Product Change Notification - JAON-13NOYH101

Date:

13 Mar 2018

Product Category:

Capacitive Touch Sensors; 8-bit PIC Microcontrollers

Notification subject:

CCB 2965.001 Final Notice: Qualification of MTAI as a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using CuPdAu bond wire.

Notification text:

PCN Status:

Final 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 a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

Pre Change:

Assembled at ANAC Assembly site with punched as a singulation method, using palladium coated copper wire (PdCu) bond wire and 8290 die attach material.

Post Change:

Assembled at MTAI Assembly site with sawn as a singulation method, using palladium coated copper wire with gold flash (CuPdAu) bond wire and 3280 die attach material.

Pre and Post Change Summary:

	Pre Change	**Post Change**
Assembly Site	Amkor Assembly & Test (Shanghai) Co., LTD (ANAC)	Microchip Technology Thailand – HQ (MTAI)
Wire material	PdCu	CuPdAu
Die attach material	8290	3280
Molding compound material	G700	G700
Lead frame material	C194	C194
Singulation method	Punched	Sawn

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve productivity by qualifying MTAI assembly site with sawn as a singulation method and using palladium coated copper wire with gold flash (CuPdAu) bond wire

Change Implementation Status:

In Progress

Estimated First Ship Date:

April 13, 2018 (date code: 1815)

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

Time Table Summary:

	March 2018					April 2018			
Workweek	09	10	11	12	13	14	15	16	17
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:

March 13, 2018: Issued final notification. This PCN is qualified by similarity (QBS) to PCN # KSRA-14SZTT575.

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-13NOYH101_Qual_Report.pdf

PCN_JAON-13NOYH101_Affected_CPN.pdf

PCN_JAON-13NOYH101_Affected_CPN.xlsx

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

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QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: JAON-13NOYH101

Date
September 14, 2017

Qualification of MTAI as a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

PACKAGE QUALIFICATION REPORT

Purpose : Qualification of MTAI as a new assembly site for selected Atmel products available in 32L VQFN (5x5x0.9mm) package using palladium coated copper wire with gold flash (CuPdAu) bond wire.

CCB No.: 2965 and 2965.001

Misc.	**Assembly site**	MTAI
	BD Number	BDM-001384 rev.A
	MP Code (MPC)	354T4QRXBA01
	Part Number (CPN)	AT90PWM81
Lead-Frame	**Paddle size**	150x150 mils
	Material	C194
	Surface	Bare Cu on paddle
	Treatment	BOT
	Process	Etched
	Lead-lock	Yes
	Part Number	10103202
	Lead Plating	Matte Tin
	LF Matrix (RowxColumn)	(11 row x 8 column x 5 panel) 440 pads/strip
	Strip test capable	Yes
Bond Wire	**Material**	CuPdAu
Die Attach	**Part Number**	3280
	Conductive	Yes
MC	**Part Number**	G700LTD
PKG	**PKG Type**	VQFN
	Pin/Ball Count	32
	PKG width/size	5x5 mm
Die	**Die Thickness**	11 mils
	Die Size	98.4x105.7 mils

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI180903764.000	MCSO518090268.000	1721H60
MTAI180903765.000	MCSO518090268.200	1721H62

Result [X] Pass [ ] Fail [ ] ____________________

32L VQFN 5x5 assembled by MTAI 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.

Note: Saw Isolation and singulation were performed at MPHIL.

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 :**+110°C, -40°C System: MT9510 Handler 2580	JESD22-A113	900(0)	900	Passed	Good Devices
	Bake 150°C, 24 hrs System: HERAEUS			900		
	85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE	IPC/JEDEC J-STD-020D		900		
	3x Convection-Reflow 265°C max System: Mancorp CR.5000F			900		
	Electrical Test :+110°C, -40°C System: MT9510 Handler 2580			0/900	Passed	
Temp Cycle	**Stress Condition:** (Standard) 65°C to +150°C, 500 Cycles System : VOTSCH VT 7012 S2	JESD22-A104		249		Parts had been pre-conditioned at 260°C
	Electrical Test: +110°C, -40°C System: MT9510 Handler:2580		249(0)	0/249	Passed	
	Bond Strength: Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)		15(0)		Passed	

