

Product Change Notification - JAON-15PAQT740

Date: 31 Oct 2014

Product Category: RF and Security; Analog (Linear & Mixed Signal) AND Interface; Touch Sensing Technologies; SMSC; 8-bit Microcontrollers

Notification subject: CCB 1155.38 Initial Notice: Qualification of palladium coated copper (PdCu) bond wire in selected products of the 120K, 121K, 150K, 160K and 200K wafer technologies in 14L SOIC package at MTAI site.

Notification text:

PCN Status:

Initial notification

Microchip Parts Affected:

See attachments of affected catalog part numbers (CPN) labeled as...

PCN_JAON-15PAQT740_Affected_CPN.xls

PCN_JAON-15PAQT740_Affected_CPN.pdf

Description of Change:

Qualification of palladium coated copper (PdCu) bond wire in selected products of the 120K, 121K, 150K, 160K and 200K wafer technologies available in 14L SOIC package at MTAI assembly site.

NOTE: Selected products are non-automotive devices. Please review the affected CPN lists (attached) to identify the actual parts affected.

Impacts to Data Sheet:

None

Reason for Change:

To improve manufacturability and qualify PdCu bond wire at MTAI assembly site.

Change Implementation Status:

In Progress

Estimated First Ship Date:

December 19, 2014 (date code: 1451)

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

Markings to Distinguish Revised from Unrevised Devices:

Traceability code

Revision History:

October 31, 2014: 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_JAON-15PAQT740_Qual Plan.pdf](#) [PCN_JAON-15PAQT740_Affected CPN.pdf](#) [PCN_JAON-15PAQT740_Affected CPN.xls](#)

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PCN_JAON-15PAQT740
CATALOG_PART_NBR
HA1086-I/SL
HA1086T-I/SL
HA1504-I/SL
HA1504T-I/SL
HA2038-I/SL
HA2089-I/SL
HA2089T-I/SL
HA2089T-I/SL040
HA2089T-I/SL043
HA2089T-I/SL054
HA2089T-I/SL057
HA2089T-I/SL077
HA2089T-I/SL086
HA2089T-I/SL097
HA2089T-I/SL100
HA2089T-I/SL103
HA2089T-I/SL104
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HCS370T-I/SL
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MCP2030AT-I/SL
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MCP2036-I/SL
MCP2036T-I/SL
MCP2120-I/SL
MCP2120T-I/SL
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MICROCHIP

QUALIFICATION PLAN

PCN #: JAON-15PAQT740

Date
Oct 9, 2014

Qualification of palladium coated copper (PdCu) bond wire in selected products of the 120K, 121K, 150K, 160K and 200K wafer technologies available in 14L SOIC package at MTAI assembly site

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Purpose: _____ Qualification of palladium coated copper (PdCu) bond wire in selected products of the 120K, 121K, 150K, 160K and 200K wafer technologies available in 14L SOIC package at MTAI assembly site

CCB No.: _____ 1155.38

Lot#1	Mask	Product part number	Wafer technology	Die size (mils)	Pad size (mils)	BD#
1	ABBP1	MCP604/MCP6L4	120/121K	65.8x41.1	95x155	BDM-000643/A
2	DE012	PIC16F684	150/160K	89.4x77.5	95x155	BDM-000641/A
3	LEBD1	PIC16F1823	200K	92.0x61.0	95x155	BDM-000642/A

Package:

Type _____ 14L SOIC
Width or Size _____ 150 mils
Die thickness: _____ 15 mils
Die size: _____ see above table

Lead frame:

Paddle size: _____ 95 x 155
Material _____ A194
Surface _____ Bare copper on paddle
Process _____ Stamp
Lead Lock _____ No
Treatment _____ Brown Oxide Treatment

Wire:

Material _____ PdCu

Die Attach Epoxy:

Part Number _____ 3280
Conductive _____ Yes

Mold Compound: _____ G600V

Lead finish _____ Matte tin

Reliability Test plan: _____ See attached, STD Package Reliability Test plan on each package.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0 fails after TC	5	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	30 bonds from a minimum of 5 devices.
HTSL (High Temp Storage Life)	+175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25C and hot temp.	45	5	1	50	0	10	Must be in progress at time of package release to production, but completion is not required for release to production.
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; Electrical test pre and post stress at +25°C. Perform SAM analysis using the standard sample size. MSL-1 @ 260°C	231	15	4	984	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 96 hours. Electrical test pre and post stress at +25°C and hot temp. Extend to 192 hrs. 1 lot tested at 85 and 125C	77	5	4	328	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Unbiased HAST	+130°C/85% RH for 96 hrs Extend to 192 hrs.	77	5	4	328	0	10	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. Extend to 1000 cycles 1 lot tested at 85 and 125C	77	5	4	328	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.