Product Change Notification / JAON-06SLTO183

Date:

16-Sep-2021

Product Category:

Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4634 Final Notice: Qualification of MMT as a new assembly site for selected Atmel AT28HC256, AT28C256 and AT28BV256 device families available in 32L PLCC (11.5x14x3.37mm) package.

Affected CPNs:

JAON-06SLTO183_Affected_CPN_09162021.pdf
JAON-06SLTO183_Affected_CPN_09162021.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 MMT as a new assembly site for selected Atmel AT28HC256x, AT28C256 and AT28BV256 device families available in 32L PLCC (11.5x14x3.37mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Lingsen Precision Industries, LTD. (LPI)	Microchip Technology Thailand (MMT)

Wire material	Au		Au
Die attach material	CRM-1033BF		3280
Molding compound material	G600		G600
Lead frame material	C151		A194
Lead frame paddle size	225x260 mils	181x261 mils	200x365 mils
	See attached pre and post change comparison		

Impacts to Data Sheet: None.

Change Impact: None.

Reason for Change:
To improve on-time delivery performance by qualifying MMT as a new assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: August 13, 2021 (date code: 2133)

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

Time Table Summary:

	April 2021					**->**	**August 2021**					**September 2021**			
Workweek	14	15	16	17	18		32	33	34	35	36	37	38	39	40
Initial PCN Issue Date			X												
Qual Report Availability													X		
Final PCN Issue Date								X							
Estimated First Ship 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:April 14, 2021: Issued initial notification.**August 12, 2021:** Issued final notification. Provided estimated first ship date to be on August 13, 2021. Attached the partial qualification report**September 16, 2021:** Re-issued this Final Notification to attach the completed qualification report.

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

Attachments:

PCN_JAON-06SLTO183_Qual Report.pdf
PCN_JAON-06SLTO183_Pre and Post Change_Summary.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)

AT28HC256-90JU-600
AT28C256EF-15JU-795
AT28C256-15JU-043
AT28C256-15JU-323
AT28HC256-70JU
AT28HC256-90JU
AT28HC256-12JU
AT28HC256E-70JU
AT28HC256E-90JU
AT28HC256E-12JU
AT28HC256F-90JU
AT28C256-15JU
AT28C256E-15JU
AT28C256F-15JU
AT28BV256-20JU
AT28C256EF-15JU
AT28HC256-12JU-070
AT28HC256E-12JU-070
AT28C256F-15JU-T
AT28HC256-70JU-T
AT28HC256-90JU-T
AT28HC256-12JU-T
AT28HC256E-70JU-T
AT28HC256E-90JU-T
AT28HC256E-12JU-T
AT28HC256F-90JU-T
AT28C256-15JU-T
AT28C256E-15JU-T
AT28BV256-20JU-T
AT28C256EF-15JU-T

CCB 4634

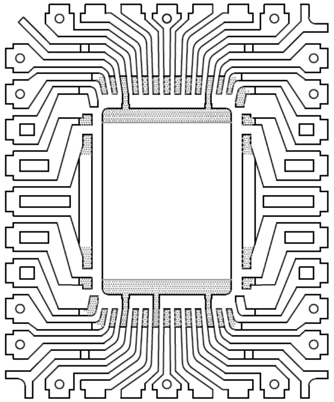
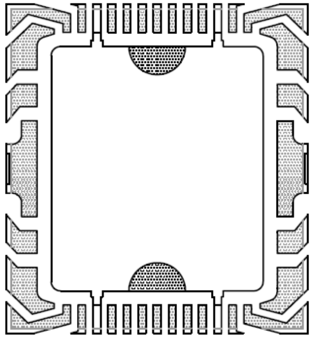
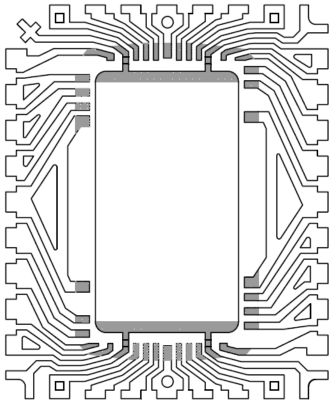
Pre and Post Change Summary

