



Product Change Notification / NTDO-23HTHI228

Date:

24-Jul-2023

Product Category:

Linear Op Amps

PCN Type:

Manufacturing Change

Notification Subject:

CCB 6113 Final Notice: Qualification of MTAI as an additional assembly site for MCP6031T-E/OT, MCP6051T-E/OT, MCP6061T-E/OT and MCP6071T-E/OT catalog part numbers (CPN) available in 5L SOT-23 package.

Affected CPNs:

[NTDO-23HTHI228_Affected_CPN_07242023.pdf](#)

[NTDO-23HTHI228_Affected_CPN_07242023.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 MTAI as an additional assembly site for MCP6031T-E/OT, MCP6051T-E/OT, MCP6061T-E/OT and MCP6071T-E/OT catalog part numbers (CPN) available in 5L SOT-23 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)	Microchip Technology Thailand (HQ) (MTAI)
Wire Material		Au	Au	Au
Die Attach Material		8006NS	8006NS	8006NS
Mold Compound		G600	G600	G600
Lead frame	Material	C194	C194	CDA194*
	DAP Surface Prep	Ag	Ag	Ag-selective
	Treatment	No	No	Roughening

Note: *C194, A194 or CDA194 Lead frame material are the same, it is just a MCHP internal labelling difference.

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve productivity by qualifying MTAI as an additional assembly site.

Change Implementation Status:In Progress

Estimated First Ship Date:September 1, 2023 (date code: 2335)

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

Time Table Summary:

	January 2023					>	July 2023					>	September 2023				
Workweek	1	2	3	4	5		27	28	29	30	31		35	36	37	38	39

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:January 27, 2023: Issued initial notification.

July 17, 2023: Issued final notification. Attached Qualification report and added the estimated first ship date on September 1, 2023.

July 24, 2023: Re-issued to correct error in date code.

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

Attachments:

[PCN_NTDO-23HTHI228 Qualificaton Report.pdf](#)

[PCN_NTDO-23HTHI228_Pre and Post Change Summary.pdf](#)

Please contact your local [Microchip sales office](#) with questions or concerns regarding this notification.

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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.

Affected Catalog Part Numbers (CPN)

MCP6031T-E/OT

MCP6051T-E/OT

MCP6061T-E/OT

MCP6071T-E/OT



QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN# NTDO-23HTHI228

Date:
July 05, 2023

**Qualification of MTAI as an additional assembly site for
MCP6031T-E/OT, MCP6051T-E/OT, MCP6061T-E/OT and
MCP6071T-E/OT catalog part numbers (CPN) available in 5L SOT-
23 package.**



MICROCHIP

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MTAI as an additional assembly site for MCP6031T-E/OT, MCP6051T-E/OT, MCP6061T-E/OT and MCP6071T-E/OT catalog part numbers (CPN) available in 5L SOT-23 package.
CN	E000176268
QUAL ID	R2300756 (Rev. A)
MP CODE	A7CJ1YP6XVA1
Part No.	MCP6031T-E/OTVAO
Bonding No.	BD-001247 Rev. 01
CCB	6113
<u>Package</u>	
Type	5L SOT-23
<u>Lead Frame</u>	
Paddle size	60 x 46 mils
Material	CDA194
Surface	Ag-Selective
Process	Etched
Lead Lock	No
Part Number	10100504
Treatment	Roughening
<u>Material</u>	
Epoxy	8006NS
Wire	Au wire
Mold Compound	G600V
Plating Composition	Matte Sn



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI240502386.000	TMPE223409355.500	2318GHT
MTAI240601143.000	TMPE223409355.500	2319K4B
MTAI240601144.000	TMPE223409355.500	2319K4C

Result ☒ Pass ☐ Fail ☐ _____

5L SOT-23 assembled by MTAI 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
<u>Precondition</u> <u>Prior Perform</u> <u>Reliability Tests</u> (At MSL Level 1)	Electrical Test: +25°C, 85°C and 125°C System: ETS300_STD	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, 85°C and 125°C System: ETS300_STD		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 Electrical Test: +85°C and 125°C System: ETS300_STD Bond Strength: Wire Pull (>2.50 grams)	JESD22-A104	231(0) 15(0)	0/231 0/15	Pass Pass	Parts had been pre-conditioned at 260°C 77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: ETS300_STD	JESD22-A118	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X Electrical Test: +25°C, 85°C and 125°C System: ETS300_STD	JESD22-A110	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot (refer from R2301003)

