

Product Change Notification / MAAN-21YAMJ457

Date:

11-Jun-2024

Product Category:

Linear Regulators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6508 Final Notice: Qualification of HANA as an additional assembly site for selected MCP1754xx and MCP1755xx device families available in 3L SOT-223 package using 100x87mils paddle size.

Affected CPNs:

MAAN-21YAMJ457_Affected_CPN_06112024.pdf MAAN-21YAMJ457_Affected_CPN_06112024.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 HANA as an additional assembly site for selected MCP1754xx and MCP1755xx device families available in 3L SOT-223 package using 100x87mils paddle size.

Pre and Post Change Summary:

Pre Change	Post Change

Assembly Site	Lingsen Precision Industries, LTD. (LPI)	Lingsen Precision Industries, LTD. (LPI)	Hana Semiconductor CO., LTD. (HANA)
Wire Material	Au	Au	Au
Die Attach Material	CRM-1064L	CRM-1064L	84-1 LMISR4
Molding Compound Material	G600	G600	G600
Lead-Frame Material	PMC	PMC	C194
Lead-Frame Paddle Size	118x97mils	118x97mils	100x87mils

*Note: This change applies to all affected catalog part numbers (CPN) except MCP1755S-1802E/DB, MCP1755ST-1802E/DB, MCP1755ST-3302E/DB, MCP1755ST-3302E/DB, MCP1755ST-5002E/DB and MCP1755ST-5002E/DB.

	Pre C	hange	Post Change			
Assembly Site	Lingsen Precision Industries, LTD. (LPI)	Hana Semiconductor CO., LTD. (HANA)	Lingsen Precision Industries, LTD. (LPI)	Hana Semiconductor CO., LTD. (HANA)		
Lead-Frame Paddle Size	118x97mils	118x101mils	118x97mils	100x87mils		
DAP Surface Prep	Ring Ag	Spot Ag	Ring Ag	Ring Ag		

*Note: This change only applies to MCP1755S-1802E/DB, MCP1755ST-1802E/DB, MCP1755S-3302E/DB, MCP1755ST-3302E/DB, MCP1755S-5002E/DB and MCP1755ST-5002E/DB catalog part numbers (CPN).

Impacts to Data Sheet:None

Change ImpactNone

Reason for Change:To improve on-time delivery performance by qualifying HANA as an additional assembly site.

Change Implementation Status: In Progress

Estimated First Ship Date: July 20, 2024 (date code: 2429)

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

Time Table Summary:

	September 2023			>	June 2024			July 2024								
Workweek	3 5	3 6	3 7	3 8	3 9		2 2	2 3	2 4	2 5	2 7	2 7	2 8	2 9	3 0	3 1
Initial PCN Issue Date		x														
Qual Report Availability									x							
Final PCN Issue Date									x							
Estimated Implementation Date														х		

Method to Identify Change: Traceability code

Qualification Report:Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History:September 6, 2023: Issued initial notification.

June 11, 2024: Issued final notification. Attached the Qualification Report. Provided estimated first ship date to be on July 20, 2024.

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

Attachments:

PCN_MAAN-21YAMJ457_Pre_and_Post_Change_Summary.pdf PCN_MAAN-21YAMJ457_Qual_Report.pdf

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

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If you wish to <u>change your PCN profile</u>, <u>including opt out</u>, please go to the <u>PCN home page</u> select login and sign into your myMicrochip account. Select a profile option from the left navigation bar and make the applicable selections. MAAN-21YAMJ457 - CCB 6508 Final Notice: Qualification of HANA as an additional assembly site for selected MCP1754xx and MCP1755xx device families available in 3L SOT-223 package using 100x87mils paddle size.

Affected Catalog Part Numbers (CPN)

MCP1754ST-3302E/DB MCP1754S-5002E/DB MCP1754ST-5002E/DB MCP1754S-3302E/DB MCP1755ST-5002E/DB MCP1755S-5002E/DB MCP1755S-1802E/DB MCP1755ST-1802E/DB MCP1755ST-3302E/DB MCP1755ST-3002E/DB MCP1755ST-3002E/DB MCP1755ST-3002E/DB MCP1754ST-3002E/DB



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



Lead Frame Comparison







QUALIFICATION REPORT SUMMARY RELIABILITY LABORATORY

PCN #: MAAN-21YAMJ457

Date: May 24, 2024

Qualification of HANA as an additional assembly site for selected MCP1754xx and MCP1755xx device families available in 3L SOT-223 package using 100x87mils paddle size.



