Product Change Notification - LIAL-17HGTR431

Date:
14 Dec 2018
Product Category:
Others; 8-bit Microcontrollers
Affected CPNs:

Notification subject:
CCB 3385 Final Notice: Qualification of MTAI as a new assembly site for selected Atmel products available in 28L SOIC 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 a new assembly site for selected Atmel products available in 28L SOIC package.

Pre Change:
Assembled at ANAP using palladium gold wire (AuPd) material and 8290 die attach material.

Post Change:
Assembled at MTAI using gold (Au) bond wire material and 3280 die attach material.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Amkor Technology Philippine (P1/P2), INC. (ANAP)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	AuPd	Au
Die attach material	8290	3280
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 a new assembly site.

Change Implementation Status:
In Progress

Estimated First Ship Date:
December 28, 2018 (date code: 1852)

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

Time Table Summary:

	May 2018					->	December 2018			
Workweek	18	19	20	21	22		49	50	51	52
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:
May 30, 2018: Issued initial notification.
December 14, 2018: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on December 28, 2018.

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-17HGTR431_QUAL REPORT.pdf

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

Terms and Conditions:

If you wish to receive Microchip PCNs via email please register for our PCN email service at our PCN home page select register then fill in the required fields. You will find instructions about registering for Microchips PCN email service in the PCN FAQ section.
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.

QUALIFICATION REPORT SUMMARY

PCN #: LIAL-17HGTR431

Date
November 6, 2018

Qualification of MTAI as a new assembly site for selected Atmel products available in 28L SOIC package.

Package Qualification Report

Purpose: Qualification of MTAI as a new assembly site for selected Atmel products available in 28L SOIC package.

CCB No.: 3385

QUAL ID.: QTP3500

Revision: B

Miscellaneous	**Assembly site**	MTAI
	BD Number	BDM-001815 rev.A
	MP Code (MPC)	568TN7N3XC01
	Part Number (CPN)	AT89C5131A-TISUL
Lead-Frame	**Paddle size**	200x240 mils
	Material	A194
	Surface	Bare Cu on paddle
	Treatment	Roughening
	Process	Stamped
	Lead-lock	No
	Part Number	10102807
	Lead Plating	Matte Tin
Bond Wire	**Material**	Au
Die Attach	**Part Number**	3280
Mold Compound	**Part Number**	G600
PKG	**PKG Type**	SOIC
	Pin/Ball Count	28
	PKG width/size	300 mils
Die	**Die Thickness**	15 mils
	Die Size	188.0 x 150.0
MSL Classification		MSL1/260

Package Qualification Report

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI191003222.000	MCSO519071700.000	1823KR2
MTAI191003221.000	MCSO519071700.000	1823KR1
MTAI191003219.000	MCSO519071700.000	1823KQY

Result [X] Pass [ ] Fail [ ] ____________________

Atmel 568TN using Au wire in 28L SOIC at MTAI is qualified at Moisture/ Reflow Sensitivity Classification Level 1 per IPC/JEDEC J-STD-020E standard. No delamination were observed on all the units**.**

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:** +90°C Bake 150°C, 24 hrs System: HERAEUS 85°C/85%RH Moisture Soak 168 hrs. System: Climats Excal 5423-HE 3x Convection-Reflow 260°C max System: Mancorp CR.5000F **Electrical Test:** +90°C	JESD22-A113 IPC/JEDEC J-STD-020D	900(0) 900 900	0/900 0/135 900	Passed Passed	Good Devices
Temp Cycle	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +90°C **Bond Strength:** Wire Pull (>2.5 grams) Bond Shear (>15 grams)	JESD22-A118	252 252 (0) 15(0)	0/252 15(0)	Passed Passed	Parts had been pre-conditioned at 260°C
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. System: HIRAYAMA HASTEST PC-422R8 **Electrical Test:** +90°C	JESD22-A118	252 252			Parts had been pre-conditioned at 260°C
BIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X **Electrical Test:**+25°C,85°C and 125°C System: NEXTEST_PT	JESD22-A110	231 (0)	231 0/231	Passed Passed	Parts had been pre-conditioned at 260°C Refer to **CCB 2743**

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:**	JESD22-A103	50(0) 50(0)	0/50	Pass	50 units
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	Pass	Performed at MPHIL
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>2.5 grams)	M2011.8 MIL-STD-883	30(0) Wires	2.85	Pass	
Bond Strength Data Assembly	Bond Shear (>15.00 grams)	M2011.8 MIL-STD-883	30(0) bonds	2.99	Pass	

LIAL-17HGTR431 - CCB 3385 Final Notice: Qualification of MTAI as a new assembly site for selected Atmel pr

Affected Catalog Part Numbers(CPN)

AT83C5136DXN-TIRUL
AT89C5115-TISUM
AT89C5131A-TIRUL
AT89C5131A-TISUL
AT89C51CC02CA-TISUM
AT89C51CC02UA-TISUM