



## Product Change Notification / NTDO-24ZJOF507

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**Date:**

01-Aug-2023

**Product Category:**

8-bit Microcontrollers

**PCN Type:**

Manufacturing Change

**Notification Subject:**

CCB 6422 Initial Notice: Qualification of palladium coated copper with gold flash (CuPdAu) bond wire as new wire material for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF153xx, PIC16LF183xx, PIC16LF184xx, PIC18F04Q4xx, PIC18F05Q4xx and PIC18F06Q4xx device families available in 14L and 8L SOIC (3.90mm) package.

**Affected CPNs:**

[NTDO-24ZJOF507\\_Affected\\_CPN\\_08012023.pdf](#)

[NTDO-24ZJOF507\\_Affected\\_CPN\\_08012023.csv](#)

**Notification Text:**

**PCN Status:**Initial 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 palladium coated copper with gold flash (CuPdAu) bond wire as new wire material for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF153xx, PIC16LF183xx, PIC16LF184xx, PIC18F04Q4xx, PIC18F05Q4xx and PIC18F06Q4xx device families available in 14L and 8L SOIC (3.90mm) package.

**Pre and Post Change Summary:**



|                          |  |  |  |  |  |  |  |  |  |  |   |
|--------------------------|--|--|--|--|--|--|--|--|--|--|---|
| Qual Report Availability |  |  |  |  |  |  |  |  |  |  | X |
| Final PCN Issue Date     |  |  |  |  |  |  |  |  |  |  | X |

**Method to Identify Change:**Traceability code

**Qualification Plan:**Please open the attachments included with this PCN labeled as PCN\_#\_Qual\_Plan.

**Revision History:**August 1, 2022: Issued initial 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\\_NTDO-24ZJOF507\\_Qual\\_Plan.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.

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Affected Catalog Part Numbers (CPN)

PIC16LF18323T-I/SLC01  
PIC16F15313-I/SNC01  
PIC16F15313T-I/SNC01  
PIC16F15324-I/SLC02  
PIC16F15324T-I/SLC02  
PIC16F18324-E/SL024  
PIC16F18324T-E/SL024  
PIC18F06Q41-E/SL  
PIC18F06Q40-E/SL  
PIC18F06Q41-I/SL  
PIC18F06Q40-I/SL  
PIC18F06Q41T-I/SL  
PIC18F06Q40T-I/SL  
PIC18F04Q40-E/SL  
PIC18F05Q40-E/SL  
PIC18F04Q41-E/SL  
PIC18F05Q41-E/SL  
PIC18F04Q40-I/SL  
PIC18F05Q40-I/SL  
PIC18F04Q41-I/SL  
PIC18F05Q41-I/SL  
PIC18F04Q40T-I/SL  
PIC18F05Q40T-I/SL  
PIC18F04Q41T-I/SL  
PIC18F05Q41T-I/SL  
PIC16F18324-E/SL  
PIC16LF18324-E/SL  
PIC16F18324-I/SL  
PIC16LF18324-I/SL  
PIC16LF18324T-I/SL020  
PIC16F18324T-I/SL027  
PIC16F18324T-I/SL028  
PIC16F18324T-I/SL  
PIC16LF18324T-I/SL  
PIC16F18324T-E/SL  
PIC16F18325-E/SL  
PIC16LF18325-E/SL  
PIC16F18325-I/SL  
PIC16LF18325-I/SL  
PIC16F18325T-I/SL  
PIC16LF18325T-I/SL  
PIC16LF18313-E/SN  
PIC16F18313-E/SN  
PIC16LF18323-E/SL  
PIC16F18323-E/SL  
PIC16LF18313-I/SN

