



## Product Change Notification / JAON-13YWCO205

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**Date:**

16-Jul-2020

**Product Category:**

8-bit Microcontrollers

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 3600.007 Final Notice: Qualification of MMT as an additional assembly site for selected Atmel products available in 40L PDIP package.

**Affected CPNs:**

[JAON-13YWCO205\\_Affected\\_CPN\\_07162020.pdf](#)

[JAON-13YWCO205\\_Affected\\_CPN\\_07162020.csv](#)

**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 MMT as an additional assembly site for selected Atmel products available in 40L PDIP package.

**Pre Change:**

Assembled at LPI assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, CRM-1033BF die attach and G600 mold compound material or assembled at ASSH using palladium coated copper (PdCu) bond wire, EN-4900G die attach and CEL-9240 mold compound material.

**Post Change:**

Assembled at ASSH using palladium coated copper (PdCu) bond wire, EN-4900G die attach and CEL-9240 mold compound material or assembled at MMT assembly site using palladium coated copper with gold flash (CuPdAu) bond wire, CRM-1064L die attach and GE800 mold compound material.

**Pre and Post Change Summary:**

|                                  | Pre Change                                 |                     | Post Change         |  |
|----------------------------------|--|---------------------|---------------------|--|
| <b>Assembly Site</b>             | Lingsen Precision Industries, Taiwan (LPI) | ASE-Shanghai (ASSH) | ASE-Shanghai (ASSH) | Microchip Technology Thailand (Branch) - (MMT) |
| <b>Wire material</b>             | CuPdAu                                     | PdCu                | PdCu                | CuPdAu   |
| <b>Die attach material</b>       | CRM-1033BF                                 | EN-4900G            | EN-4900G            | CRM-1064L                                      |
| <b>Molding compound material</b> | G600                                       | CEL-9240            | CEL-9240            | GE800  |
| <b>Lead frame material</b>       | CDA194                                     | CDA194              | CDA194              | CDA194   |

**Impacts to Data Sheet:** None

**Change Impact:**None

**Reason for Change:**To improve on time delivery performance by qualifying MMT as an additional assembly site. Due to unforeseen business conditions the LPI location will be discontinued as an assembly site for 40L PDIP package.

**Change Implementation Status:**In Progress

**Estimated First Ship Date:**August 15, 2020 (date code: 2033)

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

**Time Table Summary:**

|                               | July 2020 |    |    |    |    | August 2020 |    |    |    |    |
|-------------------------------|-----------|----|----|----|----|-------------|----|----|----|----|
| Workweek                      | 27        | 28 | 29 | 30 | 31 | 32          | 33 | 34 | 35 | 36 |
| 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: July 16, 2020:** Issued final notification. Attached the qualification report. Provided estimated first ship date to be on August 15, 2020.

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-13YWCO205\\_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)

AT89LS51-16PU

AT89S51-24PU

AT89LS52-16PU

AT89S52-24PU



**QUALIFICATION REPORT SUMMARY**  
RELIABILITY LABORATORY

**PCN #: JAON-13YWCO205**

**Date:**  
**October 28, 2019**

**Qualification of MMT as an additional assembly site for  
selected Atmel products available in 40L PDIP package.**



## MICROCHIP

### PACKAGE QUALIFICATION REPORT

**Purpose** Qualification of MMT as an additional assembly site for selected Atmel products available in 40L PDIP package.

**CN** ES303598

**QUAL ID** Q19095 rev A

**MP CODE** 354527S2XA01

**Part No.** ATMEGA1284P-PU

**Bonding No.** BDM-001967 Rev. A

**CCB No.** 3600, 3600.001, 3600.002, 3600.003, 3600.004, 3600.005, 3600.006 and 3600.007

#### Package

**Type** 40L PDIP

**Package size** 600 mils

#### Lead Frame

**Paddle size** 260 x 266 mils

**Material** CDA194

**Surface** Ag Spot Plated

**Process** Stamped

**Lead Lock** Yes

**Part Number** 10104004

#### Die attach material

**Epoxy** CRM-1064L

**Wire** CuPdAu wire

**Mold Compound** GE800

**Plating Composition** Matte Tin



**MICROCHIP**  
**PACKAGE QUALIFICATION REPORT**

**Manufacturing Information**

| Assembly Lot No.  | Wafer Lot No.     | Date Code |
|-------------------|-------------------|-----------|
| MMT-201101010.000 | MCSO519496553.210 | 1924EPS   |
| MMT-201101013.000 | MCSO519496553.210 | 1924ERS   |
| MMT-201101391.000 | MCSO519496553.210 | 1924H10   |

**Result**

Pass

Fail

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40L PDIP (.600") assembled by MMT pass reliability test per QCI-39000.