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:** +110°C, -40°C System: MT9510 Handler:2580	JESD22-A118	240	240 0/240	Passed	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:**+110°C, -40°C System: MT9510 Handler:2580	JESD22-A110	246	246 0/246	Passed	Parts had been pre-conditioned at 260°C
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: HERAEUS **Electrical Test :**+110°C, -40°C System: MT9510 Handler:2580	JESD22-A103	45(0)	50 0/50	Pass	50 units
Solderability Temp 245°C	**Bake:** Temp 155°C,4Hrs System: Oven Solder Bath: Temp.245°C Solder material: SAC305 Visual Inspection: External Visual Inspection	JESD22B-102E	15 (0)	0/15	Pass	Performed at MPHIL
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	Performed at MPHIL
Bond Strength Data Assembly	Wire Pull (> 2.50 grams)	M2011.8 MIL-STD-883	30 (0) Wires		Pass	
	Bond Shear (>15.00 grams)	M2011.8 MIL-STD-883	30 (0) bonds		Pass	

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 :**+110°C, -40°C System: MT9510 Handler:2580	JESD22-A103	 45(0)	50 0/50	 Pass	50 units
Solderability Temp 245°C	**Bake:** Temp 155°C,4Hrs System: Oven Solder Bath: Temp.245°C Solder material: SAC305 Visual Inspection: External Visual Inspection	JESD22B-102E	15 (0)	0/15	Pass	Performed at MPHIL
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	Performed at MPHIL
Bond Strength Data Assembly	Wire Pull (> 2.50 grams) Bond Shear (>15.00 grams)	M2011.8 MIL-STD-883 M2011.8 MIL-STD-883	30 (0) Wires 30 (0) bonds		Pass Pass	

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Affected Catalog Part Numbers (CPN)

PCN_JAON-13NOYH101
CATALOG_PART_NBR
AT42QT1110-MUR
AT42QT11C12-MUR
AT42QT1244-MU
AT42QT2100-MUR
ATMEGA168A-MU
ATMEGA168A-MUR
ATMEGA168PA-MN
ATMEGA168PA-MNR
ATMEGA168PA-MU
ATMEGA168PA-MUR
ATMEGA168PA-MUR431
ATMEGA48-20MU
ATMEGA48-20MUR
ATMEGA48A-MU
ATMEGA48A-MUR
ATMEGA48P-20MU
ATMEGA48P-20MUR
ATMEGA48PA-MN
ATMEGA48PA-MNR
ATMEGA48PA-MU
ATMEGA48PA-MUR
ATMEGA48PV-10MU
ATMEGA48PV-10MUR
ATMEGA48V-10MU
ATMEGA48V-10MUR
ATMEGA48V-10MUR173
ATMEGA48V-10MUR348
ATMEGA8-16MU
ATMEGA8-16MUR
ATMEGA88-20MU
ATMEGA88-20MUR
ATMEGA88-20MURA4
ATMEGA88A-MU
ATMEGA88A-MUR
ATMEGA88P-20MU
ATMEGA88P-20MUR
ATMEGA88PA-MN
ATMEGA88PA-MNR
ATMEGA88PA-MU
ATMEGA88PA-MUR
ATMEGA88PA-MURA06
ATMEGA88PA-MURA6
ATMEGA88PV-10MU

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Affected Catalog Part Numbers (CPN)

PCN_JAON-13NOYH101
CATALOG_PART_NBR
ATMEGA88PV-10MUR
ATMEGA88V-10MU
ATMEGA88V-10MUR
ATMEGA88V-10MUR360
ATMEGA88V-10MUR378
ATMEGA88V-10MUR379
ATMEGA8A-MN
ATMEGA8A-MNR
ATMEGA8A-MU
ATMEGA8A-MUR
ATMEGA8A-MURA7
ATMEGA8L-8MU
ATMEGA8L-8MUA4
ATMEGA8L-8MUR
ATMEGA8L-8MURA3
ATTINY26-16MU
ATTINY26-16MUR
ATTINY261A-MFRA0
ATTINY261A-MN
ATTINY261A-MNR
ATTINY261A-MU
ATTINY261A-MUR
ATTINY26L-8MU
ATTINY26L-8MUR
ATTINY28L-4MU
ATTINY28L-4MUR
ATTINY28V-1MU
ATTINY28V-1MUR
ATTINY461-20MU
ATTINY461-20MUR
ATTINY461-20MUR553
ATTINY461A-MU
ATTINY461A-MUR
ATTINY461V-10MU
ATTINY461V-10MUR
ATTINY48-MU
ATTINY48-MUR
ATTINY48-MUR522
ATTINY48-MUR547
ATTINY861-20MU
ATTINY861-20MUR
ATTINY861-20MUR430
ATTINY861A-MU

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Affected Catalog Part Numbers (CPN)

PCN_JAON-13NOYH101
CATALOG_PART_NBR
ATTINY861A-MUR
ATTINY861V-10MU
ATTINY861V-10MUR
ATTINY88-MU
ATTINY88-MUR