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PIC16F18313-I/SN

PIC16LF18323-I/SL

PIC16F18323-I/SL

PIC16LF18313T-I/SN

PIC16F18313T-I/SN

PIC16LF18323T-I/SL

PIC16F18323T-I/SL

PIC16F18313T-E/SN027

PIC16F18313T-E/SN030

PIC16F18313T-E/SN031

PIC16F18313T-E/SN

PIC16LF18323T-E/SL

PIC16F18323T-E/SL

PIC16F18424-E/SL

PIC16F18425-E/SL

PIC16LF18424-E/SL

PIC16LF18425-E/SL

PIC16F18424-I/SL

PIC16F18425-I/SL

PIC16LF18424-I/SL

PIC16LF18425-I/SL

PIC16F18424T-I/SL

PIC16F18425T-I/SL

PIC16LF18424T-I/SL

PIC16LF18425T-I/SL

PIC16F18424T-E/SL

PIC16F18426-E/SL

PIC16LF18426-E/SL

PIC16F18426-I/SL

PIC16LF18426-I/SL

PIC16F18426T-I/SL

PIC16LF18426T-I/SL

PIC16F18326-E/SL

PIC16LF18326-E/SL

PIC16F18326-I/SL

PIC16LF18326-I/SL

PIC16F18326T-I/SL

PIC16LF18326T-I/SL

PIC16F15325-E/SL

PIC16LF15325-E/SL

PIC16F15325-I/SL

PIC16LF15325-I/SL

PIC16F15325T-I/SL

PIC16LF15325T-I/SL

PIC16F15324-E/SL

PIC16LF15324-E/SL

PIC16F15324-I/SL

PIC16LF15324-I/SL

PIC16F15324T-I/SL

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PIC16LF15324T-I/SL

PIC16F15324T-E/SL

PIC16F15313-E/SN

PIC16LF15313-E/SN

PIC16F15323-E/SL

PIC16LF15323-E/SL

PIC16F15313-I/SN

PIC16LF15313-I/SN

PIC16F15323-I/SL

PIC16LF15323-I/SL

PIC16F15313T-I/SN021

PIC16LF15313T-I/SN023

PIC16F15313T-I/SN

PIC16LF15313T-I/SN

PIC16F15323T-I/SL

PIC16LF15323T-I/SL

PIC16F15313T-E/SN



## **QUALIFICATION PLAN SUMMARY**

**PCN#: NTDO-24ZJOF507**

**Date:  
July 5, 2023**

**Qualification of palladium coated copper with gold flash (CuPdAu) bond wire as new wire material for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF153xx, PIC16LF183xx, PIC16LF184xx, PIC18F04Q4xx, PIC18F05Q4xx and PIC18F06Q4xx device families available in 14L and 8L SOIC (3.90mm) package.**

**Purpose:** Qualification of palladium coated copper with gold flash (CuPdAu) bond wire as new wire material for selected PIC16F153xx, PIC16F183xx, PIC16F184xx, PIC16LF153xx, PIC16LF183xx, PIC16LF184xx, PIC18F04Q4xx, PIC18F05Q4xx and PIC18F06Q4xx device families available in 14L and 8L SOIC (3.90mm) package.

**CCB:** 6422

|                   |                                                                                                                                                                                                              |                  |
|-------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|
| <b>Misc.</b>      | <b>Assembly site</b>                                                                                                                                                                                         | MMT              |
|                   | <b>BD Number</b>                                                                                                                                                                                             | BD-001566/02     |
|                   | JESD22-A113. +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. | MV0034D3XFX6     |
|                   | <b>MSL-1/260C</b>                                                                                                                                                                                            |                  |
|                   | <b>Part Number (CPN)</b>                                                                                                                                                                                     | PIC16F18426-E/SL |
|                   | <b>MSL information</b>                                                                                                                                                                                       | MSL-1            |
|                   | <b>Assembly Shipping Media (T/R, Tube/Tray)</b>                                                                                                                                                              | Tube             |
|                   | <b>Base Quantity Multiple (BQM)</b>                                                                                                                                                                          | 57               |
| <b>Lead-Frame</b> | <b>Reliability Site</b>                                                                                                                                                                                      | MTAI             |
|                   | <b>Paddle size</b>                                                                                                                                                                                           | 95x155 mils      |
|                   | <b>Material</b>                                                                                                                                                                                              | CDA194           |
|                   | <b>DAP Surface Prep</b>                                                                                                                                                                                      | Bare Cu          |
|                   | <b>Treatment</b>                                                                                                                                                                                             | BOT              |
|                   | <b>Process</b>                                                                                                                                                                                               | Stamped          |
|                   | <b>Lead-lock</b>                                                                                                                                                                                             | No               |
|                   | <b>Part Number</b>                                                                                                                                                                                           | 10101411         |
|                   | <b>Lead Plating</b>                                                                                                                                                                                          | Matte Tin        |
|                   | <b>Strip Size</b>                                                                                                                                                                                            | 9.8432x2.756 in. |
| <b>Bond Wire</b>  | <b>Strip Density</b>                                                                                                                                                                                         | 112 pads/strip   |
|                   | <b>Material</b>                                                                                                                                                                                              | CuPdAu           |
| <b>Die Attach</b> | <b>Part Number</b>                                                                                                                                                                                           | 8390A            |
|                   | <b>Conductive</b>                                                                                                                                                                                            | Yes              |
| <b>MC</b>         | <b>Part Number</b>                                                                                                                                                                                           | G600V            |
| <b>PKG</b>        | <b>Package Type</b>                                                                                                                                                                                          | SOIC             |
|                   | <b>Pin/Ball Count</b>                                                                                                                                                                                        | 14               |
|                   | <b>PKG width/size</b>                                                                                                                                                                                        | 150 mils         |



