Product Change Notification / LIAL-13ERYV184

Date:

29-Jul-2021

Product Category:

Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4198.001 Final Notice: Qualification of ASSH as a new assembly site for selected 24xx01, 24xx02, 24xx04, 24xx08 and 24xx16 device families available in 8L TSSOP package.

Affected CPNs:

LIAL-13ERYV184_Affected_CPN_07292021.pdf
LIAL-13ERYV184_Affected_CPN_07292021.csv

Notification Text:

PCN Status: Final 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 ASSH as a new assembly site for selected 24xx01, 24xx02, 24xx04, 24xx08 and 24xx16 device families available in 8L TSSOP package.

Pre Change:

Assembled at MMT using gold (Au) bond wire, 2200D die attach material, G600V molding compound material, with Matte tin lead plating finish and using lead frame without lead lock

Post Change:

Assembled at ASSH using palladium coated copper (PdCu) bond wire, EN-4900GC die attach material, G700LY molding

compound material, with Ru-PPF lead plating finish and using lead frame with lead lock

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand (MMT)	ASE Advanced Semiconductor (Shanghai) Co., Ltd ASSH
Wire material	Au	PdCu
Die attach material	2200D	EN-4900GC
Molding compound material	G600V	G700LY
Lead frame material	C7025	C7025
Lead Plating Finish	Matte tin	Ru-PPF
Lead frame lead-lock	No	Yes
	See Pre and Post Change attachment for lead frame comparison.	

Impacts to Data Sheet: None

Change Impact: None

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

Change Implementation Status: In Progress

Estimated First Ship Date: February 9, 2021 (date code: 2107)

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

Time Table Summary:

	January 2021					**February 2021**			
Workweek	01	02	03	04	05	06	07	08	09
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:January 18, 2021: Issued final notification. Attached the Qualification Report. Provided estimated first ship

date to be on February 9, 2021.**July 29, 2021:** Re-issued final notification to update the 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_LIAL-13ERYV184_Qual Report_Rev1.pdf
PCN_LIAL-13ERYV184_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)

24AA16T-I/ST
24LC08B/ST
24LC08B-E/ST
24LC08BH-E/ST
24LC08BH-I/ST
24LC08BHT-E/ST
24LC08BHT-I/ST
24LC08B-I/ST
24LC08BT/ST
24LC08BT-E/ST
24LC08BT-I/ST
24LC16B/ST
24LC16B-E/ST
24LC16BH-E/ST
24LC16BH-I/ST
24LC16BHT-E/ST
24LC16BHT-I/ST
24LC16B-I/ST
24LC16BT/ST
24LC16BT-E/ST
24LC16BT-I/ST
24AA01H-I/ST
24AA01HT-I/ST
24AA01-I/ST
24AA01T-I/ST
24AA02/ST
24AA02H-I/ST
24AA02HT-I/ST
24AA02-I/ST
24AA02T-I/ST
24AA04H-I/ST
24AA04HT-I/ST
24AA04-I/ST
24AA04T-I/ST
24LC01B/ST
24LC01B-E/ST
24LC01BH-E/ST
24LC01BH-I/ST
24LC01BHT-E/ST
24LC01BHT-I/ST
24LC01B-I/ST
24LC01BT/ST
24LC01BT-E/ST
24LC01BT-I/ST
24LC02B/ST
24LC02B-E/ST

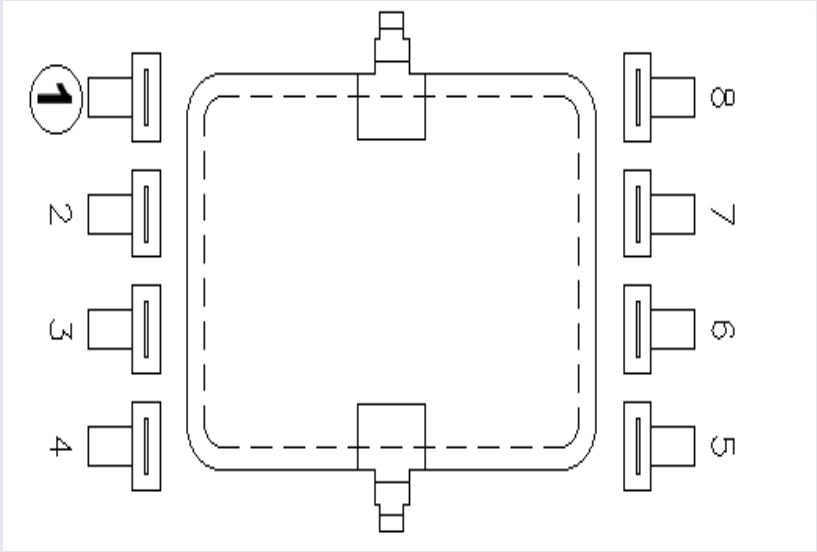
24LC02BH-E/ST
24LC02BH-I/ST
24LC02BHT-E/ST
24LC02BHT-I/ST
24LC02B-I/ST
24LC02BT/ST
24LC02BT-E/ST
24LC02BT-I/ST
24LC04B/ST
24LC04B-E/ST
24LC04BH-E/ST
24LC04BH-I/ST
24LC04BHT-E/ST
24LC04BHT-I/ST
24LC04B-I/ST
24LC04BT/ST
24LC04BT-E/ST
24LC04BT-I/ST
24AA08H-I/ST
24AA08HT-I/ST
24AA08-I/ST
24AA08T-I/ST
24AA16-E/ST
24AA16H-I/ST
24AA16HT-I/ST
24AA16-I/ST
24AA16T-E/ST