PCN # JAON-06SLTO183

A Leading Provider of Smart, Connected and Secure Embedded Control Solutions

SMART | CONNECTED | SECURE

Lead frame Comparison

Pre Change		Post Change
LPI		MMT
 PAD SIZE:181x261 MILS FUSED LEAD ON PIN#16	 PAD SIZE:225x260 MILS NON–FUSED LEAD ON PIN#16	 PAD SIZE:200x365 MILS NON–FUSED LEAD ON PIN#16

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: JAON-06SLTO183

Date:
September 06, 2021

Qualification of MMT as a new assembly site for selected Atmel AT28HC256, AT28C256 and AT28BV256 device families available in 32L PLCC (11.5x14x3.37mm) package.

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Package Qualification Report

Purpose: Qualification of MMT as a new assembly site for selected Atmel AT28HC256, AT28C256 and AT28BV256 device families available in 32L PLCC (11.5x14x3.37mm) package.

Misc.	**Assembly site**	MMT
	BD Number	BDM-002877/A
	MP Code (MPC)	191047P3XC01
	Part Number (CPN)	AT28HC256-90JU-600
	MSL information	MSL-2/245
	Assembly Shipping Media (T/R, Tube/Tray)	TUBE
	Base Quantity Multiple (BQM)	32
	Qual ID	R2100549 rev B
	CCB No.	4634
Lead-Frame	**Paddle size**	200x365 mils
	Material	A194
	DAP Surface Prep	Ag Ring Plated
	Treatment	None
	Process	Etched
	Lead-lock	No
	Part Number	10103212
	Lead Plating	Matte Tin
	Strip Size	8.749x2.756 in.
	Strip Density	24 units/strip
Bond Wire	**Material**	Au
Die Attach	**Part Number**	3280
	Conductive	Yes
MC	**Part Number**	G600
PKG	**PKG Type**	PLCC
	Pin/Ball Count	32
	PKG width/size	11.5x14x3.37mm

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Package Qualification Report

Manufacturing Information:

Assembly Lot No.	Wafer Lot No.
MMT-220402459.000	GC01920284943.200
MMT-220402466.000	GC01920284943.200
MMT-220402460.000	GC01920284943.200

☒ **Pass** ☐ **Fail** ☐ ____________________

19K wafer on 32L PLCC using Au wire at MMT assembly is qualified the Moisture/ Reflow SensitivityClassification Level 2 at 245°C reflow temperature per IPC/JEDEC J-STD-020E standard. Inverted signal on Die Paddle Area and Leadfinger found on all units. All units are passing electrical testing.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform Reliability Tests **MSL-2 @ 245C**	**Electrical Test :** +25°C	JESD22-A113,	693(0)			Good Devices
	External Visual Inspection System: Luxo Lamp	JIP/ IPC/JEDEC J-STD-020E	693(0)	0/693	Pass	
	Bake 150°C, 24 hrs System: HERAEUS		693(0)			
	Moisture Soak 85°C/60%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	Pass	

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 245°C
	Electrical Test: +85°C		231(0)	0/231	Pass	
	Bond Strength: Wire Pull Bond Shear		15(0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 245°C
	Electrical Test: +25°C		231(0)	0/231	Pass	
BIASED-HAST	**Stress Condition:** (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			Parts had been pre-conditioned at 245°C
	Electrical Test: +25°C, +85°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	JESD22-A103	45 (0)			
	Electrical Test : +25°C +85°C		45 (0)	0/45	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
Bond Strength **Data Assembly**	Wire Pull 1 lot, 30 wires from 5 units min	M2011.8 MIL-STD-883	30(0) Wires	0/30	Pass	
Bond Strength **Data Assembly**	Bond Shear 1 lot, 30 bonds from 5 units min	M2011.8 MIL-STD-883	35(0) bonds	0/35	Pass	