



Product Change Notification / MAAN-07HTDL444

Date:

22-Sep-2023

Product Category:

Linear Regulators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6544 Initial Notice: Qualification of HANA as an additional assembly site for selected MCP1791Txx device family available in 5L SOT-223 package.

Affected CPNs:

[MAAN-07HTDL444_Affected_CPN_09222023.pdf](#)

[MAAN-07HTDL444_Affected_CPN_09222023.csv](#)

Notification Text:

PCN Status:Initial 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 MCP1791Txx device family available in 5L SOT-223 package.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	Lingsen Precision	Lingsen Precision	Hana Semiconductor

	Industries, LTD. (LPI)	Industries, LTD. (LPI)	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	C194	C194	C194
Lead-Frame Paddle Size	See Pre and Post Change comparison		

** Note: This change only applies to MCP1791T-5002E/DCVAO catalog part number (CPN).*

	Pre Change		Post Change	
Assembly Site	Lingsen Precision Industries, LTD. (LPI)	Hana Semiconductor CO., LTD. (HANA	Lingsen Precision Industries, LTD. (LPI)	Hana Semiconductor CO., LTD. (HANA)
Wire Material	Au	Au	Au	Au
Die Attach Material	CRM-1064L	84-1 LMISR4	CRM-1064L	84-1 LMISR4
Molding Compound Material	G600	G600	G600	G600
Lead-Frame Material	C194	C194	C194	C194
Lead-Frame Paddle Size	See Pre and Post Change comparison			

** Note: This change applies to MCP1791T-3002E/DC, MCP1791T-3302E/DC and MCP1791T-5002E/DC catalog part numbers (CPN).*

Impacts to Data Sheet:None

Change Impact:None

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

Change Implementation Status:In Progress

Estimated Qualification Completion Date:March 2024

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and

a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

	September 2023					>	March 2024				
Workweek	3 6	3 7	3 8	3 9	4 0		9	10	11	12	13
Initial PCN Issue Date			x								
Qual Report Availability									x		
Final PCN Issue Date									x		

Method to Identify Change:Traceability code

Qualification Plan:Please open the attachments included with this PCN labeled as PCN_#_Qual_Plan.

Revision History:September 22, 2023: Issued initial 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_MAAN-07HTDL444_Pre_and_Post_Change_Summary.pptx.pdf](#)

[PCN_MAAN-07HTDL444_Qual_Plan.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)

MCP1791T-5002E/DCVAO

MCP1791T-5002E/DC

MCP1791T-3302E/DC

MCP1791T-3002E/DC



QUALIFICATION PLAN SUMMARY

PCN#: MAAN-07HTDL444

Date:

August 31, 2023

**Qualification of HANA as an additional assembly site for selected
MCP1791Txx device family available in 5L SOT-223 package.**

Purpose: Qualification of HANA as an additional assembly site for selected
MCP1791Txx device family available in 5L SOT-223 package.

CCB No.: 6544

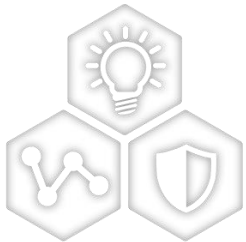
<u>Misc.</u>	Assembly site	HANA
	BD Number	BD-001724-A
	MP Code (MPC)	VKAB1YN7XV03
	Part Number (CPN)	MCP1791T-5002E/DCV03
	MSL information	MSL1, 260
	Assembly Shipping Media (T/R, Tube/Tray)	Canister
	Base Quantity Multiple (BQM)	4,000
	Reliability Site	MTAI
<u>Lead-Frame</u>	Paddle size	152x86mils
	Material	C194
	DAP Surface Prep	Ring Ag
	Treatment	Rough (BOT)
	Process	Etch
	Lead-lock	No
	Part Number	134761B
	Lead Plating	MatteSn
	Strip Size	50x228
	Strip Density	80
<u>Bond Wire</u>	Material	Au
<u>Die Attach</u>	Part Number	84-1LMISR4
	Conductive	Yes
<u>MC</u>	Part Number	G600
<u>PKG</u>	Package Type	SOT-223
	Pin/Ball Count	5

