Product Change Notification - KSRA-13AJHF404

Date: 18 May 2017

Product Category: Capacitive Touch Sensors; 8-bit PIC Microcontrollers

Notification subject: CCB 2831 Final Notice: Qualification of MMT as an additional assembly site and implement marking changes for selected Atmel products available in 14L SOIC package.

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 MMT as an additional assembly site and implement marking changes for selected Atmel products available in 14L SOIC package.

Pre Change:
Assembled at LPI assembly site with bottom side marking

Post Change:
Assembled at LPI assembly site or MMT assembly site with no bottom side marking.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	LPI assembly site	LPI assembly site	MMT assembly site
Wire material	Au or CuPdAu wire	Au or CuPdAu wire	CuPdAu wire
Die attach material	CRM-1033BF	CRM-1033BF	8390A
Molding compound material	G600	G600	G600
Lead frame material	A194	A194	A194
Marking Format	<u>Topside</u> 1st Line: ATMEL, Date Code, MRL 2nd Line: MARK DEVICE 3rd Line: speed, Pkg, Class, Voltage <u>Bottom side</u> 1st Line: Lot No. 2nd Line: Mask ID, Die rev 3rd line: nGGG-aYYWW<BS1>eX n: Fab location code GGG: Country of assembly a: Assembly location code eX: e-code	<u>Topside</u> 1st Line: Device Type 2nd Line: Device Information 3rd Line: Triangle & YYWWNNN <u>Bottom side</u> **: None**	<u>Topside</u> 1st Line: Device Type 2nd Line: Device Information 3rd Line: Triangle & YYWWNNN <u>Bottom side</u> **: None**

Top Mark	*(see attachment for picture)*	*(see attachment for picture)*	*(see attachment for picture)*
Bottom Mark	With bottom side Marking *(see attachment for picture)*	No bottom side marking *(see attachment for picture)*	No bottom side marking *(see attachment for picture)*

Impacts to Data Sheet:
None

Change Impact:
None.

Reason for Change:
To improve productivity by qualifying MMT as an additional assembly site as part of integration between Atmel and Microchip.

Change Implementation Status:
In Progress

Estimated First Ship Date:
June 18, 2017 (datecode 1725)

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

Time Table Summary:

	January 2017					**-->**	**May 2017**					**June 2017**			
Workweek	01	02	03	04	05		18	19	20	21	22	23	24	25	26
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:
January 26, 2016: Issued initial notification.
March 07, 2017: Re-issued initial notification to include marking changes and change EFSD to Estimated Qualification Completion Date. Added marking changes to improve traceability.
May 18, 2017: Issued final notification. Attached the Qualification Report. Revised the affected parts list. Provided estimated first ship date on June 18, 2017

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-13AJHF404_Affected CPN.pdf

PCN_KSRA-13AJHF404_Attachment.pdf
PCN_KSRA-13AJHF404_Qual Report.pdf
PCN_KSRA-13AJHF404_Affected CPN.xlsx

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

Terms and Conditions:

If you wish to change your product/process change notification (PCN) profile please log on to our website at

To opt out of future offer or information emails (other than product change notification emails), click here to go to microchipDIRECT and login, then click on the "My account" link, click on "Update profile" and un-check the box that states "Future offers or information about Microchip's products or services."

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-13AJHF404
CATALOG_PART_NBR
AT42QT1070-SSUR
AT42QT1070-SSUR852
ATTINY20-SSU
ATTINY20-SSUR
ATTINY20-SSUR704
ATTINY20-SSUR892
ATTINY20-SSUR988
ATTINY20-SSURA01
ATTINY20-SSURA87
ATTINY20-SSURB47
ATTINY24-20SSU
ATTINY24-20SSUR
ATTINY24A-SSF
ATTINY24A-SSFR
ATTINY24A-SSN
ATTINY24A-SSNR
ATTINY24A-SSU
ATTINY24A-SSUB65
ATTINY24A-SSUR
ATTINY24A-SSUR880
ATTINY24A-SSURA0
ATTINY24A-SSURB65
ATTINY24V-10SSU
ATTINY24V-10SSUR
ATTINY44-15SSZ
ATTINY441-SSU
ATTINY441-SSUR
ATTINY44-20SSU
ATTINY44-20SSUR
ATTINY44-20SSURA0
ATTINY44A-SSF
ATTINY44A-SSFR
ATTINY44A-SSFRA1
ATTINY44A-SSFRP01
ATTINY44A-SSN
ATTINY44A-SSNR
ATTINY44A-SSU
ATTINY44A-SSUR
ATTINY44A-SSUR569
ATTINY44A-SSUR625
ATTINY44A-SSURA0
ATTINY44A-SSURB09
ATTINY44V-10SSU

