Product Change Notification - LIAL-19IVLH492

Date:
27 Dec 2018
Product Category:
32-bit Microcontrollers
Affected CPNs:

Notification subject:
CCB 3655 Initial Notice: Qualification of MMT as an additional assembly site for selected Atmel products of 58.85K and 58.8K wafer technologies available in 48L VQFN (7x7x0.9mm) package.
Notification text:

PCN Status:
Initial 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 58.85K and 58.8K wafer technologies available in 48L VQFN (7x7x0.9mm) package.

Pre-Change:
Assembled at ASE using EN-4900F die attach material

Post Change:
Assembled at ASE using EN-4900F die attach material or assembled at MMT using 3280 die attach material

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	ASE Inc. (ASE)	ASE Inc. (ASE)	Microchip Technology Thailand (Branch) (MMT)
Wire material	Au	Au	Au
Die attach material	EN-4900F	EN-4900F	3280
Molding compound material	G700	G700	G700
Lead frame material	C194	C194	C194
MSL level	MSL 3	MSL 3	MSL 1

Impacts to Data Sheet:
Yes. POD (package outline drawing) change. See the changes below

	Pre Change			Post Change		
Dimension Limit (in mm)	Min	Nor	Max	Min	Nor	Max
Number of terminals	48			48		
Overall Height	0.80	0.85	0.90	0.80	0.90	1.00
Standoff	0.00	0.02	0.05	0.00	-	0.05
Terminal Thickness	0.20 REF			0.20 REF		
Overall Length	7.00 BSC			7.00 BSC		
Exposed Pad Length	5.50	5.60	5.70	5.50	5.60	5.70
Overall Width	7.00 BSC			7.00 BSC		
Exposed Pad Width	5.50	5.60	5.70	5.50	5.60	5.70
Terminal Width	0.17	0.25	0.30	0.20	0.25	0.30
Terminal Length	0.30	0.40	0.50	0.30	0.40	0.50
Pitch	0.50 BCS			0.50 BCS		

Note: These POD changes are within JEDEC limit so no significant impact other than a documentation change in the spec and/or datasheet.

Change Impact:
None

Reason for Change:
To improve productivity and on-time delivery performance by qualifying ASE as an additional assembly site.

Change Implementation Status:
In Progress

Estimated Qualification Completion Date:
March 2019

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:

	December 2018				->	March 2019				
Workweek	49	50	51	52		9	10	11	12	13
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:
December 27, 2018: Issued initial notification.

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-19IVLH492_QUAL 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)

AT91SAM7S32B-MU
AT91SAM7S32B-MU-999
ATSAM3N00AA-MU
ATSAM3N00AA-MUR
ATSAM3N0AA-MU
ATSAM3N0AA-MUR
ATSAM3N1AB-MU
ATSAM3N1AB-MUR
ATSAM3S1AB-MU
ATSAM3S1AB-MUR
ATSAM3S2AA-MU
ATSAM3S2AA-MUR
ATSAM3S4AA-MU
ATSAM3S4AA-MUR

QUALIFICATION PLAN SUMMARY

PCN #: LIAL-19IVLH492

Date
December 14, 2018

Qualification of MMT as an additional assembly site for selected Atmel products of 58.85K and 58.8K wafer technologies available in 48L VQFN (7x7x0.9mm) package.

Purpose: **Qualification of MMT as an additional assembly site for selected Atmel products of 58.85K and 58.8K wafer technologies available in 48L VQFN (7x7x0.9mm) package.**

CCB No.: **3655**

		New Data (new Qual)
Miscellaneous	Assembly site	MMT
	BD Number	BDM-001983/A
	MP Code (MPC)	58Z25TSMBC02
	Part Number (CPN)	ATSAM3S2AA-MUR
Lead-Frame	Paddle size	228x228 mils
	Material	C194
	DAP Surface Prep	Selective Ag
	Treatment	BOT
	Process	Etched
	Lead-lock	N/A
	Part Number	TBD
	Lead Plating	Matte tin
	Strip Size	70x250
	Strip Density	240
Bond Wire	Material	Au
Die Attach	Part Number	3280
	Conductive	Yes
Mold Compound	Part Number	G700
PKG	PKG Type	VQFN
	Pin/Ball Count	48L
	PKG width/size	7x7
Die	Die Thickness	11 mils
	Die Size	176.65x166.18 mils
	Fab Process (site)	UMC/58.85K
MSL	MSL-1@260C	

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	Test Site	Special Instructions
Wire Bond Pull - WBP	Mil. Std. 883-2011	5	0	3	15	0 fails after TC	5	MMT/MTAI	30 bonds from a minimum of 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001	5	0	3	15	0	5	MMT/MTAI	30 bonds from a minimum of 5 devices.
Wire Sweep		5	0	3	15	0		MMT	Required for any reduction in wire bond thickness.
Physical Dimensions	Measure per JESD22 B100 and B108	10	0	3	30	0	5	MTAI	
External Visual	Mil. Std. 883-2009/2010	All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	
HTSL (High Temp Storage Life)	+175 C for 504 hours. Electrical test pre and post stress at +25°C and hot temp. 1 lot to be tested at 125C	45	5	1	50	0	25	MTAI	
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-020D for package type; Electrical test pre and post stress at +25°C MSL1 @ 260°C	231	15	3	738	0	15	MTAI	Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, 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	Test Site	Special Instructions
HAST	+130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp. 1 lot to be tested at 125C	77	5	3	246	0	10	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Unbiased HAST	+130°C/85% RH for 96 hrs. Electrical test pre and post stress at +25°C.	77	5	3	246	0	10	MTAI	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 hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. 1 lot to be tested at 125C	77	5	3	246	0	15	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.