Product Change Notification / ALAN-28BFQE464

Date:

02-Dec-2022

Product Category:

Switching Regulators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5102 Final Notice: Qualification of CARC as a new assembly site for LX7167ACLD-TR and LX7167CLD-TR catalog part numbers (CPN) available in 8L WDFN (2x2x0.8mm) package.

Affected CPNs:

ALAN-28BFQE464_Affected_CPN_12022022.pdf
ALAN-28BFQE464_Affected_CPN_12022022.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 CARC as a new assembly site for LX7167ACLD-TR and LX7167CLD-TR catalog part numbers (CPN) available in 8L WDFN (2x2x0.8mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	UTAC Dongguan	Carsem (Suzhou)

		Limited ASAC (UDG)	(CARC)
Wire Material		CuPdAu	CuPdAu
Die Attach Material		8600	QMI519
Molding Compound Material		G700LTD	G770HCD
Lead-frame	Material	C194 FH	C194
	Paddle Size	43 x 69 mil	43 x 67 mil
	DAP Surface Prep	Ag on lead only	Spot Ag
	Lead-lock	No	Half-etched
	See Pre and Post change comparison.		

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve manufacturability by qualifying CARC as a new assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: December 20, 2022 (date code: 2252)

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

Time Table Summary:

	May 2022						**December 2022**				
Workweek	19	20	21	22	23	>	49	50	51	52	53
Initial PCN Issue Date			x								
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: May 17, 2022: Issued initial notice.

December 2, 2022: Issued final notice. Attached the Qualification Report. Updated DAP Surface Prep pre-change to Ag on lead only. Provided estimated first ship date to be on December 20, 2022.

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-28BFQE464_Pre and Post Change_Summary.pdf
PCN_ALAN-28BFQE464_Qual_Report.pdf

Please contact your local Microchip sales office with questions or concerns regarding this notification.

Terms and Conditions:

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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 5102

Pre and Post Change Summary

PCN# ALAN-28BFQE464

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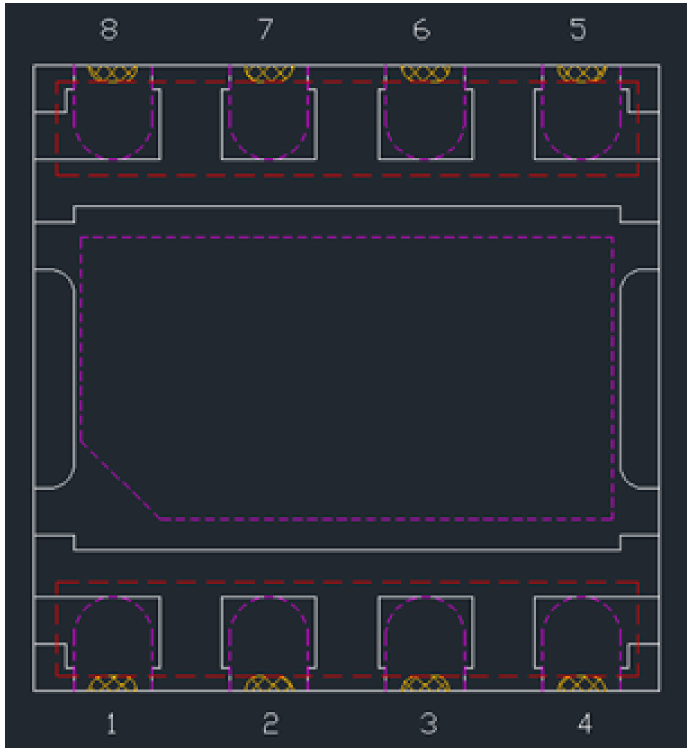
SMART | CONNECTED | SECURE

