

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve manufacturability and qualify CuPdAu bond wire at NSEB assembly site.

Change Implementation Status:
In Progress

Estimated Qualification Completion Date:

March 2018

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. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	October 2017					-->	March 2018				
Workweek	40	41	42	43	44		09	10	11	12	13
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:
October 27, 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-25CZMD564_Affected CPN.pdf
PCN_KSRA-25CZMD564_Qual Plan.pdf
PCN_KSRA-25CZMD564_Affected CPN.xlsx

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

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KSRA-25CZMD564 - CCB 3135 Initial Notice: Qualification of CuPdAu bond wire in selected products for 250K wafer technology available in 40L UQFN package at NSEB assembly site.

Affected Catalog Part Numbers (CPN)

PCN_KSRA-25CZMD564
CATALOG_PART_NBR
PIC16F18875-E/MV
PIC16F18875-I/MV
PIC16F18875T-I/MV
PIC16F18876-E/MV
PIC16F18876-I/MV
PIC16F18876T-I/MV
PIC16F18877-E/MV
PIC16F18877-I/MV
PIC16F18877T-I/MV
PIC16LF18875-E/MV
PIC16LF18875-I/MV
PIC16LF18875T-I/MV
PIC16LF18876-E/MV
PIC16LF18876-I/MV
PIC16LF18876T-I/MV
PIC16LF18877-E/MV
PIC16LF18877-I/MV
PIC16LF18877T-I/MV

QUALIFICATION PLAN SUMMARY

PCN #: KSRA-25CZMD564

Date
October 04, 2017

Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products for 250K wafer technology available in 40L UQFN package at NSEB assembly site

Purpose: **Qualification of palladium coated copper with gold flash (CuPdAu) bond wire in selected products for 250K wafer technology available in 40L UQFN package at NSEB assembly site**
CCB No.: **3135**

Package/Die Data:

Misc.	**Assembly site**	UTL
	BD Number	BDM-001556
	MP Code (MPC)	MFAP14S5XFX7
	Part Number (CPN)	PIC16F18877-E/MV
Lead-Frame	**Paddle size**	3.9x3.9 mm.
	Material	EFTECH-64T
	Surface treatment roughened/brown oxide(BOT)/micro-etched/none	Micro etched
	Process (stamped/etched)	etched
	Lead-lock (y/n)	Yes
	Leadframe inner plating (spot/ring/double ring)	Ag plating on lead only
	Leadframe thickness	5 mil
	Leadframe downset	No
	Strip dimensions	70x250 mm.
	Strip size (row x columns)	8x11x5 (rowXcolumnXpanel)
	Shipped strip / singulated	Yes
	Part Number	FU0169
Bond Wire	**Material**	CuPdAu
Die Attach	**Part Number**	8600
	Conductive	Yes
MC	**Part Number**	G700LTD
Lead finish	**Plating**	Matte tin
PKG	**PKG Type**	UQFN
	Pin/Ball Count	40
	PKG width/size	5x5x0.5
	PKG code	S5X
Die	**Die Thickness**	5
	Die Size	106.0x108.3
	Fab Process (site)	250K

Test Name	Conditions	Reliability Stress Read Point	Pre & Post Reliability Stress Test Temperature	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Test Site	Special Instructions
		-40°C to +125°C datasheet operating range (E Temp)	-40°C to +125°C datasheet operating range (E Temp)								
Wire Bond Pull - WBP	Mil. Std. 883-2011			5	0	1	5	0 fails after TC	5		Wire pull / ball shear is performed after stress testing and decapsulation.
Wire Bond Pull - WBP	CDF-AEC-Q100-001			5	0	1	5		5		Wire pull / ball shear is performed after stress testing and decapsulation.
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5		5		Wire pull / ball shear is performed after stress testing and decapsulation.
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)	JESD22A-103. +175°C, **2x Stress** Electrical test pre and post stress at +25°C and hot temp.	500hrs 1000hrs	+25°C, +125°C	45	5	3	150	0	10		Spares should be properly identified.
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. **MSL1** @+260°C		+25°C +125ºC	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 96hrs + 192hrs. Electrical test pre and post stress at +25°C and hot temp.	96 hrs/192hrs	+25°C, +125°C	77	5	3	246	0	10		Perform per the requirements in AEC-Q006. Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	+130°C/85% RH for 96 /192hrs	130°C/85% RH for 96 /192hrs	+25°C	77	5	3	246	0	10		Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	PreCon before TC Grade 0: -55°C to +150°C for 1500 cycles (1x stress); 3000 cycles (2x stress).	Test cond C. 500cycle -1X, 1000cycles-2X	+125°C	77	5	3	246	0	15		Perform per the requirements in AEC-Q006. Spares should be properly identified. Use the parts which have gone through Pre-conditioning.