Product Change Notification / GBNG-09WNNA526

Date:

19-Feb-2023

Product Category:

Smart Energy SOC

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5001 Final Notice: Qualification of G700LA as a new mold compound material for selected Atmel ATSENSE201 and ATSENSE301 device families available in 32L TQFP (7x7x1mm) package assembled at ASCL assembly site.

Affected CPNs:

GBNG-09WNNA526_Affected_CPN_02192023.pdf
GBNG-09WNNA526_Affected_CPN_02192023.csv

Notification Text:

PCN Status: Final Notification

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the files found in the Affected CPNs section.
Note: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change: Qualification of G700LA as a new mold compound material for selected Atmel ATSENSE201 and ATSENSE301 device families available in 32L TQFP (7x7x1mm) package assembled at ASCL assembly site.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	ASE Group Chung-Li (ASCL)	ASE Group Chung-Li (ASCL)
Wire Material	PdCu	PdCu
Die Attach Material	EN-4900GC	EN-4900GC
Molding Compound Material	CEL-9240HF10AK	G700LA
Lead Frame Material	C194	C194

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve manufacturability by qualifying G700LA mold compound material.

Change Implementation Status: In Progress

Estimated First Ship Date: March 14, 2023 (date code: 2311)

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

Time Table Summary:

	February 2022					>>	**February 2023**					**March 2023**			
Workweek	06	07	08	09	10		05	06	07	08	09	10	11	12	13
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: February 11, 2022: Issued initial notification.
February 19, 2023: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on March 14, 2023.

The change described in this PCN does not alter Microchip's current regulatory compliance regarding the material content of the applicable products.

Attachments:

GBNG-09WNNA526_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)

ATSENSE301A-AU
ATSENSE201HA-AU
ATSENSE301HA-AU
ATSENSE201A-AU
ATSENSE301A-AN
ATSENSE301A-ANR
ATSENSE301A-AUR
ATSENSE201HA-AUR
ATSENSE301HA-AUR
ATSENSE201A-AUR

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: GBNG-09WNNA526

Date
January 31, 2023

Qualification of G700LA as a new mold compound material for selected Atmel ATSENSE201 and ATSENSE301 device families available in 32L TQFP (7x7x1mm) package assembled at ASCL assembly site.

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Package Qualification Report

Purpose: Qualification of G700LA as a new mold compound material for selected Atmel ATSENSE201 and ATSENSE301 device families available in 32L TQFP (7x7x1mm) package assembled at ASCL assembly site.

CCB: 5001

Misc.	Assembly site	ASCL
	BD Number	TBD
	MP Code (MPC)	56H317T5XC03
	Part Number (CPN)	ATSENSE301HA-AU
	MSL information	MSL3
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	250
	Reliability Site	MPHIL
Lead-Frame	Paddle size	197x197
	Material	C194
	DAP Surface Prep	Double Ring
	Treatment	Not Rough
	Process	Stamped
	Lead-lock Design (with locking hole?)	No
	Part Number	0032QP006C07
	Lead Plating	Matte Tin
Bond Wire	Material	PdCu
Die Attach	Part Number	EN-4900GC
	Conductive	Yes
MC	Part Number	G700LA
PKG	PKG Type	TQFP
	Pin/Ball Count	32L
	PKG width/size	7x7x1.0mm

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Package Qualification Report

Manufacturing Information

Assembly Lot No.	Wafer Lot No.
ASCL231700156.000	PF302MAR0E
ASCL231800003.000	PF312L100E
ASCL231800004.000	PF312L120E

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests **(At MSL 3)**	**Electrical Test :** 25°C, 85°C System: D20 tester / Thermo	JESD22-A113,	750(0)	0/750	Pass	3 lots. Good Devices
	Bake 150°C, 24 hrs System: HERAEUS	JIP/ IPC/JEDEC J-STD-020E	750(0)	0/750		
	30°C/60%RH Moisture Soak 192 hrs. System: Climats Excal 5423-HE		750	0/750		
	3x Convection-Reflow 260°C max System: Mancorp CR.5000F		750	0/750		
	Electrical Test : 25°C, 85°C System: D20 Tester / Thermo		750	0/750	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests (At MSL Level 3)	**Electrical Test :** 25°C, 85°C System: D20 Tester / Thermo Bake 150°C, 24 hrs System: HERAEUS 30°C/60%RH Moisture Soak 192hrs. System: Climats Excal 5423-HE 3x Convection-Reflow 260°C max System: Mancorp CR.5000F **Electrical Test :** 25°C, 85°C System: D20 Tester / Thermo	JESD22-A113 IPC/JEDEC J-STD-020E	231 units per lot	Lot 1 0/250 Lot 2 0/250 Lot 3 0/250	Pass Pass Pass	
Temperature Cycle	**Stress Condition:** (Standard) -65°C to +150°C, **500 Cycles** System: Votsch VTS^{2}7012 **Electrical Test :** 85°C System: D20 Tester / Thermo	JESD22-A104	77 units per lot	Lot 1 0/85 Lot 2 0/85 Lot 3 0/85	Pass Pass Pass	
	Bond Strength: 3 units per test Wire Pull (>4.0g) Bond *Shear* (>10g) Stitch Pull (>3g) System: Dage		6 units per lot	Lot 1 0/6 Lot 2 0/6 Lot 3 0/6	Pass Pass Pass	
HAST	**Stress Condition:** (Standard) +130°C/85%RH, **96 hrs** System: HIRAYAMA HASTEST PC-422R8 **Electrical Test :** 25°C, 85°C System: D20 Tester / Thermo	JESD22-A118	77 units per lot	Lot 1 0/85 Lot 2 0/85 Lot 3 0/85	Pass Pass	
	Bond Strength: 3 units per test Wire Pull (>4.0g) Bond *Shear* (>10g) Stitch Pull (>3g) System: Dage		6 units per lot	Lot 1 0/6 Lot 2 0/6 Lot 3 0/6	Pass Pass Pass	
UHAST	**Stress Condition:** (Standard) +130°C/85%RH, **96 hrs**. no bias System: HIRAYAMA HASTEST PC-422R8 **Electrical Test :** 25°C System: D20 Tester / Thermo	JESD22-A118	77 units per lot	Lot 1 0/80 Lot 2 0/80 Lot 3 0/80	Pass Pass Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HTSL	**Stress Condition:** Bake 175°C, **504 hrs.** System: HERAEUS **Electrical Test :** 25°C, 85°C System: D20 Tester / Thermo	JESD22-A10	45 units per lot	Lot 1 0/50 Lot 2 0/50 Lot 3 0/50	Pass Pass Pass	
Bond Strength	Wire Pull (>4.0g) Bond *Shear* (>10g) Stitch Pull (>3g) System: Dage		5 units 3 lots 30 bonds		Pass	
Physical Dimension	Physical Dimension, 10 units per 3 lots	JESD22 B100 and B108	10 units per lot	30	Pass	
Solderability					Pass	