



Product Change Notification / CADA-28XCTR608

Date:

20-Apr-2022

Product Category:

8-bit Microcontrollers, Capacitive Touch Sensors, Digital Temperature Sensors, Memory

PCN Type:

Manufacturing Change

Notification Subject:

CCB 5072 Final Notice: Qualification of C7025 as an additional lead frame material for selected ATTINY9xx, ATTINY5xx, ATTINY4xx, ATTINY1xx, AT42QT1xx, AT34C02xx, AT30TSxx, AT25xx and AT24Cxx device families available in 8L UDFN (2x2x0.6mm and 2x3x0.6mm) package.

Affected CPNs:

[CADA-28XCTR608_Affected_CPN_04202022.pdf](#)

[CADA-28XCTR608_Affected_CPN_04202022.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 C7025 as an additional lead frame material for selected ATTINY9xx, ATTINY5xx, ATTINY4xx, ATTINY1xx, AT42QT1xx, AT34C02xx, AT30TSxx, AT25xx and AT24Cxx device families available in 8L UDFN (2x2x0.6mm and 2x3x0.6mm) package.

Pre and Post Change Summary:

	Pre Change	Post Change	
Assembly Site	UTAC Thai Limited LTD. (UTL-1)	UTAC Thai Limited LTD. (UTL-1)	UTAC Thai Limited LTD. (UTL-1)
Wire Material	Au	Au	Au
Die Attach Material	8200T	8200T	8200T
Molding Compound Material	G770HCD	G770HCD	G770HCD
Lead-Frame Material	EFTEC64T	EFTEC64T	C7025

Impacts to Data Sheet:None

Change Impact:None

Reason for Change:To improve manufacturability and productivity by qualifying C7025 as an additional lead frame material.

Change Implementation Status:In Progress

Estimated First Ship Date:May 15, 2022 (date code: 2221)

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

Time Table Summary:

	April 2022					May 2022				
Workweek	14	15	16	17	18	19	20	21	22	23
Final PCN Issue Date				x						
Qual Report Availability				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:April 20, 2022: 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_CADA-28XCTR608 Qual Report 1 of 2.pdf](#)

[PCN_CADA-28XCTR608 Qual Report 2 of 2.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)

ATTINY9-MAHR
ATTINY5-MAHRB50
ATTINY5-MAHRA1
ATTINY5-MAHRA0
ATTINY5-MAHR
ATTINY4-MAHR
ATTINY10-MAHR
AT42QT1012-MAHR
AT42QT1011-MAHR
AT42QT1010-MAHR
AT34C02CY6-YH-T-452
AT34C02CY6-YHDD-T-053
AT30TSE758A-MA8M-T
AT30TSE754A-MA8M-T
AT30TSE752A-MA8M-T
AT30TSE004A-MA5M-T
AT30TS75A-MA8M-T
AT30TS750A-MA8M-T
AT30TS74-MA8M-T
AT25256B-MAHL-T-899
AT25256B-MAHL-T
AT25256B-MAHLGL-T-899
AT25080B-MAHL-T-899
AT25010B-MAHL-T-899
AT24C64D-MAHM-T-834
AT24C256C-MAHL-T
AT24C128C-MAHM-T-834



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**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN#: CADA-28XCTR608

Date

September 27, 2012

Qualification of C7025 as an additional lead frame material for selected ATTINY9xx, ATTINY5xx, ATTINY4xx, ATTINY1xx, AT42QT1xx, AT34C02xx, AT30TSxx, AT25xx and AT24Cxx device families available in 8L UDFN (2x2x0.6mm and 2x3x0.6mm) package. This is qualify by similarity (QBS).



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of C7025 as an additional lead frame material for selected ATTINY9xx, ATTINY5xx, ATTINY4xx, ATTINY1xx, AT42QT1xx, AT34C02xx, AT30TSxx, AT25xx and AT24Cxx device families available in 8L UDFN (2x2x0.6mm and 2x3x0.6mm) package. This is qualify by similarity (QBS).
CN	BC120892
QUAL ID	Q12074 (Rev. A)
MP CODE	DECL1Y6QXB00
Part No.	MCP98242T-BE/MUY
Bonding No.	BDM-000212 Rev. A
CCB No.	1153.06, 5072
<u>Package</u>	
Type	8L UDFN
Package size	2x3x0.5 mm
<u>Lead Frame</u>	
Paddle size	71 x 71 mils
Material	EFTEC64T
Surface	NiPdAu plated (Full PPF)
Process	Etched
Lead Lock	Yes
Part Number	FU0001
<u>Die attach material</u>	
Epoxy	8200T
Wire	Au wire
Mold Compound	G770HCD
Plating Composition	NiPdAu



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Moisture Sensitivity Classification Report

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB 130700408	TMPE211064191.400	1200GCC
NSEB 130700409	TMPE211064191.400	1220GCD
NSEB 130700410	TMPE211064191.400	1220GCG

