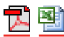
Product Change Notification - GBNG-05QUVX037

Date:
19 Dec 2018
Product Category:
8-bit Microcontrollers
Affected CPNs:



Notification subject:
CCB 3496 Final Notice: Qualification of MMT as an additional assembly site for selected Atmel products of the 35.4K, 35.5K and 35.9K wafer technologies available in 100L TQFP (14x14x1.0mm) 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 MMT as an additional assembly site for selected Atmel products of the 35.4K, 35.5K and 35.9K wafer technologies available in 100L TQFP (14x14x1.0mm) package.
Pre Change:
Assembled in ASE using Au, PdCu or CuPdAu wire, CRM-1076WA die attach, G631H mold compound and C7025 lead frame material with MSL 3 classification or assembled in LPI using Au or CuPdAu wire and CRM-1033BF die attach material with MSL 3 classification.
Post Change:
Assembled in ASE using Au, PdCu or CuPdAu wire, CRM-1076WA die attach, G631H mold compound and C7025 lead frame material with MSL 3 classification or assembled in LPI using Au or CuPdAu wire and CRM-1033BF die attach material with MSL 3 classification.or assembled in MMT using Au wire, 3280 die attach, G700 mold compound and C194 lead frame material with MSL 1 or MSL 2 classification.
Pre and Post Change Summary:

	Pre Change					**Post Change**					
Assembly Site	ASE Inc. Taiwan (ASE)			Lingsen Precision Industries, LTD. (LPI)		ASE Inc. Taiwan (ASE)			Lingsen Precision Industries, LTD. (LPI)		Microchip Technology Thailand (Branch) (MMT)
Wire material	Au	PdCu	CuPdAu	Au	CuPdAu	Au	PdCu	CuPdAu	Au	CuPdAu	Au
Die attach material	CRM-1076WA			CRM-1033BF		CRM-1076WA			CRM-1033BF		3280

Molding compound material	G631H	G700	G631H	G700	G700
Lead frame material	C7025	C194	C7025	C194	C194
MSL Classification	MSL 3	MSL 3	MSL 3	MSL 3	MSL 1 or MSL 2

Impacts to Data Sheet:
None
Change Impact:
None
Reason for Change:
To Improve on-time delivery performance by qualifying MMT as an additional assembly site.

Change Implementation Status:
In Progress
Estimated First Ship Date:
January 19, 2019 (date code: 1903)
NOTE: Please be advised that after the estimated first ship date customers may receive pre and post change parts.

Time Table Summary:

	August 2018					->	December 2018					January 2019				
Workweek	31	32	33	34	35		48	49	50	51	52	01	02	03	04	05
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:
August 09, 2018: Issued initial notification.
December 19, 2018: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on January 19, 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_GBNG-05QUVX037_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.

Affected Catalog Part Numbers (CPN)

ATMEGA1280-16AU
ATMEGA1280-16AU-HCM
ATMEGA1280-16AUR
ATMEGA1280V-8AU
ATMEGA1280V-8AUR
ATMEGA2560-16AUA0
ATMEGA2560-16AU-HCM
ATMEGA2560-16AUR
ATMEGA2560-16AURA0
ATMEGA2560V-8AU
ATMEGA2560V-8AUA0
ATMEGA2560V-8AUR
ATMEGA2560V-8AURA0
ATMEGA3250-16AU
ATMEGA3250-16AUR
ATMEGA3250A-AU
ATMEGA3250A-AUR
ATMEGA3250P-20AU
ATMEGA3250P-20AUR
ATMEGA3250PA-AU
ATMEGA3250PA-AUR
ATMEGA3250PV-10AU
ATMEGA3250PV-10AUR
ATMEGA3250V-8AU
ATMEGA3250V-8AUR
ATMEGA3290-16AU
ATMEGA3290-16AUR
ATMEGA3290A-AU
ATMEGA3290A-AUR
ATMEGA3290P-20AU
ATMEGA3290P-20AUR
ATMEGA3290PA-AU
ATMEGA3290PA-AUR
ATMEGA3290PV-10AU
ATMEGA3290PV-10AUA0
ATMEGA3290PV-10AUR
ATMEGA3290V-8AU
ATMEGA3290V-8AUR
ATMEGA640-16AU
ATMEGA640-16AUR
ATMEGA640-16AURA0
ATMEGA640V-8AU
ATMEGA640V-8AUR
ATMEGA6450-16AU
ATMEGA6450-16AUR
ATMEGA6450A-AU

