



Product Change Notification / LIAL-23USLU235

Date:

13-Feb-2021

Product Category:

8-bit Microcontrollers, Interface- Controller Area Network (CAN), Interface- Serial Peripherals

PCN Type:

Manufacturing Change

Notification Subject:

CCB 3979 and 3979.001 Final Notice: Qualification of QMI-519 die attach material for selected products available in 28L SOIC (.300in) and 18L SOIC (.300in) packages at MTAI assembly site.

Affected CPNs:

[LIAL-23USLU235_Affected_CPN_02132021.pdf](#)
[LIAL-23USLU235_Affected_CPN_02132021.csv](#)

Notification Text:

PCN Status: Final notification.

PCN Type: Manufacturing Change

Microchip Parts Affected: Please open one of the attachments found in the Affected CPNs section.

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

Description of Change: Qualification of QMI-519 die attach material for selected products available in 28L SOIC (.300in) and 18L SOIC (.300in) packages at MTAI assembly site.

Pre Change:

Using 3280 die attach material

Post Change:

Method to Identify Change: Traceability code

Qualification Report:

Please open the attachments included with this PCN labeled as PCN_#_Qual_Report.

Revision History:October 12, 2020: Issued initial notification.

February 13, 2021: Issued final notification. Attached the qualification report. Provided estimated first ship date to be on February 28, 2021.

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

Attachments:

[PCN_LIAL-23USLU235_Qual_Report.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)

MCP23017-E/SO
MCP23017T-E/SO
MCP23S17-E/SO
MCP23S17T-E/SO
PIC16F57-E/SO
PIC16F57-I/SO
MCV28A-I/SO
PIC16F57T-I/SO028
PIC16F57T-I/SO
PIC16F57T-E/SO
PIC16F570-I/SO
MCP23018-E/SO
MCP23018T-E/SO
MCP23S18-E/SO
MCP23S18T-E/SO
PIC16LF1902-I/SO
PIC16LF1903-I/SO
PIC16F723A-E/SO
PIC16F723A-I/SO
PIC16F723AT-I/SO
PIC16F722A-E/SO
PIC16F722A-I/SO
PIC16F722AT-I/SO
PIC16LF723A-E/SO
PIC16LF723A-I/SO
PIC16LF722A-E/SO
PIC16LF722A-I/SO
PIC16CR54CT-20/SO012
CF745-04/SO
PIC16LC54C-04/SO
PIC16C54C-04/SO
PIC16C54C-20/SO
PIC16C54C-04/SOC04
PIC16C54C-20E/SO
PIC16LC54C-04I/SO
PIC16C54C-04I/SO
PIC16C54C-20I/SO
PIC16C54CT-20/SO068
PIC16LC54CT-04/SO150
PIC16C54CT-04/SO
PIC16C54CT-04I/SO104
PIC16C54CT-04I/SO
MCP23008-E/SO
MCP23008T-E/SO
MCP23S08-E/SO
MCP23S08T-E/SO

MCP2515-E/SO
MCP2515-E/SORB2
MCP2515-E/SORB4
MCP2515-I/SO
MCP2515-I/SORB2
MCP2515-I/SORB4
MCP2515T-I/SO
MCP2515T-I/SORB2
MCP2515T-I/SORB4
MCP2515T-E/SO
MCP2515T-E/SORB2
MCP2515T-E/SORB4
PIC16F54-E/SO
PIC16F54-I/SO023
PIC16F54-I/SO043
PIC16F54-I/SO
PIC16F54T-I/SO036
PIC16F54T-I/SO042
PIC16F54T-I/SO
PIC16F54T-E/SO040
PIC16F716-E/SO
PIC16F716-I/SO
PIC16F716T-I/SO048
PIC16F716T-I/SO061
PIC16F716T-I/SO
PIC16F716T-E/SO



MICROCHIP

QUALIFICATION REPORT SUMMARY
RELIABILITY LABORATORY

PCN #: LIAL-23USLU235

Date:
September 16, 2020

Qualification of QMI-519 die attach material for selected products available in 28L SOIC (.300in) package at MTAI assembly site. The qualification of QMI-519 die attach material for selected products available in 18L SOIC (.300in) package at MTAI assembly site will qualify by similarity (QBS).



MICROCHIP **PACKAGE QUALIFICATION REPORT**

Purpose Qualification of QMI-519 die attach material for selected products available in 28L SOIC (.300in) package at MTAI assembly site. The qualification of QMI-519 die attach material for selected products available in 18L SOIC (.300in) package at MTAI assembly site will qualify by similarity (QBS).

CN ES343740

QUAL ID R2000455 rev. A

MP CODE LEAN14N3XB04

Part No. PIC16F723A-E/SO

Bonding No. BDM-001843 Rev. D

CCB No. 3979 and 3979.001

Package

Type 28L SOIC

Package size 300 mils

Lead Frame

Paddle size 200 x 240 mils

Material C194

Surface Bare Cu DAP

Process Stamped

Lead Lock Yes

Part Number 10102807

Treatment BOT

Material

Epoxy QMI-519

Wire CuPdAu

Mold Compound G600

Plating Composition Matte Tin



MICROCHIP PACKAGE QUALIFICATION REPORT

Manufacturing Information

Assembly Lot No.	Wafer Lot No.	Date Code
MTAI211101794.000	GRSM420271683.100	2024EPU
MTAI211102447.000	GRSM420271683.100	2024HEJ
MTAI211102450.000	GRSM420271683.100	2024HEP

Result

Pass Fail _____

28L SOIC 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: 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, 85°C and 125°C System: J750	JESD22- A113 JIP/ IPC/JEDEC J-STD-020E	693(0)	693 693 693 693 0/693	Pass	Good Devices

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: J750	JESD22-A104		231		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: +85°C and 125°C System: J750		231(0)	0/231	Pass	
	Bond Strength: Wire Pull (> 2.5 grams) Bond Shear (>15.00 grams)		15 (0)	0/15	Pass	
			15 (0)	0/15	Pass	
UNBIASED-HAST	Stress Condition: +130°C/85%RH, 96 hrs. System: HAST 6000X Electrical Test: +25°C System: J750	JESD22-A118		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. System: HAST 6000X Electrical Test: +25°C System: J750		231(0)	0/231	Pass	
			231(0)	0/231	Pass	
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: J750	JESD22-A110		231		Parts had been pre-conditioned at 260°C 77 units / lot
	Stress Condition: +130°C/85%RH, 192 hrs. Bias Volt: 5.5 Volts System: HAST 6000X Electrical Test: +25°C ,85°C and 125°C System: J750		231(0)	0/231	Pass	
			231(0)	0/231	Pass	

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	JESD22- A103		45		45 units
	Electrical Test: +25°C ,85°C and 125°C System: J750		45(0)	0/45	Pass	
Bond Strength Data Assembly	Wire Pull (> 2.5 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	