Test Name	Conditions	Reliability Stress Read Point Grade 1: -40°C to +125°C (MCHP E Temp)	Pre & Post Reliability Stress Test Temperature Grade 1: -40°C to +125°C (MCHP E Temp)	Sample Size	Min Qty of Spares per Lot (must be properly marked)	Qty of Lots	Total Units	Fail Accept Qty	Est. Dur. Days	ATE Test Site	REL Test Site	Special Instructions
Standard Pb-free Solderability	J-STD-002D ; Perform 8 hours of steam aging for Matte tin finish. Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages.			22	5	1	27	>95% lead coverage	5	MTAI	MTAI	Standard Pb-free solderability is the requirement. SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes.
Backward Solderability	J-STD-002D ; Perform 8 hour steam aging for Matte tin finish. Backward: Matte tin/ NiPdAu finish, SnPb solder, wetting temp 215°C for SMD.			22	5	1	27	>95% lead coverage	5	MTAI	MTAI	
Wire Bond Pull - WBP	Mil. Std. 883-2011			5	0	1	5	0 fails after TC	5	HANA	HANA	30 bonds from a min. 5 devices.
Wire Bond Shear - WBS	CDF-AEC-Q100-001			5	0	1	5	0	5	HANA	HANA	30 bonds from a min. 5 devices.
Physical Dimensions	Measure per JESD22 B100 and B108			10	0	3	30	0	5	HANA	HANA	
External Visual	Mil. Std. 883-2009/2010			All devices prior to submission for qualification testing	0	3	ALL	0	5	MTAI	MTAI	
HTSL (High Temp Storage Life)	JESD22-A103 +125°C, +150°C or +175°C	Grade 1: 500 hrs (+175°C) or 1000 hrs (150°C)	Grade 1: +25°C, +125°C	45	5	1	50	0	21 - 83	MTAI	MTAI	Spares should be properly identified.
Preconditioning - Required for surface mount devices	J-STD-020 JESD22-A113 +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type.		Grade 1: +25°C	231 + 45 (for devices requiring PTC)	15 + 5 (for devices requiring PTC)	3	738 + 50 (for devices requiring PTC)	0	15	MTAI	MTAI	Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test. 45 parts from one lot to be used for PTC test (for devices requiring PTC).
HAST	JESD22-A101 or A110 +130°C/85% RH for 96 hrs	Grade 1: 96 hrs (+130°C/85% RH) or 264 hrs (+110°C/85%RH)	Grade 1: +25°C, +125°C	77	5	3	246	0	10 - 14	MTAI	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
UHAST	JESD22-A102, A118, or A101 +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs	Grade 1: 96 hrs (+130°C/85% RH) or 264 hrs (+110°C/85% RH)	Grade 1: +25°C	77	5	3	246	0	10	MTAI	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.
Temp Cycle	JESD22-A104 -65°C to +150°C	Grade 1: 1000 cycles (-55°C to +150°C) or 500 cycles (-65°C to 150°C)	Grade 1: +125°C	77	5	3	246	0	15 - 60	MTAI	MTAI	Spares should be properly identified. Use the parts which have gone through Pre-conditioning.

CCB 6544
Pre and Post Change Summary
PCN #: MAAN-07HTDL444



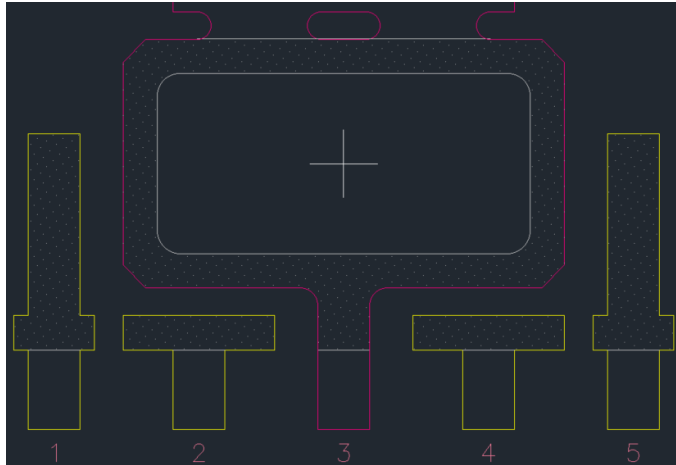
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Lead Frame Comparison

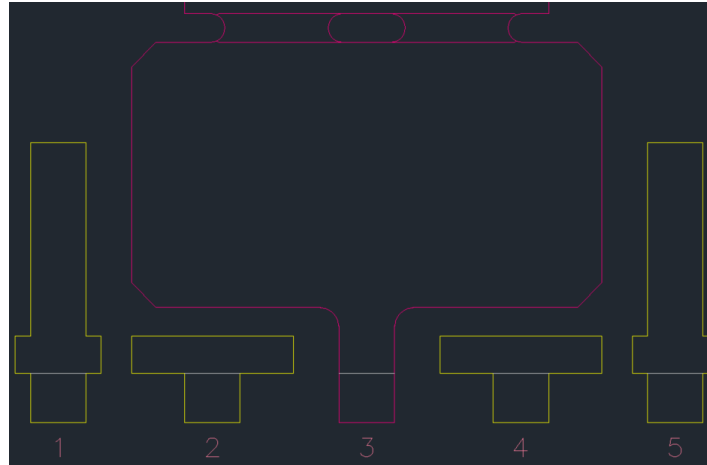
LPI



Note: Not to scale

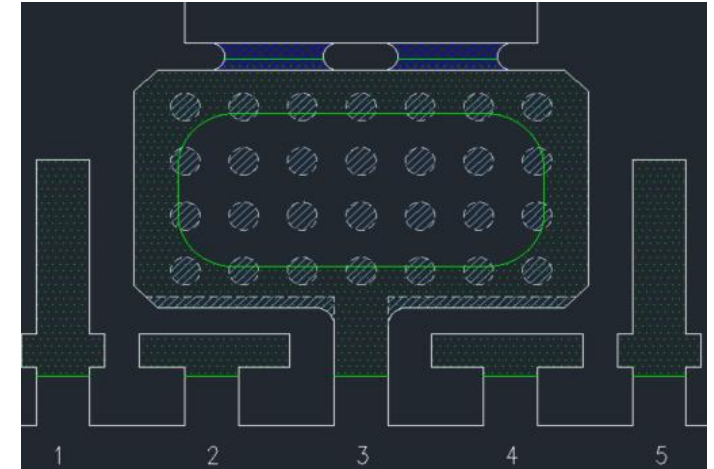
Lead-Frame Paddle Size	152x86mils
Lead-Frame Material	C194

HANA



Note: Not to scale

Lead-Frame Paddle Size	152x86mils
Lead-Frame Material	C194



Note: Not to scale

Lead-Frame Paddle Size	152x86mils
Lead-Frame Material	C194