Product Change Notification - RMES-28FISH870

Date:

30 May 2020

Product Category:

8-bit Microcontrollers

Affected CPNs:

Notification subject:

CCB 4019.003 Final Notice: Qualification of MTAI as an additional assembly site for selected Atmel ATTINYxx products available in 8L (150 mils) 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 an additional assembly site for selected Atmel ATTINYxx products available in 8L (150 mils) SOIC package.

Pre Change:

Assembled at ASCL using palladium coated copper with gold flash (CuPdAu) bond wire, EN-4900G die attach and G700LA molding compound material.

Post Change:

Assembled at ASCL using palladium coated copper with gold flash (CuPdAu) bond wire, EN-4900G die attach and G700LA molding compound material

or

Assembled at MTAI using gold (Au) bond wire, 8390A die attach and G600V molding compound material.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	ASE Group Chung-Li (ASCL)	ASE Group Chung-Li (ASCL)	Microchip Technology Thailand (HQ) (MTAI)
Wire material	CuPdAu	CuPdAu	Au
Die attach material	EN-4900G	EN-4900G	8390A
Molding compound material	G700LA	G700LA	G600V
Lead frame material	A194	A194	A194
MSL Classification	MSL 3	MSL 3	MSL 1

Impacts to Data Sheet:

None

Change Impact:

None

Reason for Change:

To improve on-time delivery performance by qualifying MTAI as an additional assembly site.

Change Implementation Status:

In Progress
Estimated First Ship Date:
June 15, 2020 (date code: 2025)

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

Time Table Summary:

	May 2020					June 2020				
Workweek	18	19	20	21	22	23	24	25	26	27
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, 2020: Issued final notification. Attached the qualification report and provided estimated first ship date to be on June 15, 2020.

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_RMES-28FISH870_Qual__Report.pdf

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

Terms and Conditions:

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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.

Affected Catalog Part Numbers (CPN)

ATTINY202-SSF
ATTINY212-SSF
ATTINY402-SSF
ATTINY412-SSF
ATTINY202-SSN
ATTINY212-SSN
ATTINY402-SSN
ATTINY412-SSN
ATTINY212-SSNR
ATTINY412-SSNR
ATTINY402-SSNR
ATTINY202-SSNR
ATTINY412-SSFR
ATTINY402-SSFR
ATTINY212-SSFR
ATTINY202-SSFR

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: RMES-28FISH870

Date:
May 28, 2020

Qualification of MTAI as an additional assembly site for selected Atmel ATTINYxx products available in 14L (.150in) SOIC package. The selected Atmel products available in 8L SOIC (150 mils) will be qualify by similarity (QBS). This is a Q100 Grade 1 qualification.

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Package Qualification Report

Purpose: **Qualification of MTAI as an additional assembly site for selected Atmel ATTINYxx products available in 14L (.150in) SOIC package. The selected Atmel products available in 8L SOIC (150 mils) will be qualify by similarity (QBS). This is a Q100 Grade 1 qualification.**

Misc.	Assembly site	MTAI
	BD Number	BDM-002196 rev.C
	MP Code (MPC)	59B15YD3XVA1
	Part Number (CPN)	ATTINY1614-SSZT-VAO
	CCB Number	4019 and 4019.003
Lead-Frame	Paddle size	104x150
	Material	A194
	DAP Surface Prep	Bare Cu
	Treatment	Brown oxide treatment; Ag on leads
	Process	Stamped
	Lead-lock	Yes
	Part Number	10101413
	Lead Plating	Matte Tin
	Strip Size	70 x 250mm
	Strip Density	700 unit/strip
Bond Wire	Material	Au
Die Attach	Part Number	8390A
	Conductive	Yes
MC	Part Number	G600V
PKG	PKG Type	SOIC
	Pin/Ball Count	14
	PKG width/size	150 mil

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Package Qualification Report

Manufacturing Information:

Lot No.	Date Code
MTAI203102363.000	1944CDY
MTAI203102362.000	1944CDV
MTAI203100590.000	19448CK

Result [X] Pass [ ] Fail [ ] _____

Q100 Grade 1, 2, 3 Qualification of 59B15 in 14L SOIC at MTAI Au wire Passed Moisture/ Reflow Sensitivity Classification Level 1 per IPC/JEDEC J-STD-020E standard and QUALIFIED AEC Q006 Grade 1. 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 **MSL-1**	**Electrical Test :** +25°C	JESD22-A113, JIP/ IPC/JEDEC J-STD-020E	693(0)			Good Devices
	External Visual Inspection System: Luxo Lamp		693(0)	0/693	Pass	
	Bake 150°C, 24 hrs System: HERAEUS		693(0)			
	Moisture Soak 85°C/85%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE		693(0)			
	Reflow 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)	0/693		
	Electrical Test : +25°C		693(0)	0/693		
Temp Cycle	**Stress Condition:** (Standard) -65°C to +150°C, 500 Cycles System: VOTSCH VT 7012 S2	JESD22-A104	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C, 105°C +125°C		231(0)	0/231	Pass	
	Bond Strength:		15(0)	0/15	Pass	
	Wire Pull Bond Shear		3(0)	0/3	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +110°C/85%RH, 264 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C		231(0)	0/231	Pass	
BIASED-HAST	**Stress Condition:** (Standard) +110°C/85%RH, 264 hrs. System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, +85°C, +105°C +125°C		231(0)	0/231	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, 500 hrs System: HERAEUS **Electrical Test :** +25°C ,+85°C , +105°C , +125°C	JESD22-A103	2310) 231(0)	 0/231	 Pass	
Solderability **Temp 245°C**	**Bake:** Temp 155°C,4Hrs System:Oven Solder Bath: Temp.245°C	J-STD-002	22 (0)	0/22	Pass	Performed at MPHIL
Physical Dimensions	Physical Dimension, 10 units from 3 lot	JESD22-B100/B108	30(0)			
Bond Strength Data Assembly	Wire Pull	M2011.8 MIL-STD-883	30(0) Wires	0/30	Pass	
Bond Strength Data Assembly	Bond Shear	M2011.8 MIL-STD-883	30(0) bonds	0/30	Pass	