Result

Pass Fail _____

8L UDFN (2x3x0.5mm) using 0.7 mil Au wire 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	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
<u>MSL</u> MSL Level 1/260°C	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)	S12/14/16 (PDC)	135	07/19/12	08/07/12	0/135	Pass	
<u>Precondition</u>								
Electrical Test	Electrical Test :+25°C and 125°C System: V2102	S12/14/16 (PDC)	693(0)	07/16/12	07/17/12	693		Good Devices
Bake	Bake 150°C, 24 hrs System: CHINEE	PI-92014B		07/19/12	07/20/12	693		
Moisture Soak	85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH	PI-91173B		07/20/12	07/27/12	693		
Convection-Reflow	3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243	PI-91160B		07/27/12	07/27/12	693		
Electrical Test	Electrical Test :+25°C and 125°C System: V2102	S12/14/16 (PDC)		07/27/12	08/07/12	0/693	Pass	

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Inspection: External crack inspection all units under 40X Optical magnification Electrical Test : +125°C System: V2102	PI-91020B		08/09/12	08/20/12	231		Parts had been pre-conditioned at 260°C
		QCI-33003	30(0)	08/20/12	08/20/12	0/30		
		S12/14/16 (PDC)	231(0)	08/20/12	08/22/12	0/231	Pass	77 units / lot
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: V2102	PI-91261B		08/14/12	08/18/12	231		Parts had been pre-conditioned at 260°C
		S12/14/16 (PDC)	231(0)	08/18/12	08/21/12	0/231	Pass	77 units / lot

PACKAGE QUALIFICATION REPORT

Test Number (Reference)	Test Condition	Microchip Spec	Qty. (Acc.)	Date in	Date Out	Def/SS.	Result	Remarks
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.0 Volts System: HAST 6000X	PI-92010B		08/11/12	08/16/12	231		Parts had been pre-conditioned at 260°C
	Electrical Test :+25°C and 125°C System: V2102	S12/14/16 (PDC)	231(0)	08/16/12	08/17/12	0/231	Pass	77 units / lot
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	PI-92014B		07/19/12	08/11/12	45		45 units
	Electrical Test :+25°C and 125°C System: V2102	S12/14/16 (PDC)	45(0)	08/11/12	08/15/12	0/45	Pass	
Bond Strength	Wire Pull (> 2.5 grams)	QCI-91022	30 (0) wires	-	-	0/30	Pass	
Data Assembly	Bond Shear (13.00 grams)		30 (0) bonds	-	-	0/30	Pass	



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**QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY**

PCN#: CADA-28XCTR608

Date

November 16, 2018

Qualification of C7025 as an additional lead frame material for selected ATTINY9xx, ATTINY5xx, ATTINY4xx, ATTINY1xx, AT42QT1xx, AT34C02xx, AT30TSxx, AT25xx and AT24Cxx device families available in 8L UDFN (2x2x0.6mm and 2x3x0.6mm) package. This is qualify by similarity (QBS).



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose	Qualification of C7025 as an additional lead frame material for selected ATTINY9xx, ATTINY5xx, ATTINY4xx, ATTINY1xx, AT42QT1xx, AT34C02xx, AT30TSxx, AT25xx and AT24Cxx device families available in 8L UDFN (2x2x0.6mm and 2x3x0.6mm) package. This is qualify by similarity (QBS).
CN	ES224955
QUAL ID	Q18130 (Rev. A)
MP CODE	365S6Y6QXAA00
Part No.	25LC640AT-E/MUY
Bonding No.	BDE-004742 REV. 02
CCB No.	3355, 5072
<u>Package</u>	
Type	8L UDFN
Package size	2x3x0.5 mm
<u>Lead Frame</u>	
Paddle size	71x71 mils
Material	C7025
Surface	NiPdAu
Process	Etched frame
Lead Lock	No
Part Number	FU0001
<u>Material</u>	
Epoxy	8200T
Wire	Au wire
Mold Compound	G700LTD
Plating Composition	Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
NSEB191000042.000	25LC640AT-E/MUY	182384W
NSEB191000043.000	25LC640AT-E/MUY	1823852
NSEB191000044.000	25LC640AT-E/MUY	1823853

Result

Pass

Fail

8L UDFN 2x3x0.5 mm 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-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 C J-STD-020D	135	0/135	Pass	

<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: NEXTEST_PT	JESD22- A113	693(0)	693	Pass	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,85°C and 125°C System: NEXTEST_PT			0/693		

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(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: + 85°C and 125°C System: NEXTEST_PT					
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)					
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X	JESD22-A118	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C System: NEXTEST_PT					
HAST	Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X	JESD22-A110	231(0)	0/231	Pass	Parts had been pre-conditioned at 260°C 77 units / lot
	Electrical Test: +25°C,85°C and 125°C System: NEXTEST_PT					
High Temperature Storage Life	Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB	JESD22-A103	45(0)	0/45	Pass	45 units
	Electrical Test : +25°C,85°C and 125°C System: NEXTEST_PT					
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	