CCB 4198.001
Pre and Post Change Summary
PCN #: LIAL-13ERYV184

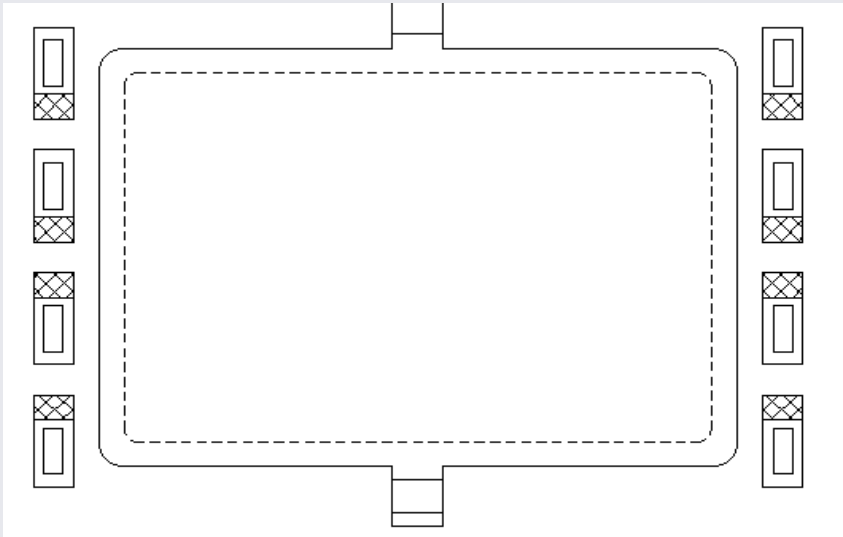
A Leading Provider of Smart, Connected and Secure Embedded Control Solutions

Lead frame comparison

Pre change	Post Change
MMT	**ASSH**



Lead frame lead-lock	No



Lead frame lead-lock	Yes

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN#: LIAL-13ERYV184

Date

October 30, 2020

Qualification of ASSH as a new assembly site for selected 24xx01, 24xx02, 24xx04, 24xx08 and 24xx16 device families available in 8L TSSOP package.

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of ASSH as a new assembly site for selected 24xx01, 24xx02, 24xx04, 24xx08 and 24xx16 device families available in 8L TSSOP package.
CN	ES345370
CCB	4198.001
QUAL ID	R2000526 Rev B
MP CODE	3583079CXC03
Part No.	AT24C256C-XHL-B
Bonding No.	W35830ayu
Package	
Type	8L TSSOP
Package size	4.4 mm
Lead Frame	
Paddle size	2.21 x 3.2 mils
Material	C7025
Surface	Ru-PPF
Process	Stamped
Lead Lock	Yes
Part Number	LI-WMA400008-05-00
Treatment	Roughened
Material	
Epoxy	EN-4900GC
Wire	PdCu
Mold Compound	G700LY
Plating Composition	Ru-PPF

PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
ASSH184000082.000	MCSO518384144.000	1752USC
ASSH204400040.000	MCSO520177622.000	20057CC
ASSH204700076.000	MCSO520167575.000	2008CDJ

Result [X] Pass [ ] Fail [ ] _____

8L TSSOP assembled by ASSH pass reliability test per QCI-39000.This package was qualified the Moisture/Reflow Sensitivity Classification Level 1 at 260°C reflow temperature per IPC/JEDEC J-STD-020E standard.

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Moisture/Reflow Sensitivity Classification Test (At MSL Level 1)	85°C/ 85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 (IPC/JEDEC J-STD-020E)	IPC/JEDEC J-STD-020E	135	0/135	Pass	
<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test:** +25°C, 85°C and 125°C System: NEXTEST_PT Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 **Electrical Test:** +25°C, 85°C and 125°C System: NEXTEST_PT	JESD22-A113	693(0)	693 693 693 693 0/693	 Pass	Good Devices

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (>4.00 grams) Bond Shear (>18.00 grams)		45 (0)	0/45	Pass	
	Stress Condition: -65°C to +150°C, 1000 Cycles System: TABAI ESPEC TSA-70H			231		
	Electrical Test: +85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (>4.00 grams) Bond Shear (>18.00 grams)		45 (0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C, 85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (>4.00 grams) Bond Shear (>18.00 grams)		45 (0)	0/45	Pass	
	Stress Condition: +130°C/85%RH, 192 hrs. **Bias Volt:** 5.5 Volts System: HAST 6000X			231		
	Electrical Test: +25°C, 85°C and 125°C System: NEXTEST_PT		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (>4.00 grams) Bond Shear (>18.00 grams)		45 (0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X **Electrical Test:** +25°C System: NEXTEST_PT	JESD22-A118	 231(0)	231 0/231	 Pass	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 500 hrs System: TPS DC-166-F-ST350 **Electrical Test:** +25°C, 85°C and 125°C System: NEXTEST_PT **Stress Condition:** Bake 175°C, 1000 hrs System: TPS DC-166-F-ST350 **Electrical Test:** +25°C, 85°C and 125°C System: NEXTEST_PT	JESD22-A103	 135(0) 135(0)	135 0/135 135 0/135	 Pass Pass	45 units / lot
Solderability **Temp 215°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C Solder material: SnPb Sn63, Pb37 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	 Pass	
Solderability **Temp 245°C**	**Steam Aging:** Temp 93°C,8Hrs System: SAS-3000 Solder Dipping:Solder Temp.245°C Solder material:Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection	J-STD-002	22 (0)	22 22 0/22	 Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Bond Strength Data Assembly	Wire Pull (>8.00 grams)	Mil.Std. 883-2011	30 (0) Wires	0/30	Pass	
	Bond Shear (> 18.00 grams)	CDF-AEC-Q100-001	30 (0) Wires	0/30	Pass	