Product Change Notification - LIAL-25ZCPA706

Date: 01 Mar 2018

Product Category: 8-bit PIC Microcontrollers

Notification subject: CCB 3257 Initial Notice: Qualification of MTAI as an additional assembly site for selected Atmel products available in 8L SOIJ package.

Notification text:

PCN Status:
Initial notification.

PCN Type:
Manufacturing Change

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 MTAI as an additional assembly site for selected Atmel products available in 8L SOIJ package.

Pre Change:
Assembled in LPI using palladium coated copper wire with gold flash (CuPdAu) bond wire, CRM-1033BF die attach material

Post Change:
Assembled in MTAI using gold (Au) bond wire and 8390A die attach material

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	Lingsen Precision Industires, LTD. (LPI)	Lingsen Precision Industires, LTD. (LPI)	Microchip Technology Thailand HQ (MTAI)
Wire material	CuPdAu	Au	
Die attach material	CRM-1033BF	8390A	
Molding compound material	G600	G600	
Lead frame material	C194	C194	

Impacts to Data Sheet:
None

Change Impact:
None

Reason for Change:
To improve on-time delivery performance by qualifying MTAI as additional assembly site.

Change Implementation Status:
In Progress

Estimated Qualification Completion Date:
April 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:

	February 2018					...	April 2018			
Workweek	06	07	08	09	10		14	15	16	17
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:
March 1, 2018: 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_LIAL-25ZCPA706_QUAL PLAN SUMMARY.pdf
PCN_LIAL-25ZCPA706 Affected CPN.pdf
PCN_LIAL-25ZCPA706 Affected CPN.xlsx

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

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QUALIFICATION PLAN SUMMARY

PCN#: KSRA-29KJUY118

Date:
December 11, 2017

Qualification of MTAI as an additional assembly site for selected Atmel Products available in 32L VQFN package using palladium coated copper wire with gold flash (CuPdAu) bond wire

Purpose: Qualification of MTAI as an additional assembly site for selected Atmel Products available in 32L VQFN package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

CCB No.: 3211

MP code: 35473QRXBQUL

Part No.: ATMEGA328P-MNR

BD No: BDM-001615

Package:

Type	**32L VQFN**
Width or Size	**5*5*0.9 mm**
Die thickness	**11 mils**
Die size	**115.4 * 114.2 mils**

Leadframe:

Material	**C194/ASM**
Plating	**Bare Cu on paddle**
Part Number	**10103202**
Surface treatment	**Brown oxide Treatment**
Paddle size	**150*150 mils**
Process	**Etched**

Solder Plating:

Material	**Pure matte tin**

Wire:

Wire Material	**CuPdAu**

Die Attach:

Part Number	**3280**
Conductive	**YES**

Mold Compound:

Type/Supplier	**G700LTD**

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 min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5		5	30 bonds from a min. 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. MSL-1 @ 260°C	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 96 hours or 110°C/85%RH for 264 hours. Electrical test pre and post stress at +25°C and hot temp.	77	5	3	246	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 or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at +25°C	77	5	3	246	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.	77	5	3	246	0	15	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

LIAL-25ZCPA706 CCB 3257 Qualification of MTAI as an additional assembly site for selected Atmel products available in 8L SOIJ package

Catalog Part Numbers (CPN)

PCN_LIAL-25ZCPA706
CATALOG_PART_NBR
ATTINY13-20SQ
ATTINY13-20SQR
ATTINY13-20SU
ATTINY13-20SU188
ATTINY13-20SU365
ATTINY13-20SUR
ATTINY13-20SUR365
ATTINY13A-SF
ATTINY13A-SFR
ATTINY13A-SFRA5
ATTINY13A-SN
ATTINY13A-SNR
ATTINY13A-SU
ATTINY13A-SU523
ATTINY13A-SUR
ATTINY13A-SURA2
ATTINY13A-SURA4
ATTINY13V-10SU
ATTINY13V-10SUR
ATTINY25-15ST
ATTINY25-15ST1
ATTINY25-15SZ
ATTINY25-20SN
ATTINY25-20SNR
ATTINY25-20SU
ATTINY25-20SUR
ATTINY25EDP-15ST1
ATTINY25GBE-15ST1
ATTINY25V-10SN
ATTINY25V-10SNR
ATTINY25V-10SU
ATTINY25V-10SUR
ATTINY25V-15ST
ATTINY45-15ST
ATTINY45-15ST1
ATTINY45-15SZ
ATTINY45-20SU
ATTINY45-20SUR
ATTINY45V-10SU
ATTINY45V-10SUR
ATTINY45V-15ST
ATTINY45VMAH-15ST

LIAL-25ZCPA706 CCB 3257 Qualification of MTAI as an additional assembly site for selected Atmel products available in 8L SOIJ package

Catalog Part Numbers (CPN)

PCN_LIAL-25ZCPA706
CATALOG_PART_NBR
ATTINY85-20SF
ATTINY85-20SFR
ATTINY85-20SU
ATTINY85-20SUR
ATTINY85V-10SU
ATTINY85V-10SUR

Purpose: **Qualification of MTAI as an additional assembly site for selected Atmel products available in 8L SOIJ package.**

CCB No.: **3257**

Misc.	**Assembly site**	MTAI
	BD Number	BDM-001676 rev. A
	MP Code (MPC)	355C4YC3XC01
	Part Number (CPN)	ATTiny45-15SZ
Lead-Frame	**Paddle size**	140x160 mils
	Material	CDA194
	Surface	Bare Cu paddle
	Treatment	Roughening
	Process	Stamped
	Lead-lock	No
	Part Number	10100840
	Lead Plating	Matte Tin
Bond Wire	**Material**	Au
Die Attach	**Part Number**	8390A
	Conductive	Yes
MC	**Part Number**	G600V
PKG	**PKG Type**	SOIJ
	Pin/Ball Count	8
	PKG width/size	208 mils
Die	**Die Thickness**	15 mils
	Die Size	90.0 x 88.0 mils

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	Test Site	Special Instructions
Standard Pb-free Solderability	JESD22B-102E; Perform 8 hours of steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	>95% lead coverage	5	MTAI	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Wire Bond Pull - WBP	CDF-AEC-Q100-001	5	0	1	5	0	5		
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5		
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)	+175°C (500hrs) Electrical test pre and post stress at +25°C and hot temp at +85°C, +125°C.	45	5	3	150	0	10	MPH LI	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-020E for package type. Electrical test pre and post stress at 25°C and hot temp +85°C, 125°C MSL1 @+260°C	231	15	3	738	0	15		Spares should be properly identified.
HAST	+130°C/85% RH for 96hrs. Electrical test pre and post stress at +25°C and hot temp at +85 °C,125°C	77	5	3	246	0	10		Spares should be properly identified
UHAST	+130°C/85% RH for 96hrs. Electrical test pre and post stress at 25°C	77	5	3	246	0	10		Spares should be properly identified.