| Test Name                                            | Conditions                                                                                                                                                                                                   | Sample Size                                               | Min. Qty of Spares per Lot (should be properly marked) | Qty of Lots | Total Units | Fail Accept Qty | Est. Dur. Days | ATE Test Site | REL Test Site | Pkg. Type | Special Instructions                                                                                      |
|------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|--------------------------------------------------------|-------------|-------------|-----------------|----------------|---------------|---------------|-----------|-----------------------------------------------------------------------------------------------------------|
| Wire Bond Pull - WBP                                 | Mil. Std. 883-2011                                                                                                                                                                                           | 5                                                         | 0                                                      | 1           | 5           |                 | 5              |               | MMT/MTAI      | SOIC      | 30 bonds from a min. 5 devices.                                                                           |
| Wire Bond Shear - WBS                                | CDF-AEC-Q100-001                                                                                                                                                                                             | 5                                                         | 0                                                      | 1           | 5           |                 | 5              |               | MMT/MTAI      | SOIC      | 30 bonds from a min. 5 devices.                                                                           |
| Wire Sweep                                           |                                                                                                                                                                                                              |                                                           |                                                        |             |             |                 |                |               | MMT           | SOIC      | Required for any reduction in wire bond thickness.                                                        |
| External Visual                                      | Mil. Std. 883-2009/2010                                                                                                                                                                                      | All devices prior to submission for qualification testing | 0                                                      | 3           | ALL         | 0               | 5              |               | MMT/MTAI      | SOIC      |                                                                                                           |
| Preconditioning - Required for surface mount devices | JESD22-A113. +150°C Bake for 24 hours, moisture loading requirements per MSL level + 3X reflow at peak reflow temperature per Jedec-STD-020E for package type; Electrical test pre and post stress at +25°C. | 231                                                       | 15                                                     | 3           | 738         | 0               | 15             | MTAI          | MTAI          | SOIC      | Spares should be properly identified. 77 parts from each lot to be used for HAST, uHAST, Temp Cycle test. |
| HAST                                                 | JESD22-A110. +130°C/85% RH for 96 hours<br><b>MSL -1/260C</b><br><u>Electrical test pre and post stress at +25°C and +125C.</u>                                                                              | 77                                                        | 5                                                      | 3           | 246         | 0               | 10             | MTAI          | MTAI          | SOIC      | Spares should be properly identified. Use the parts which have gone through Pre-conditioning.             |
| UHAST                                                | JESD22-A118. +130°C/85% RH for 96 hrs.<br><u>Electrical test pre and post stress at +25°C</u>                                                                                                                | 77                                                        | 5                                                      | 3           | 246         | 0               | 10             | MTAI          | MTAI          | SOIC      | Spares should be properly identified. Use the parts which have gone through Pre-conditioning.             |
| Temp Cycle                                           | JESD22-A104. -65°C to +150°C for 500 cycles.<br><u>Electrical test pre and post stress at +125C; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress.</u>                            | 77                                                        | 5                                                      | 3           | 246         | 0               | 15             | MTAI          | MTAI          | SOIC      | Spares should be properly identified. Use the parts which have gone through Pre-conditioning.             |