# PACKAGE QUALIFICATION REPORT

| Test Number<br>(Reference) | Test Condition   | Standard/<br>Method | Qty.<br>(Acc.) | Def/SS. | Result | Remarks        |  |
|----------------------------|--|---------------------|----------------|---------|--------|----------------|--|
| <b>Electrical Test</b>     | <b>Electrical Test:</b> +25°C and 85°C<br>System: J750   | JESD22-<br>A113     | 693(0)         | 693     |        | Good Devices   |  |
| <b>Temp Cycle</b>          | <b>Stress Condition:</b><br>-65°C to +150°C, 500 Cycles<br>System : TABAI ESPEC TSA-70H<br>Inspection: External crack inspection all units<br>under 40X Optical magnification  | JESD22-<br>A104     |                | 231     |        | 77 units / lot |  |
|                            | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 231(0)         | 0/231   | Pass   |                |  |
|                            | <b>Stress Condition:</b><br>-65°C to +150°C, 1000 Cycles<br>System : TABAI ESPEC TSA-70H<br>Inspection: External crack inspection all units<br>under 40X Optical magnification |                     |                | 231     |        |                |  |
|                            | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 231(0)         | 0/231   | Pass   |                |  |
|                            | <b>Bond Strength:</b><br>Wire Pull (> 2.50 grams)<br>Bond Shear (15.00 grams)  |                     | 15 (0)         | 0/15    | Pass   |                |  |
|                            |  |                     | 15 (0)         | 0/15    | Pass   |                |  |
| <b>UNBIASED-HAST</b>       | <b>Stress Condition:</b><br>+130°C/85%RH, 96 hrs.<br>System: HAST 6000X  | JESD22-<br>A118     |                | 231     |        | 77 units / lot |  |
|                            | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 231(0)         | 0/231   | Pass   |                |  |
|                            | <b>Stress Condition:</b><br>+130°C/85%RH, 192 hrs.<br>System: HAST 6000X   |                     |                | 231     |        |                |  |
|                            | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 231(0)         | 0/231   | Pass   |                |  |



# PACKAGE QUALIFICATION REPORT

| Test Number<br>(Reference)                   | Test Condition   | Standard/<br>Method | Qty.<br>(Acc.)  | Def/SS. | Result | Remarks        |
|--|--|---------------------|-----------------|---------|--------|----------------|
| <b>HAST</b>                                  | <b>Stress Condition:</b><br>+130°C/85%RH, 96 hrs. <b>Bias Volt:</b> 5.5 Volts<br>System: HAST 6000X  | JESD22-A110         |                 | 231     |        | 77 units / lot |
|  | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 231(0)          | 0/231   | Pass   |                |
|  | <b>Stress Condition:</b><br>+130°C/85%RH, 192 hrs. <b>Bias Volt:</b> 5.5 Volts<br>System: HAST 6000X |                     |                 | 231     |        |                |
|  | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 231(0)          | 0/231   | Pass   |                |
| <b>High<br/>Temperature<br/>Storage Life</b> | <b>Stress Condition:</b><br>Bake 175°C, 504 hrs<br>System: SHEL LAB                                  | JESD22-A103         |                 | 45      |        | 45 units       |
|  | <b>Electrical Test:</b> +85°C<br>System: MAV1_PT   |                     | 45(0)           | 0/45    | Pass   |                |
| <b>Bond Strength<br/>Data Assembly</b>       | Wire Pull (> 2.50 grams)   | M2011               | 30 (0)<br>Wires | 0/30    | Pass   |                |
|  | Bond Shear (15.00 grams)   | JESD22-B116         | 30 (0)<br>bonds | 0/30    | Pass   |                |