Product Change Notification / JAON-19HUMO778

Date:

21-Dec-2021

Product Category:

Linear Regulators

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3676.004 and 3676.005 Final Notice: Qualification of MMT as an additional assembly site for selected MCP1725 and MCP1727 device families available in 8L DFN (2x3x0.9mm) and 8L DFN (3x3x0.9mm) packages.

Affected CPNs:

JAON-19HUMO778_Affected_CPN_12212021.pdf
JAON-19HUMO778_Affected_CPN_12212021.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 MMT as an additional assembly site for selected MCP1725 and MCP1727 device families available in 8L DFN (2x3x0.9mm) and 8L DFN (3x3x0.9mm) packages.

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 (Branch) (MMT)
Wire Material		Au	Au	Au
Die Attach Material		8600	8600	3280
Molding Compound Material		G700LTD	G700LTD	G700LTD
Lead-Frame	Material	EFTEC-64T	EFTEC-64T	C194
	DAP Surface Prep	Ag	Ag	Bare Cu
	Lead Lock	No	No	Yes
		See attached pre and post change comparison		

Impacts to Data Sheet: None

Change Impact None

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

Change Implementation Status: In Progress

Estimated First Ship Date: January 15, 2022 (date code: 2203)

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

Time Table Summary:

	December 2021					**January 2022**				
Workweek	49	50	51	52	53	01	02	03	04	05
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: December 21, 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_JAON-19HUMO778_Pre and Post Change Summary.pdf
PCN_JAON-19HUMO778_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 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.

QUALIFICATION REPORT SUMMARY

RELIABILITY LABORATORY

PCN #: JAON-19HUMO778

Date:
April 08, 2019

Qualification of MMT as an additional assembly site for selected products available in 8L DFN (4x4x0.9mm) package. The qualification of MMT as an additional assembly site for selected MCP1725 and MCP1727 device families available in 8L DFN (2x3x0.9mm) and 8L DFN (3x3x0.9mm) packages will qualify by similarity (QBS).

PACKAGE QUALIFICATION REPORT

Purpose	Qualification of MMT as an additional assembly site for selected products available in 8L DFN (4x4x0.9mm) package. The qualification of MMT as an additional assembly site for selected MCP1725 and MCP1727 device families available in 8L DFN (2x3x0.9mm) and 8L DFN (3x3x0.9mm) packages will qualify by similarity (QBS).
CN	ES278244
QUAL ID	Q19015 rev B
MP CODE	D0244M8XAXF
Part No.	PIC12F683-E/MD
Bonding No.	BDM-002031 Rev. A
CCB No.	3676, 3676.004 and 3676.005

Package	
Type	8L DFN
Package size	4 x 4 x 0.9 mm
Lead Frame	
Paddle size	114 x 146 mils
Material	C194
Surface	Ag selective plated on paddle
Process	Etched
Lead Lock	Yes
Part Number	10100845
Material	
Epoxy	3280
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin

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PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MMT-194201975.000	TMPE219236930.100	190352J
MMT-194301615.000	TMPE219236930.100	1904BDF
MMT-194301626.000	TMPE219236930.100	1904HK2

Result [X] Pass [ ] Fail [ ] _____

8L DFN 4x4x0.9 mm assembled by MMT 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	

<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	**Electrical Test :**+25°C and 125°C System: J750	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 System: Vitronics Soltec MR1243			693		
	Electrical Test :+25°C and 125°C System: J750			0/693	Pass	

PACKAGE QUALIFICATION REPORT

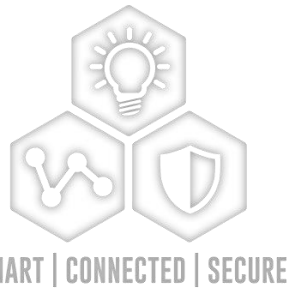
Test Number (Reference)	Test Condition	Standard/ Method	Qty. (Acc.)	Def/SS.	Result	Remarks
Temp Cycle	**Stress Condition:** -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H	JESD22-A104		231		Parts had been pre-conditioned at 260°C
	Electrical Test: + 125°C System: J750		231(0)	0/231	Pass	77 units / lot
	Bond Strength: Wire Pull (> 2.5 grams)		15 (0)	0/15	Pass	
	Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
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: J750		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 and 125°C System: J750		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 and 125°C System: J750	JESD22-A103	 45(0)	45 0/45	 Pass	45 units
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) Bond Shear (>15.00 grams)	M2011 JESD22-B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Pass Pass	

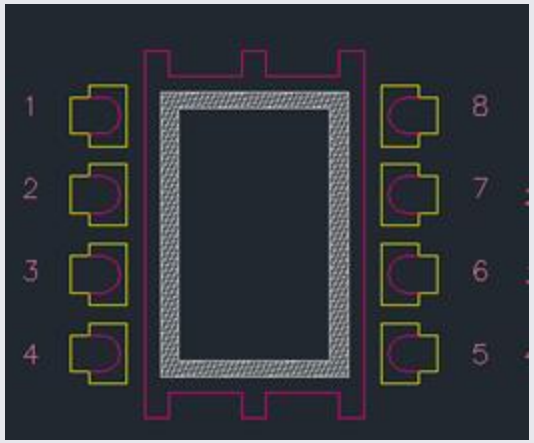
CCB 3676.004 and 3676.005
Pre and Post Change Summary
PCN#: JAON-19HUMO778

