



Product Change Notification - LIAL-25ZCPA706

Date:

12 Feb 2019

Product Category:

8-bit Microcontrollers

Affected CPNs:**Notification subject:**

CCB 3257 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel ATTINYXX non-automotive products in 35.4k and 35.5K wafer technology available in 8L SOIJ package.

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

Pre Change:

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

Post Change:

Assembled at LPI using palladium coated copper wire with gold flash (CuPdAu) bond wire, CRM-1033BF die attach material or assembled at MTAI using gold (Au) bond wire and 8390A die attach material

Pre and Post Change Summary:

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

March 12, 2019 (date code: 1911)

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

Time Table Summary:

Workweek	February 2018					->	February 2019					March 2019			
	05	06	07	08	09		05	06	07	08	09	10	11	12	13
Initial PCN Issue Date					X										
Qual Report								X							
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 1, 2018: Issued initial notification.

March 21, 2018: Re-issued initial notification to update the post change and affected CPN list and to revise this initial notification to be issued to all affected customers.

February 12, 2019: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on March 12, 2019.

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_REPORT.pdf](#)

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



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If you wish to change your PCN profile, including opt out, please go to the [PCN home page](#) select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections.



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**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN#: LIAL-25ZCPA706

Date

September 19,2018

**Qualification of MTAI as an additional assembly site for selected
Atmel ATTINYXX non-automotive products in 35.4k and 35.5K wafer
technology available in 8L SOIJ package.**



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Package Qualification Report

Purpose: Qualification of MTAI as an additional assembly site for selected Atmel ATTINYXX non-automotive products in 35.4k and 35.5K wafer technology available in 8L SOIJ package.

CCB No.: 3257

Quad ID: QTP3390

Revision: A

<u>Miscellaneous</u>	Assembly site	MTAI
	BD Number	BDM-001676 rev. A
	MP Code (MPC)	355C4YC3XC01
	Part Number (CPN)	ATTiny45-15SZ
<u>Lead-Frame</u>	Paddle size	140x160 mils
	Material	CDA194
	Surface	Bare Cu paddle
	Treatment	Roughening
	Process	Stamped
	Lead-lock	No
	Part Number	10100840
	Lead Plating	Matte Tin
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	8390A
	Conductive	Yes
<u>Mold Compound</u>	Part Number	G600
<u>PKG</u>	PKG Type	SOIJ
	Pin/Ball Count	8
	PKG width/size	208 mils
<u>Die</u>	Die Thickness	15 mils
	Die Size	90.0 x 88.0 mils
MSL		MSL1/260



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Package Qualification Report

Manufacturing Information

Assembly Lot No.	Wafer lot No.	Date Code
MTAI184804030.000	MCSO518466665.110	1808A68
MTAI184802538.000	MCSO518466665.110	180827Y
MTAI184804035.000	MCSO518466665.110	1808BC6

Result:

Pass

Fail

Atmel 355C4 using 0.9 mil Au wire for 8L SOIJ at MTAI is qualified at Moisture/ Reflow Sensitivity Classification Level 1 per IPC/JEDEC J-STD-020E standard. Red Spot observed on 1 unit at die attach paddle and inner lead but unit is electrically Passing.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C, +130°C	JESD22-A113	810(0)	0/810	Passed	Good Devices
	Bake 150°C, 24 hrs System: HERAEUS		810			
	85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE	IPC/JEDEC J-STD-020D	810			
	3x Convection-Reflow 260°C max System: Mancorp CR.5000F		810			
	Electrical Test: +25°C, +130°C			0/810		
Temp Cycle	Stress Condition: (Standard) 65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	252		Passed	Parts had been preconditioned at 260°C
	Electrical Test: +25°C, + 130°C		252(0)	0/252		
	Bond Strength: Wire Pull (> 6.00 grams) Bond Shear (>22.00 grams)		15(0)	0/15	Passed	
UNBIASED-HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	255		Passed	Parts had been preconditioned at 260°C
	Electrical Test: +25°C, + 130°C		255(0)	0/255		
HAST	Stress Condition: (Standard) +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	255		Passed	Parts had been preconditioned at 260°C
	Electrical Test: +25°C, + 130°C		255(0)	0/255		
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: HERAEUS	JESD22-A103	60		Passed	60 units
	Electrical Test : +25°C ,+130°C		60(0)	0/60		

Solderability Temp 245°C	Bake: Temp 155°C,4Hrs System:Oven Solder Bath: Temp.245°C Solder material: SnPb Visual Inspection: External Visual Inspection	J-STD-002	15 (0)	0/15	Passed	Performed at MPHIL
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22- B100/B108	32(0) Units	0/32	Passed	
Bond Strength Data Assembly	Wire Pull (> 6.00 grams)	M2011.8 MIL-STD-883	30(0) Wires	4.94	Passed	
Bond Strength Data Assembly	Bond Shear (>22.00 grams)	M2011.8 MIL-STD-883	30(0) bonds	2.04	Passed	

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Affected Catalog Part Numbers(CPN)

- 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
- ATTINY25-20SN
- ATTINY25-20SNR
- ATTINY25-20SU
- ATTINY25-20SUR
- ATTINY25V-10SN
- ATTINY25V-10SNR
- ATTINY25V-10SU
- ATTINY25V-10SUR
- ATTINY45-20SU
- ATTINY45-20SUR
- ATTINY45V-10SU
- ATTINY45V-10SUR
- ATTINY85-20SF
- ATTINY85-20SFR
- ATTINY85-20SU
- ATTINY85-20SUR
- ATTINY85V-10SU
- ATTINY85V-10SUR