



## Product Change Notification / JAON-06SLTO183

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**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)

<b>Wire material</b>	Au		Au
<b>Die attach material</b>	CRM-1033BF		3280
<b>Molding compound material</b>	G600		G600
<b>Lead frame material</b>	C151		A194
<b>Lead frame paddle size</b>	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.

**CCB 4634**  
**Pre and Post Change Summary**  
**PCN # JAON-06SLTO183**



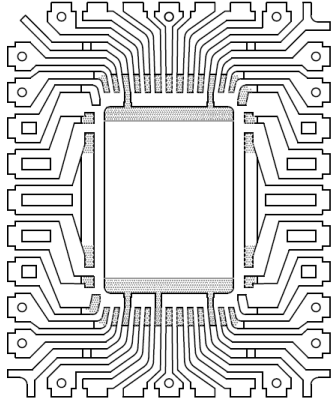
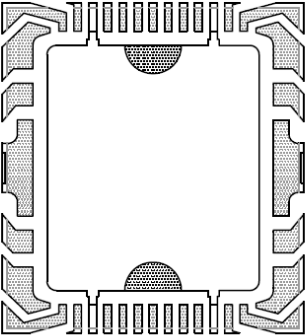
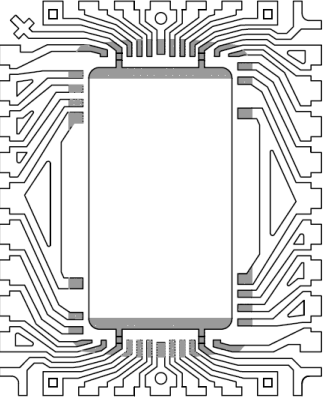
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# Lead frame Comparison

Pre Change		Post Change
LPI		MMT
 <p>PAD SIZE:181x261 MILS FUSED LEAD ON PIN#16</p>	 <p>PAD SIZE:225x260 MILS NON-FUSED LEAD ON PIN#16</p>	 <p>PAD SIZE:200x365 MILS NON-FUSED LEAD ON PIN#16</p>



**MICROCHIP**

**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.**



## MICROCHIP 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.

<u>Misc.</u>	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
<u>Lead-Frame</u>	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
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	3280
	Conductive	Yes
<u>MC</u>	Part Number	G600
<u>PKG</u>	PKG Type	PLCC
	Pin/Ball Count	32
	PKG width/size	11.5x14x3.37mm



# MICROCHIP

## 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 Sensitivity Classification 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
<b>Precondition Prior Perform Reliability Tests MSL-2 @ 245C</b>	<b>Electrical Test</b> : +25°C	JESD22-A113,	693(0)			Good Devices
	<b>External Visual Inspection</b> System: Luxo Lamp	JIP/ IPC/JEDEC C J-STD-020E	693(0)	0/693	Pass	
	<b>Bake</b> 150°C, 24 hrs System: HERAEUS		693(0)			
	<b>Moisture Soak</b> 85°C/60%RH Moisture Soak 168hrs. System: Climats Excal 5423-HE		693(0)			
	<b>Reflow</b> 3x Convection-Reflow 260°C max System: Mancorp CR.5000F		693(0)	0/693		
	<b>Electrical Test</b> : +25°C		693(0)	0/693	Pass	

<b>Temp Cycle</b>	<b>Stress Condition:</b> (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
	<b>Electrical Test:</b> +85°C		231(0)	0/231	Pass	
	<b>Bond Strength:</b> Wire Pull Bond Shear		15(0)	0/15	Pass	
<b>UNBIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A118	231(0)			Parts had been pre-conditioned at 245°C
	<b>Electrical Test:</b> +25°C		231(0)	0/231	Pass	
<b>BIASED-HAST</b>	<b>Stress Condition:</b> (Standard) +130°C/85%RH, 96H System: HIRAYAMA HASTEST PC-422R8	JESD22-A110	231(0)			Parts had been pre-conditioned at 245°C
	<b>Electrical Test:</b> +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
<b>High Temperature Storage Life</b>	<b>Stress Condition:</b> Bake 175°C, 500 hrs System: HERAEUS	JESD22-A103	45 (0)			
	<b>Electrical Test :</b> +25°C +85°C		45 (0)	0/45	Pass	
<b>Solderability Temp 245°C</b>	<b>Bake:</b> Temp 155°C,4Hrs System:Oven Solder Bath: Temp.245°C	J-STD-002	22 (0)	0/22	Pass	Performed at MPHIL
<b>Bond Strength Data Assembly</b>	Wire Pull 1 lot, 30 wires from 5 units min	M2011.8 MIL-STD-883	30(0) Wires	0/30	Pass	
<b>Bond Strength Data Assembly</b>	Bond Shear 1 lot, 30 bonds from 5 units min	M2011.8 MIL-STD-883	35(0) bonds	0/35	Pass	

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