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

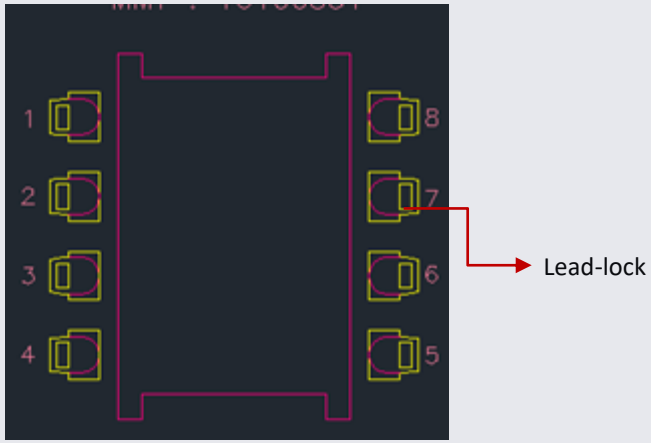


Lead frame comparison – 8L DFN (3x3x0.9mm) package

Pre change	Post Change
NSEB	**MMT**



Lead frame material	EFTEC-64T
Lead frame DAP surface Prep	Ag
Lead Lock	No



Lead frame material	C194
Lead frame DAP surface Prep	Bare Cu
Lead Lock	Yes

Note: The lead lock hole fills with mold compound during the assembly process and provides improved protection against moisture penetration around the interface edges between pins and mold compound.

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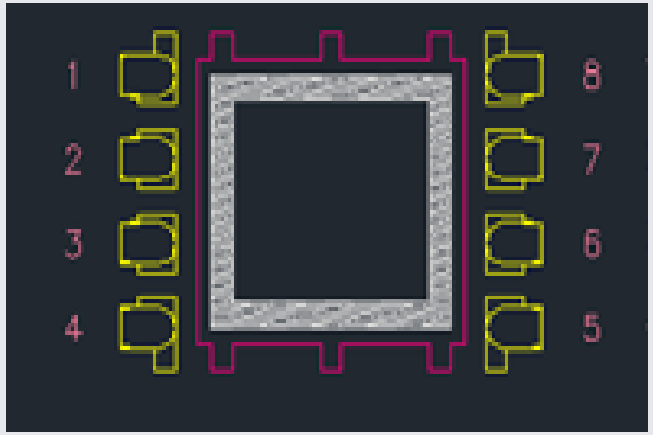
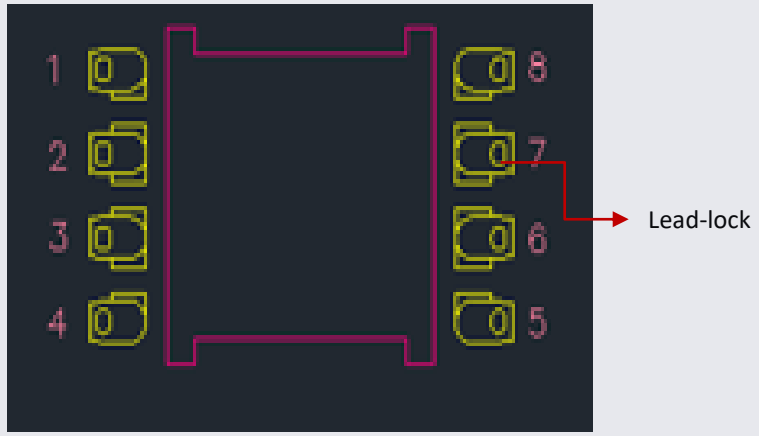
Lead frame comparison – 8L DFN (2x3x0.9mm) package

Pre change	Post Change
NSEB	**MMT**



Lead frame material	EFTEC-64T
Lead frame DAP surface Prep	Ag
Lead Lock	No



Lead frame material	C194
Lead frame DAP surface Prep	Bare Cu
Lead Lock	Yes

Note: The lead lock hole fills with mold compound during the assembly process and provides improved protection against moisture penetration around the interface edges between pins and mold compound.

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Affected Catalog Part Numbers (CPN)

MCP1727-0802E/MF
MCP1727-1202E/MF
MCP1727-1802E/MF
MCP1727-2502E/MF
MCP1727-3002E/MF
MCP1727-3302E/MF
MCP1727-5002E/MF
MCP1727-ADJE/MF
MCP1727T-0802E/MF
MCP1727T-1202E/MF
MCP1727T-1802E/MF
MCP1727T-2502E/MF
MCP1727T-3002E/MF
MCP1727T-3302E/MF
MCP1727T-5002E/MF
MCP1727T-ADJE/MF
MCP1725-0802E/MC
MCP1725-1202E/MC
MCP1725-1802E/MC
MCP1725-2502E/MC
MCP1725-3002E/MC
MCP1725-3302E/MC
MCP1725-5002E/MC
MCP1725-ADJE/MC
MCP1725T-0802E/MC
MCP1725T-1202E/MC
MCP1725T-1802E/MC
MCP1725T-2502E/MC
MCP1725T-3002E/MC
MCP1725T-3302E/MC
MCP1725T-5002E/MC
MCP1725T-ADJE/MC