



Product Change Notification - LIAL-27HWYL569

Date:

14 Jan 2019

Product Category:

8-bit Microcontrollers; Interface- Serial Peripherals

Affected CPNs:**Notification subject:**

CCB 3529 and 3529.001 Final Notice: Qualification of 8390A die attach material for selected products of the 120K, 150K, 160K and 200K wafer technologies available in 28L and 20L SSOP package at MTAI assembly site.

Notification text:**PCN Status:**

Final notification.

PCN Type:

Manufacturing Change

Microchip Parts Affected:

Please open one of the icons found in the Affected CPNs section above.

NOTE: For your convenience Microchip includes identical files in two formats (.pdf and .xls)

Description of Change:

Qualification of 8390A die attach material for selected products of the 120K, 150K, 160K and 200K wafer technologies available in 28L and 20L SSOP package at MTAI assembly site.

Pre Change:

Using 3280 die attach material.

Post Change:

Using 8390A die attach material

Pre and Post Change Summary:

	Pre Change	Post Change
Assembly Site	Microchip Technology Thailand HQ (MTAI)	Microchip Technology Thailand HQ (MTAI)
Wire material	CuPdAu	CuPdAu
Die attach material	3280	8390A
Molding compound material	G600	G600
Lead frame material	CDA194	CDA194

Impacts to Data Sheet:

None

Change Impact:



None

Reason for Change:

To improve manufacturability by qualifying 8390A die attach material.

Change Implementation Status:

In Progress

Estimated First Ship Date:

February 14, 2019 (date code: 1907)

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

Time Table Summary:

Workweek	September 2018					->	January 2019					February 2019			
	35	36	37	38	39		01	02	03	04	05	06	07	08	09
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:

September 12, 2018: Issued initial notification.

January 14, 2019: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on February 14, 2019.

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

Attachment(s):

[PCN_LIAL-27HWYL569_QUAL_REPORT.pdf](#)

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

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MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN#: LIAL-27HWYL569

Date

December 21,2018

Qualification of 8390A die attach material for selected products of the 120K, 150K, 160K and 200K wafer technologies available in 28L and 20L SSOP package at MTAI assembly site.



MICROCHIP PACKAGE QUALIFICATION REPORT

Purpose: Qualification of 8390A die attach material for selected products of the 120K, 150K, 160K and 200K wafer technologies available in 28L and 20L SSOP package at MTAI assembly site.

CCB No.: 3529 and 3529.001

QUAL ID#: Q18103

Revision: A

CN: ES204802

MP CODE#: LEAN17N2XB04

Part #: PIC16F723A-I/SS

Bonding No.: BDM-001842 Rev. A

Package

Type: 28L SSOP

Package size: 209 mils

Die thickness: 15 mils

Die size: 73.4 x 70.0 mils

Lead Frame

Paddle size: 153 x 200 mils

Material: CDA194

Surface: Bare Cu

Process Stamped Lead Lock: No

Part Number: 10102834

Treatment: Brown oxide treatment

Material

Epoxy: 8390A

Wire: CuPdAu

Mold Compound: G600

Plating Composition: Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI191003216.000	TMPE218354432.221	1823KQU
MTAI191003948.000	TMPE218354432.221	1823QDC
MTAI191003949.000	TMPE218354432.221	1823QE1

Result:

Pass

Fail

28L SSOP (.209") 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-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 J-STD020D	135	0/135	Passed	
<u>Precondition Prior Perform Reliability Tests</u> (At MSL Level 1)	Electrical Test :+25°C and 125°C System: J750 Bake 150°C, 24 hrs System: CHINEE 85°C/85%RH Moisture Soak 168 hrs. System: TABAI ESPEC Model PR-3SPH 3x Convection-Reflow 265°C max System: Vitronics Soltec MR1243 Electrical Test :+25°C and 125°C System: J750	JESD22A113	693(0)	693 693 693 693 0/693	Passed	Good Devices
Temp Cycle	Stress Condition: -65°C to +150°C, 500 Cycles System : TABAI ESPEC TSA-70H Electrical Test: +125°C, System: J750	JESD22A104		231 0/231	Passed	Parts had been pre-conditioned at 260°C 77 units / lot
	Stress Condition: -65°C to +150°C, 1000 Cycles System : TABAI ESPEC TSA-70H Electrical Test: + 125°C System: J750		231 (0)	0/231	Passed	
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15(0) 15(0)	0/15 0/15	Passed Passed	
UNBIASEDHAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750 Stress Condition:	JESD22-A118		231 231(0) 231	Passed	Parts had been pre-conditioned at 260°C 77 units / lot

