



Product Change Notification / ALAN-07GWEE835

Date:

10-Mar-2022

Product Category:

8-bit Microcontrollers

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5064 Initial Notice: Qualification of G700LA as a new mold compound material for selected ATMEGA64, ATMGA16, ATMEGA25 AND ATMEGA32 device families available in 64L VQFN (9x9x1.0 mm) package.

Affected CPNs:

[ALAN-07GWEE835_Affected_CPN_03102022.pdf](#)

[ALAN-07GWEE835_Affected_CPN_03102022.csv](#)

Notification Text:

PCN Status:Initial 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 ATMEGA64, ATMGA16, ATMEGA25 AND ATMEGA32 device families available in 64L VQFN (9x9x1.0 mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	ASE Group Chung-Li (ASCL)	ASE Group Chung-Li (ASCL)
Wire Material	Au/Cu/PdCu	Au/Cu/PdCu
Die Attach Material	EN-4900GC	EN-4900GC
Molding Compound Material	CEL-9240	G700LA
Lead-Frame Material	C194	C194
Lead-Frame Paddle Size	228x228/ 311x311	228x228/ 311x311
DAP Surface Prep	Ring/ Double Ring	Ring/ Double Ring

Impacts to Data Sheet:None

Change Impact:None

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

Change Implementation Status:In Progress

Estimated Qualification Completion Date:July 14, 2022

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	March 2022					->	July 2022				
Workweek	10	11	12	13	14		27	28	29	30	31
Initial PCN Issue Date		X									
Qual Report Availability								X			
Final PCN Issue Date								X			

Method to Identify Change:Traceability code

Qualification Plan:Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History:March 10, 2022: Issuance of Initial notification.

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

Attachments:

[PCN_ALAN-07GWEE835 Qualification Plan.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)

ATMEGA645P-MU
ATMEGA649A-MU
ATMEGA645A-MU
ATMEGA649P-MU
ATMEGA649A-MUR
ATMEGA645P-MUR
ATMEGA645A-MUR
ATMEGA649P-MUR
ATMEGA169P-16MU
ATMEGA169PV-8MU
ATMEGA165PV-8MU
ATMEGA169P-16MUR
ATMEGA169PV-8MUR
ATMEGA165PV-8MUR
ATMEGA169PV-8MURA1
ATMEGA325P-20MU
ATMEGA329PV-10MU
ATMEGA329P-20MU
ATMEGA329PV-10MN
ATMEGA329P-20MN
ATMEGA329P-20MNR
ATMEGA329P-20MUR
ATMEGA329PV-10MUR
ATMEGA2561V-8MUA0
ATMEGA2561V-8MURA0



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QUALIFICATION PLAN SUMMARY

PCN#: ALAN-07GWEE835

**Date:
February 22, 2022**

Qualification of G700LA as a new mold compound material for selected ATMEGA64, ATMGA16, ATMEGA25 AND ATMEGA32 device families available in 64L VQFN (9x9x1.0 mm) package.

Purpose: Qualification of G700LA as a new mold compound material for selected ATMEGA64, ATMGA16, ATMEGA25 AND ATMEGA32 device families available in 64L VQFN (9x9x1.0 mm) package.

CCB#: 5064

<u>Misc.</u>	Assembly site	ASCL
	BD Number	BD-000484-01
	MP Code (MPC)	355D8TTEBC07
	Part Number (CPN)	ATMEGA329PV-10MUR
	MSL information	MSL1/260
	Assembly Shipping Media (T/R, Tube/Tray)	Tray
	Base Quantity Multiple (BQM)	260
	Reliability Site	MPHIL
	CCB#	5064
<u>Lead-Frame</u>	Paddle size	228x228
	Exposed Pad Size	5.4x5.4mm
	Material	C194
	DAP Surface Prep	Ring
	Treatment	Not Rough
	Process	Etched
	Lead-lock Design	Yes
	Part Number	110198311
	Lead Plating	Matte Tin
<u>Bond Wire</u>	Material	PdCu
<u>Die Attach</u>	Part Number	EN-4900GC
	Conductive	Yes
<u>MC</u>	Part Number	G700LA
<u>PKG</u>	PKG Type	VQFN
	Pin/Ball Count	64L
	PKG width/size	9x9x1.0mm

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.	22	5	1	27	> 95% lead coverage	5	ASCL	MPHIL	VQFN	Standard Pb-free solderability is the requirement.
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	1	5	0	5	ASCL	MPHIL	VQFN	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	1	5	0	5	ASCL	MPHIL	VQFN	30 bonds from a min. 5 devices.
Physical Dimmensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	ASCL	MPHIL	VQFN	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	ASCL	MPHIL	VQFN	
Preconditioning - Required for surface mount devices	+150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at 85°C . MSL1/260	231	15	3	738	0	15	ASCL	MPHIL	VQFN	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test.

Test Name	Conditions	Sample Size	Min. Qty of Spares per Lot (should be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Pkg. Type	Special Instructions
HAST	+130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours. Electrical test pre and post stress at 85°C hot temp	77	5	3	246	0	10	ASCL	MPHIL	VQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test 1 lot at 85°C.
UFAST	+130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs. Electrical test pre and post stress at 85°C hot temp	77	5	3	246	0	10	ASCL	MPHIL	VQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	-65°C to +150°C for 500 cycles . Electrical test pre and post stress at 85°C hot temp ; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.	77	5	3	246	0	15	ASCL	MPHIL	VQFN	Spares should be properly identified. Use the parts which have gone through Pre-conditioning. For hot temp testing, pre/post test 1 lot at 85°C.