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Affected Catalog Part Numbers (CPN)

PCN_KSRA-13AJHF404
CATALOG_PART_NBR
ATTINY44V-10SSUR
ATTINY44V-10SSURA2
ATTINY44V-15SST
ATTINY841-SSU
ATTINY841-SSUR
ATTINY84-20SSU
ATTINY84-20SSUR
ATTINY84A-SSF
ATTINY84A-SSFA1
ATTINY84A-SSFR
ATTINY84A-SSFRA0
ATTINY84A-SSFRA1
ATTINY84A-SSFRP01
ATTINY84A-SSU
ATTINY84A-SSU710
ATTINY84A-SSUR
ATTINY84V-10SSU
ATTINY84V-10SSUR

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: KSRA-13AJHF404

Date
May 5, 2017

Qualification of MMT as an additional assembly site and implement marking changes for selected Atmel products available in 14L SOIC package.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as an additional assembly site and implement marking changes for selected Atmel products available in 14L SOIC package.
CN	ES090904-18972
QUAL ID	QTP2900
MP CODE	355B27D3XC03
Part No.	ATTINY84-20SSU
Bonding No.	BDM-001250 rev B
CCB No.	2831

Package

Type	14L SOIC
Package size	150 mils
Die thickness	15 mils
Die size	97.20x96.40 mils

Lead Frame

Paddle size	104x150 mils
Material	A194
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10101413
Treatment	BOT

Material

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

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-174600763.000	MCSO517450071.000	1706KKA
MMT-174600764.000	MCSO517450071.000	1706KKB
MMT-174600765.000	MCSO517450071.000	1706KKC

Result [X] Pass [ ] Fail [ ] ____________________

14L SOIC (.150”) assembled by MMT (ALPH) pass reliability test per QCI-39000 which was conducted at MPHL rel lab. This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020D standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test :**+85°C System: MT9320 Handler:0202	JESD22-A113	846(0)	846		Good Devices
	0hr CSAM			22		
	Bake 150°C, 24 hrs System: HERAEUS			846		
	85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE	IPC/JEDEC J-STD-020D		846		
	3x Convection-Reflow 265°C max System: Mancorp CR.5000F			846		
	Electrical Test :+85°C System: MT9320 Handler:0202			0/846	Pass	
Temp Cycle	**Stress Condition:** (Standard) 65°C to +150°C, 500 Cycles System : VOTSCH VT 7012 S2	JESD22-A104		240		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C System: MT9320 Handler:0202		248(0)	0/248	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +85°C System: MT9320 Handler: 0202	JESD22-A118	252(0)	252 0/252	Pass	Parts had been pre-conditioned at 260°C
HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:**+85°C System: MT9320 Handler:0202	JESD22-A110	240(0)	240 0/240	Pass	Parts had been pre-conditioned at 260°C

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: HERAEUS **Electrical Test :**+85°C System: MT9320 Handler:0202	JESD22-A103	 45(0)	45 0/45	 Pass	45 units
Solderability **Temp 215°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63,Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	 Pass	Performed at MTAI
Solderability **Temp 245°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.245°C Solder material: Pb Free Sn 95.5Ag3.9Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	JESD22B-102E	22 (0)	22 22 0/22	 Pass	Performed at MTAI
Physical **Dimensions**	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	Performed at MTAI
Bond Strength **Data Assembly**	Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)	M2011.8 MIL-STD-883	30 (0) Wires 30 (0) bonds	0/30 0/30		

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Top Mark			
Bottom Mark	With bottom side marking	No bottom side marking	No bottom side marking