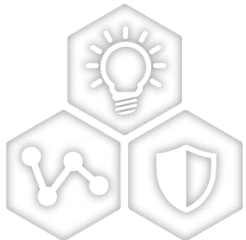
PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
High Temperature Storage Life	Stress Condition: Bake 175°C, 500 hrs. System: SHEL LAB	JESD22- A103		0/45		45 units
	Electrical Test: +25°C, 85°C and 125°C System: ETS300_STD		45(0)	0/45	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 (>2.50 grams)	Mil. Std. 883-2011	30(0) Wires	0/30	Pass	
	Bond Shear (>15.00 grams)	CDF-AEC- Q100-001	30(0) bonds	0/30	Pass	

CCB#: 6113
Pre and Post Change Summary
PCN #: NTDO-23HTHI228

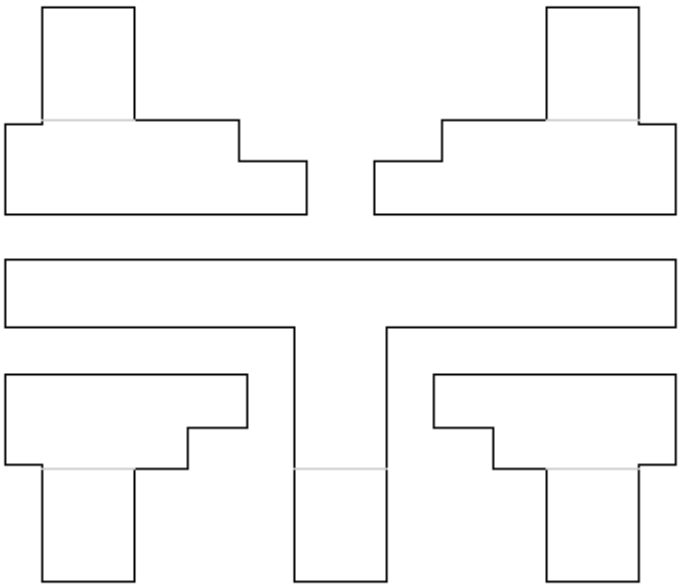
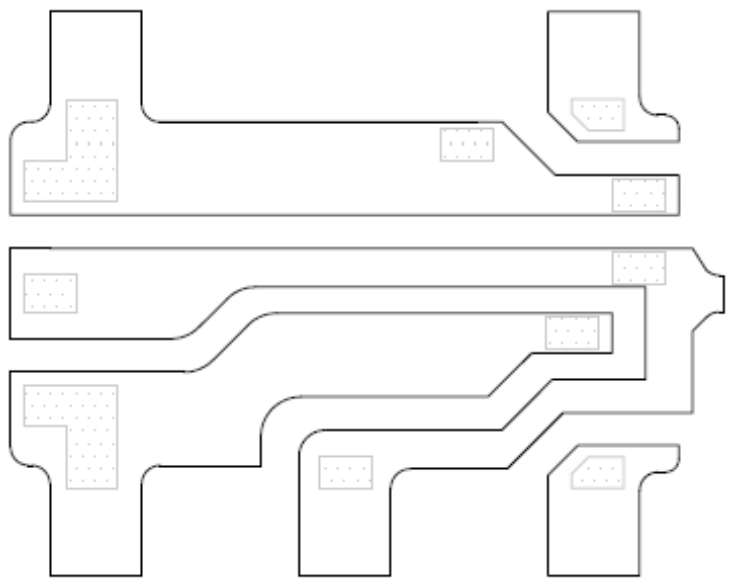


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Lead Frame Comparison

NSEB	MTAI												
 <p>The NSEB lead frame diagram shows a central rectangular body with four leads extending from the corners. The leads are bent at a 90-degree angle. The top and bottom leads are longer than the side leads. The leads are connected to the central body by small rectangular pads.</p> <table border="1" data-bbox="343 999 1014 1135"><tr><td>Material*</td><td>C194</td></tr><tr><td>DAP Surface Prep</td><td>Ag</td></tr><tr><td>Treatment</td><td>No</td></tr></table>	Material*	C194	DAP Surface Prep	Ag	Treatment	No	 <p>The MTAI lead frame diagram shows a central rectangular body with four leads extending from the corners. The leads are bent at a 90-degree angle. The top and bottom leads are longer than the side leads. The leads are connected to the central body by small rectangular pads. The pads are shaded with a stippled pattern.</p> <table border="1" data-bbox="1528 999 2198 1135"><tr><td>Material*</td><td>CDA194</td></tr><tr><td>DAP Surface Prep</td><td>Ag-selective</td></tr><tr><td>Treatment</td><td>Roughening</td></tr></table>	Material*	CDA194	DAP Surface Prep	Ag-selective	Treatment	Roughening
Material*	C194												
DAP Surface Prep	Ag												
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Material*	CDA194												
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Note: *C194, A194 or CDA194 Lead frame material are the same, it is just a MCHP internal labelling difference.