	+130°C/85%RH, 192 hrs. System: HAST 6000X Electrical Test: + 25°C System J750		231(0)	0/231	Passed	
HAST	<p>Stress Condition: +130°C/85%RH, 96 hrs. Bias Volt: 5.5 Volts System: HAST 6000X</p> <p>Electrical Test: + 25°C ,85°C and 125°C System: J750</p> <p>Stress Condition: +130°C/85%RH,192 hrs.Bias Volt: 5.5 Volts System: HAST 6000X</p> <p>Electrical Test: + 25°C ,85°C and 125°C System: J750</p>	JESD22-A110	231(0)	231 0/231	Passed	Parts had been pre-conditioned at 260°C 77 units / lot
High Temperature Storage Life	<p>Stress Condition: Bake 175°C, 504 hrs System: SHEL LAB</p> <p>Electrical Test: +25°C and 125°C System: J750</p>	JESD22A103	45(0)	45 45(0)	Passed	45 units
Bond Strength Data Assembly	Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)	M2011 JESD22B116	30 (0) Wires 30 (0) bonds	0/30 0/30	Passed Passed	

LIAL-27HW 150K

160K and 200K wafer technologies available in 28L and 20L SSOP package at MT

Affected Catalog Part Numbers(CPN)

HA0140-I/SS
HA0140T-I/SS
HA4768-I/SS
HA4768T-I/SS
MCP23008-E/SS
MCP23008T-E/SS
MCP23009-E/SS
MCP23009T-E/SS
MCP23017-E/SS
MCP23017T-E/SS
MCP23S08-E/SS
MCP23S08-E/SSAPL
MCP23S08T-E/SS
MCP23S08T-E/SSAPL
MCP23S17-E/SS
MCP23S17T-E/SS
PIC16C54C-04/SS
PIC16C54C-04E/SS
PIC16C54C-04I/SS
PIC16C54C-20/SS
PIC16C54C-20E/SS
PIC16C54C-20I/SS
PIC16C54CT-04I/SS
PIC16C54CT-20/SS
PIC16F1507-E/SS
PIC16F1507-I/SS
PIC16F1507T-E/SS
PIC16F1507T-I/SS
PIC16F527-E/SS
PIC16F527-I/SS
PIC16F527-I/SSC01
PIC16F527-I/SSC03
PIC16F527T-I/SS
PIC16F527T-I/SS021
PIC16F527T-I/SSC01
PIC16F527T-I/SSC03
PIC16F54-E/SS
PIC16F54-I/SS
PIC16F54T-E/SS
PIC16F54T-I/SS
PIC16F54T-I/SS027
PIC16F570-E/SS

PIC16F570-I/SS
PIC16F570T-I/SS
PIC16F57-E/SS
PIC16F57-I/SS
PIC16F57T-E/SS
PIC16F57T-I/SS
PIC16F57T-I/SS024
PIC16F57T-I/SS025
PIC16F57T-I/SS027
PIC16F716-E/SS
PIC16F716-I/SS
PIC16F716-I/SS067
PIC16F716T-E/SS
PIC16F716T-I/SS
PIC16F716T-I/SS045
PIC16F716T-I/SS056
PIC16F716T-I/SS062
PIC16F716T-I/SS063
PIC16F716T-I/SS064
PIC16F716T-I/SS065
PIC16F716T-I/SS067
PIC16F716T-I/SS068
PIC16F716T-I/SS069
PIC16F716T-I/SS070
PIC16F716T-I/SS071
PIC16F716T-I/SS072
PIC16F716T-I/SSC10
PIC16F720-E/SS
PIC16F720-I/SS
PIC16F720T-I/SS
PIC16F721-E/SS
PIC16F721-I/SS
PIC16F721T-I/SS
PIC16F721T-I/SS020
PIC16F722A-E/SS
PIC16F722A-I/SS
PIC16F722A-I/SS023
PIC16F722AT-E/SS
PIC16F722AT-I/SS
PIC16F722AT-I/SS020
PIC16F722AT-I/SS021
PIC16F722AT-I/SS022
PIC16F722AT-I/SS024
PIC16F723A-E/SS
PIC16F723A-I/SS
PIC16F723AT-E/SS
PIC16F723AT-I/SS

PIC16LC54C-04/SS
PIC16LC54C-04I/SS
PIC16LF1507-E/SS
PIC16LF1507-I/SS
PIC16LF1507T-I/SS
PIC16LF1507T-I/SS020
PIC16LF1902-E/SS
PIC16LF1902-I/SS
PIC16LF1902T-I/SS
PIC16LF1903-E/SS
PIC16LF1903-I/SS
PIC16LF1903T-I/SS
PIC16LF720-E/SS
PIC16LF720-I/SS
PIC16LF720T-I/SS
PIC16LF721-E/SS
PIC16LF721-I/SS
PIC16LF721T-I/SS
PIC16LF722A-E/SS
PIC16LF722A-I/SS
PIC16LF722AT-I/SS
PIC16LF723A-E/SS
PIC16LF723A-I/SS
PIC16LF723A-I/SS021
PIC16LF723A-I/SSC01
PIC16LF723A-I/SSC02
PIC16LF723AT-I/SS
PIC16LF723AT-I/SS020
PIC16LF723AT-I/SS021
PIC16LF723AT-I/SS023
PIC16LF723AT-I/SS024
PIC16LF723AT-I/SS025
PIC16LF723AT-I/SS026
PIC16LF723AT-I/SS027
PIC16LF723AT-I/SSC02