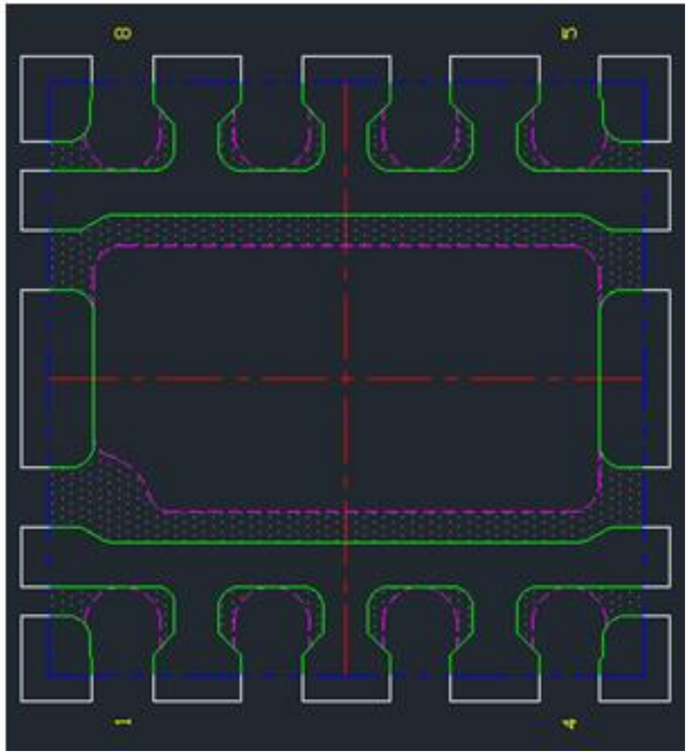
Pre and Post Change Summary

ASAC (UDG)



Material	C194 FH
Paddle Size	43 x 69 mil
DAP Surface Prep	Ag on lead only
Lead-lock	No

CARC



Material	C194
Paddle Size	43 x 67 mil
DAP Surface Prep	Spot Ag
Lead-lock	Half-etched

ALAN-28BFQE464 - CCB 5102 Final Notice: Qualification of CARC as a
new assembly site for LX7167ACLD-TR and LX7167CLD-TR catalog part numbers (CPN) available in 8L WDFN (2x2x0.8mm) package.

Affected Catalog Part Numbers(CPN)

LX7167ACLD-TR
LX7167CLD-TR

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QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: ALAN-28BFQE464

Date
November 14, 2022

Qualification of CARC as a new assembly site for LX7167ACLD-TR and LX7167CLD-TR catalog part numbers (CPN) available in 8L WDFN (2x2x0.8mm) package.

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PACKAGE QUALIFICATION REPORT

Purpose	**Qualification of CARC as a new assembly site for LX7167ACLD-TR and LX7167CLD-TR catalog part numbers (CPN) available in 8L WDFN (2x2x0.8mm) package.**
CCB No.	5102
CN	E000108171
QUAL ID	R2200773 Rev. A
MP CODE	U0131QNYCA01
Part No.	LX7167ACLD-TR
Bonding No.	BD-000623 Rev.01
<u>Package</u>	
Type	8L WDFN
Package size	2 x 2 x 0.8 mm
<u>Lead Frame</u>	
Paddle size	43 x 67 mils
Material	C194
Surface	Spot Ag
Process	Etched
Lead Lock	Half Etched
Part Number	441959ASMC
<u>Material</u>	
Epoxy	QMI519
Wire	CuPdAu
Mold Compound	G770HCD
Plating Composition	Matte Sn

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
CARC230800012.000	MC04920317717.100	2221BDT
CARC230800013.000	MC04920317717.100	2221BP5
CARC230900001.000	MC04920317717.100	2222BPS

Result ☒ Pass ☐ Fail ☐ ______________

8L WDFN (2x2x0.8 mm) assembled by CARC 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
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test:** +25°C System: ETS300_AMS	JESD22-A113	693(0)	0/693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE	JIP/ IPC/JEDEC J-STD-020E		0/693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			0/693		
	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243			0/693		
	Electrical Test: +25°C System: ETS300_AMS		693(0)	0/693	Pass	

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: +25°C System: ETS300_AMS		231(0)	0/231	Pass	77 units / lot
	Bond Strength:					
	Wire Pull (>5.00 grams)		15 (0)	0/15	Pass	
	Bond Shear (>25.00 grams)		15 (0)	0/15	Pass	
UNBIASED-HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118		231		Parts had been pre-conditioned at 260°C
	Electrical Test: +25°C System: ETS300_AMS		231(0)	0/231	Pass	77 units / lot
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 System: ETS300_AMS		231(0)	0/231	Pass	77 units / lot

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, 504 hrs System: SHEL LAB **Electrical Test:** +25°C System: ETS300_AMS	JESD22-A103	135(0)	0/135 0/135	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)	0/22 0/22 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)	0/22 0/22 0/22	Pass	
Physical Dimensions	Physical Dimension, 10 units / 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (>5.00 grams) Bond Shear (>25.00 grams)	Mil. Std. 883-2011 CDF-AEC-Q100-001	30(0) Wires 30(0) bonds	0/30 0/30	Pass Pass	