Product Change Notification / ASER-15HQCX332

Date:

20-Oct-2021

Product Category:

Analog to Digital Converters

PCN Type:

Manufacturing Change

Notification Subject:

CCB 4903 Final Notice: Qualification of a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package.

Affected CPNs:

ASER-15HQCX332_Affected_CPN_10202021.pdf
ASER-15HQCX332_Affected_CPN_10202021.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 a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change

Assembly Site	UTAC Thai Limited (UTL-1) LTD. (NSEB)	UTAC Thai Limited (UTL-1) LTD. (NSEB)
Wire Material	Au	Au
Die Attach Material	8200T	8200T
Molding Compound Material	G600	G600
Lead-Frame Material	C7025	C7025
Lead-Frame Paddle Size	82x94 mil	68x94 mil
Lead-Frame Lead Lock	No	Yes
	See Pre and Post Change Summary for comparison.	

Impacts to Data Sheet: None

Change Impact None

Reason for Change: To improve productivity by qualifying a new lead frame design.

Change Implementation Status: In Progress

Estimated First Ship Date:10/30/21 (date code: 2144)

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

Time Table Summary:

	October 2021				
Workweek	41	42	43	44	45
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: October 20, 2021: Issued final notification.

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

Attachments:

PCN_ASER-15HQCX332 Qual Report 1 of 2.pdf
PCN_ASER-15HQCX332 Qual Report 2 of 2.pdf
PCN_ASER-15HQCX332_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)

MCP3423-E/UN
MCP3427-E/UN
MCP3423T-E/UN
MCP3427T-E/UN

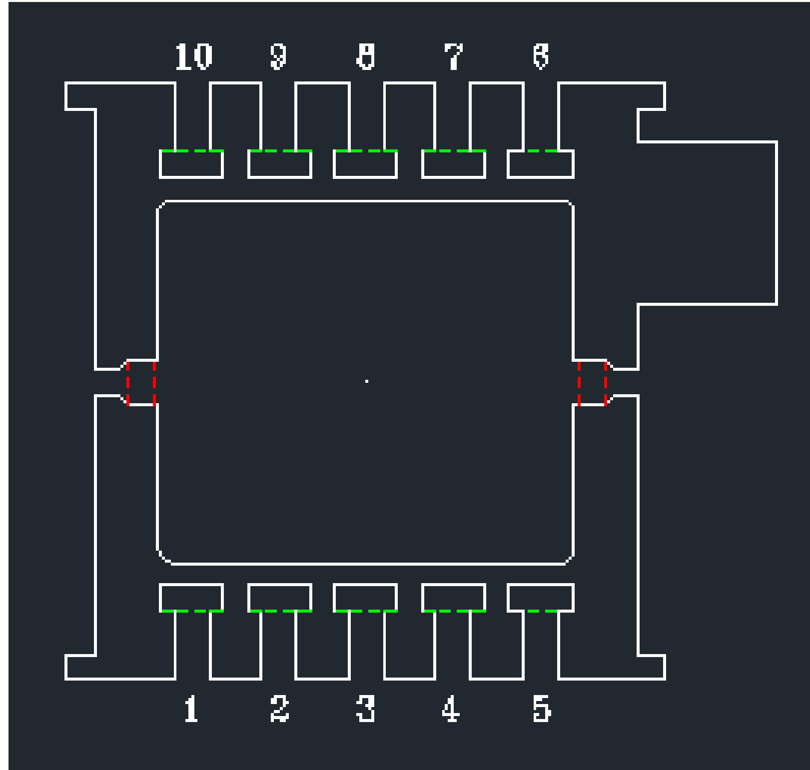
CCB 4903
Pre and Post Change Summary
PCN #: ASER-15HQCX332

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

Qualification of a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package.