ATMEGA6450A-AUR
ATMEGA6450P-AU
ATMEGA6450P-AUR
ATMEGA6450V-8AU
ATMEGA6450V-8AUR
ATMEGA6490-16AU
ATMEGA6490-16AUR
ATMEGA6490A-AU
ATMEGA6490A-AUR
ATMEGA6490P-AU
ATMEGA6490P-AUR
ATMEGA6490V-8AU
ATMEGA6490V-8AUR
ATXMEGA128A1-AU
ATXMEGA128A1-AUR
ATXMEGA128A1U-AN
ATXMEGA128A1U-ANR
ATXMEGA128A1U-AU
ATXMEGA128A1U-AUR
ATXMEGA128B1-ANR
ATXMEGA128B1-AU
ATXMEGA128B1-AUR
ATXMEGA128B1-AURA0
ATXMEGA64A1-AU
ATXMEGA64A1-AUR
ATXMEGA64A1U-AU
ATXMEGA64A1U-AUR
ATXMEGA64B1-ANR
ATXMEGA64B1-AU
ATXMEGA64B1-AUA0
ATXMEGA64B1-AUR

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: GBNG-05QUVX037

Date:
December 11, 2018

Qualification of MMT as an additional assembly site for selected Atmel products of the 35.4K, 35.5K and 35.9K wafer technologies available in 100L TQFP (14x14x1.0mm) package.

PACKAGE QUALIFICATION REPORT

Purpose: **Qualification of MMT as an additional assembly site for selected Atmel products of the 35.4K, 35.5K and 35.9K wafer technologies available in 100L TQFP (14x14x1.0mm) package.**

CCB	3496
CN	ES243709
QUAL ID	Q18177 Rev. A
MP CODE	355E37E5XA01
Part No.	ATMEGA2560-16AU
Bonding No.	BDM-001881 REV. C
Package	
Type	100L TQFP
Package size	14x14x1.0 mm
Die thickness	11 mils
Die size	261.0x213.0 mils
Lead Frame	
Paddle size	280x280 mils
Material	C7025
Surface	Bare Cu
Process	Etched
Lead Lock	No
Part Number	10110005
Treatment	BOT
Material	
Epoxy	3280
Wire	Au wire
Mold Compound	G700HA
Plating Composition	Matte Tin

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-192701602.000	MCS0519217904.120	1840576
MMT-192701603.000	MCS0519217904.120	1840577
MMT-192701604.000	MCS0519217904.120	1840578

Result [X] Pass [ ] Fail [ ] ____________________

100L TQFP 14x14x1.0mm assembled by MMT pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 3 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard / Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 3)	30°C/ 60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test :**+25°C and 85°C System: NEX TEST GT	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	30°C/60%RH Moisture Soak 192 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C and 85°C System: NEX TEST GT			0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 85°C System: NEX TEST GT		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: NEX TEST GT		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test:+25°C and 85°C System: NEX TEST GT		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C and 85°C System: NEX TEST GT		45(0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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	J-STD-002	22 (0)	22 22 0/22	Pass	
Solderability **Temp 245°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder Material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	Pass	
Wire sweep	Wire sweep Inspection 15 Wires / lot from 3 lots	-	45(0) Wires	0/45	Pass	
Physical **Dimensions**	Physical Dimension, 10 units/lot from 3 lots	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength **Data Assembly**	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	