Purpose	Qualification of HANA as an additional assembly site for selected MCP1754xx and MCP1755xx device families available in 3L SOT-223 package using 100x87mils paddle size.
CN	E000194066
QUAL ID	R2301764 Rev. A.
MP CODE	V0AC2YF6XB00
Part No.	MCP1755ST-3302E/DB
Bonding No.	BD-001708 Rev. 01
CCB No.:	6508
Package	
Туре	3L SOT-223
Lead Frame	
Paddle size	100 x 87 mils
Material	C194
Surface	Ring Ag
Process	Stamp
Lead Lock	No
Part Number	134760B
Treatment	Rough (BOT)
<u>Material</u>	
Ероху	84-1LMISR4
Wire	Au wire
Mold Compound	G600
Plating Composition	Matte Sn



Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
HANA242700004.000	VS01924145084.110	23406YQ
HANA242700005.000	VS01924145084.110	23406YV
HANA242700007.000	VS01924145084.110	234077Y

Result

X Pass

Fail

3L SOT-223 assembled by HANA 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 QUALIFIC	ATION	REP	ORT		
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS	Result	Remarks
Precondition Prior Perform	Electrical Test: +25°C and 125°C System: TTS	JESD22- A113	693(0)	0/693		Good Devices
<u>Reliability</u> <u>Tests</u> (At MSL Level 1)	Bake 150°C, 24 hrs. System: CHINEE	JIP/ IPC/JEDE		693		
	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	020E		693 693		
	3x Convection-Reflow 265°C max			000	_	
	System: Vitronics Soltec MR1243		693(0)	0/693	Pass	
	Electrical Test: +25°C and 125°C System: TTS					

PACKAGE QUALIFICATION REPORT								
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks		
	Stress Condition: -65°C to +150°C, 500 Cycles System: TABAI ESPEC TSA-70H	JESD22- A104		0/231		Parts had been pre-conditioned at 260°C		
Temp Cycle	Electrical Test: 125°C System: TTS		231(0)	0/231	Pass	77 units / lot		
	Bond Strength: Wire Pull (>5.00 grams)		15(0)	0/15	Pass			
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22- A118		0/231		Parts had been pre-conditioned at 260°C		
	Electrical Test: +25°C System: TTS		231(0)	0/231	Pass	77 units / lot		
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 16.0 Volts System: HAST 6000X	JESD22- A110		0/231		Parts had been pre-conditioned at 260°C		
	Electrical Test: +25°C and 125°C System: TTS		231(0)	0/231	Pass	77 units / lot		

	PACKAGE QUALIFIC	ATION	REP	ORT		
Test Number	Test Condition	Standard/	Qty.	Def/SS.	Result	Remarks
(Reference)		Method	(Acc.)			
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs. System: TPS Bake Oven	JESD22- A103		0/45		45 units
	Electrical Test: +25°C and 125°C System: TTS		45(0)	0/45	Pass	
Solderability	Steam Aging: Temp 93°C, 8Hrs System: SAS-3000 Solder Dipping: Solder Temp.215°C	J-STD-002	22(0)	0/22		
	Solder material: SNPb SN63, Pb37 System: ERSA RA 2200D			0/22		
	Visual Inspection: External Visual Inspection			0/22	Pass	
Solderability	Steam Aging: Temp 93°C, 8Hrs System: SAS-3000 Solder Dipping: Solder Temp.245°C	J-STD-002	22(0)	0/22		
Temp 245°C	Solder material: Pb Free Sn 95.5Ag3.9 Cu0.6 System: ERSA RA 2200D Visual Inspection: External Visual Inspection			0/22 0/22	Pass	
Bond Line Thickness	Bond Line Thickness	SPI-45528	15(0)	15(0)	Pass	5 units / lot
Wire sweep	Wire sweep Inspection 15 Wires / lot	-	45(0) Wires	0/45	Pass	
Physical	Physical Dimension,	JESD22-	30(0)	0/30	Pass	
Dimensions	10 units / 1 lot	B100/B108	Units			
Bond Strength	Wire Pull (>5.00 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
Data Assembly	Bond Shear (>19.65 grams)	CDF-AEC- Q100-001	30(0) bonds	0/30	Pass	