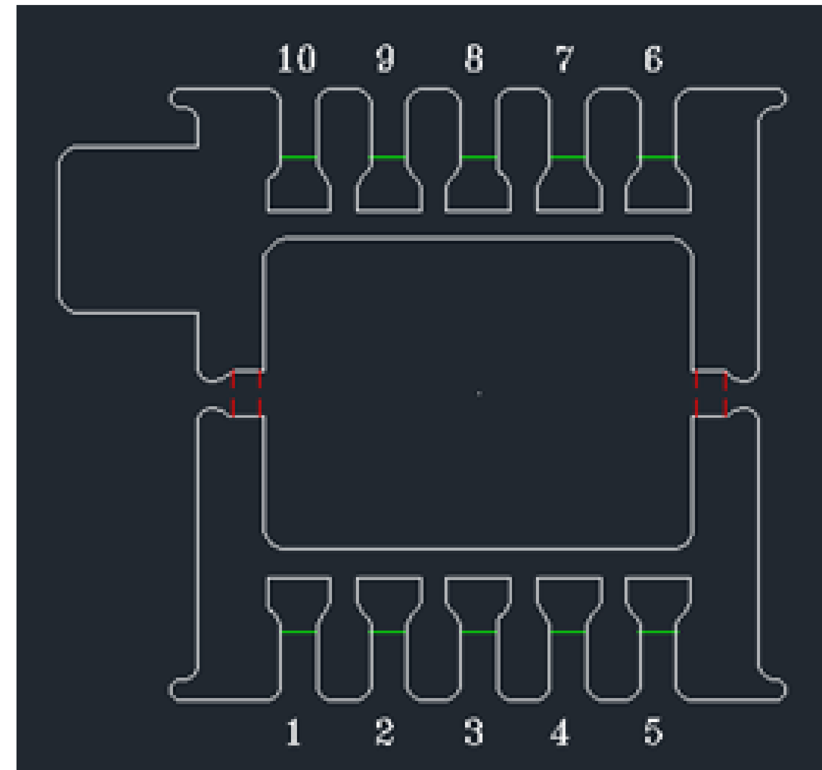
Lead Frame Comparison

NSEB



Lead-Frame Material	C7025
Lead-Frame Paddle Size	82x94 mil
Lead-Frame Lead Lock	No

NSEB



Lead-Frame Material	C7025
Lead-Frame Paddle Size	68x94 mil
Lead-Frame Lead Lock	Yes

QUALIFICATION REPORT SUMMARY

PCN #: ASER-15HQCX332

Date:
June 14, 2016

Qualification of a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package. This is a qualification by similarity.

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PACKAGE QUALIFICATION REPORT

Purpose	Qualification of a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package. This is a qualification by similarity.
CCB	2503 & 4903
CN	BC161017
QUAL ID	Q16048 Rev. A
MP CODE	VABA1YE3XA00
Part No.	HV9805MG-G
Bonding No.	A-053196 Rev. B
Package	
Type	10L MSOP
Package size	3x3 mm
Lead Frame	
Paddle size	68 x 94 mils
Material	C7025
Surface	Spot Ag Plated
Process	Stamped
Lead Lock	Yes
Part Number	FM0008
Treatment	None
Die attach material	
Epoxy	2200D
Wire	Au wire
Mold Compound	G600
Plating Composition	Matte Tin

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB164100001.000	TSMC915451595.000	1601H4R
NSEB164100002.000	TSMC915451595.000	1601H4V
NSEB164100003.000	TSMC915451595.000	1601H55

Result [X] Pass [ ] Fail [ ] ____________________

10L MSOP (3x3mm) assembled by UTL (NSEB) 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-020D 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-020D)	IPC/JEDEC J-STD-020D	135	0/135	Pass	

Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test :**+25°C System: TMT_HV_NT	JESD22-A113	693(0)	693		Good Devices
	Bake 150°C, 24 hrs System: CHINEE			693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH			693		
	3x Convection-Reflow 265°C max			693		
	System: Vitronics Soltec MR1243					
	Electrical Test :+25°C System: TMT_HV_NT			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: TMT_HV_NT		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 4.0 grams)		15 (0)	0/15	Pass	
	Bond Shear (>20.00 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: TMT_HV_NT		231(0)	0/231	Pass	77 units / lot
HAST	**Stress Condition:** +130°C/85%RH, 96 hrs. **Bias Volt:** 5.0 Volts System: HAST 6000X	JESD22-A110		231		Parts had been pre-conditioned at 260°C
	Electrical Test:+25°C System: TMT_HV_NT		231(0)	0/231	Pass	77 units / lot
High Temperature Storage Life	**Stress Condition:** Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103		45		45 units
	Electrical Test :+25°C System: TMT_HV_NT		45(0)	0/45	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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	JESD22B-102E	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	JESD22B-102E	22 (0)	22 22 0/22	Pass	
Physical Dimensions	Physical Dimension, 30 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 4.0 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>20.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	

QUALIFICATION REPORT SUMMARY

PCN #: ASER-15HQCX332

Date:
Aug 05, 2019

Qualification of a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package. This is a qualification by similarity.

MICROCHIP

Purpose	Qualification of a new lead frame design for selected MCP342xxx device family available in 10L MSOP (3x3mm) package. This is a qualification by similarity.
CCB	2929.001 & 4903
CN	ES295627
QUAL ID	Q19076 Rev. A
MP CODE	TAPA44E3XA11
Part No.	MCP33111-10-E/MS
Bonding No.	BDE-005353 Rev. 01
Package	
Type	10L MSOP
Package size	3 x 3 mm.
Lead Frame	
Paddle size	82 x 94 mils
Material	C7025
Surface	Ag Spot plated
Process	Stamped
Lead Lock	No
Part Number	FM0009
Treatment	None
Material	
Epoxy	8200T
Wire	Au wire
Mold Compound	G600
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB200400001.000	TC08919468004.400	1917T0M
NSEB200400002.000	TC08919468004.400	1917T0R
NSEB200400003.000	TC08919468004.400	1917T0T

Result [X] Pass [ ] Fail [ ] ____________________

10L MSOP assembled by NSEB 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	
Precondition Prior Perform Reliability Tests (At MSL Level 1)	**Electrical Test :**+25°C and 125°C System: J750_HD 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 and 125°C System: J750_HD	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: + 125°C System: J750_HD		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
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	
Physical Dimensions	Physical Dimension, 10 units from 1 lot	JESD22-B100/B108	30(0) Units	0/30	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 grams)	M2011	30 (0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	JESD22-B116	30 (0) bonds	0/30	Pass	