

Product Change Notification - KSRA-03AYHE005 [\(Convert To PDF\)](#)

Date: 07 May 2018

Product Category: 8-bit PIC Microcontrollers; Capacitive Touch Sensors

Affected CPNs:

Notification subject: CCB 3296 Initial PCN: Qualification of gold (Au) bond wire as secondary wire material for selected Atmel products available in 44L TQFP (10x10x1.0mm) package at MTAI Assembly site

Notification text: **PCN Status:** Initial 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 gold (Au) bond wire as secondary wire material for selected Atmel products available in 44L TQFP (10x10x1.0mm) package at MTAI Assembly site

Pre Change: Using palladium coated copper wire with gold flash (CuPdAu) bond wire

Post Change: Using palladium coated copper wire with gold flash (CuPdAu) or gold (Au) bond wire

Pre and Post Change Summary:

| | Pre Change | | Post Change | |
|----------------------------------|--|--|--|--|
| | Microchip Technology Thailand (HQ) / MTAI | Microchip Technology Thailand (HQ) / MTAI | Microchip Technology Thailand (HQ) / MTAI | Microchip Technology Thailand (HQ) / MTAI |
| Assembly Site | Microchip Technology Thailand (HQ) / MTAI | Microchip Technology Thailand (HQ) / MTAI | Microchip Technology Thailand (HQ) / MTAI | Microchip Technology Thailand (HQ) / MTAI |
| Wire material | CuPdAu | CuPdAu | CuPdAu | Au |
| Die attach material | 3280 | 3280 | 3280 | 3280 |
| Molding compound material | G700HA | G700HA | G700HA | G700HA |
| Lead frame material | C7025 | C7025 | C7025 | C7025 |

Impacts to Data Sheet: None

Change Impact: None

Reason for Change: To improve on-time delivery performance by qualifying gold (Au) bond wire for selected Atmel devices at MTAI assembly site.

Change Implementation Status: In Progress

Estimated Qualification Completion Date: May 2018

Note: Please be advised the qualification completion times may be extended because of unforeseen business conditions however implementation will not occur until after qualification has completed and a final PCN has been issued. The final PCN will include the qualification report and estimated first ship date. Also note that after the estimated first ship date guided in the final PCN customers may receive pre and post change parts.

Time Table Summary:

| | May2018 | | | | |
|--------------------------|---------|----|----|----|----|
| | 18 | 19 | 20 | 21 | 22 |
| Workweek | | | | | |
| Initial PCN Issue Date | | X | | | |
| Qual Report Availability | | | | | |
| 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: **May 07, 2018:** 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.

Attachment(s): [PCN_KSRA-03AYHE005_Qual_Plan.pdf](#)

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Affected Catalog Part Numbers (CPN)

AT42QT1481-AU
AT42QT1481-AUR
AT42QT2640-AU
AT42QT2640-AUR
ATMEGA1284-AU
ATMEGA1284-AUR
ATMEGA1284P-AU
ATMEGA1284P-AUR
ATMEGA16-16AU
ATMEGA16-16AUA2
ATMEGA16-16AUR
ATMEGA164A-AU
ATMEGA164A-AUA2
ATMEGA164A-AUR
ATMEGA164A-AURA2
ATMEGA164PA-AN
ATMEGA164PA-ANR
ATMEGA164PA-AU
ATMEGA164PA-AUR
ATMEGA164P-B15AZ
ATMEGA16A-AU
ATMEGA16A-AUA9
ATMEGA16A-AUR
ATMEGA16A-AURA3
ATMEGA16A-AURA4
ATMEGA16A-AURA8
ATMEGA16L-8AU
ATMEGA16L-8AUA7
ATMEGA16L-8AUR
ATMEGA16L-8AURA1
ATMEGA16U4-AU
ATMEGA16U4-AUR
ATMEGA16U4RC-AU
ATMEGA32-16AU
ATMEGA32-16AUR
ATMEGA324A-AU
ATMEGA324A-AUR
ATMEGA324A-AURA3
ATMEGA324PA-AN
ATMEGA324PA-ANR
ATMEGA324PA-AU
ATMEGA324PA-AUA1
ATMEGA324PA-AUR
ATMEGA324P-B15AZ
ATMEGA32A-AN
ATMEGA32A-ANR
ATMEGA32A-AU

ATMEGA32A-AUR626
ATMEGA32A-AURA5
ATMEGA32A-AURA6
ATMEGA32A-AURA7
ATMEGA32L-8AU
ATMEGA32L-8AUR
ATMEGA32U4-AU
ATMEGA32U4-AUR
ATMEGA32U4RC-AU
ATMEGA32U4RC-AUR
ATMEGA644A-AU
ATMEGA644A-AUR
ATMEGA644PA-AN
ATMEGA644PA-ANR
ATMEGA644PA-AU
ATMEGA644PA-AUR



MICROCHIP

QUALIFICATION PLAN SUMMARY

PCN#: KSRA-03AYHE005

**Date:
Mar 21, 2018**

Qualification of gold (Au) bond wire as secondary wire material for selected Atmel products available in 44L TQFP (10x10x1.0mm) package at MTAI Assembly site

Purpose: Qualification of gold (Au) bond wire as secondary wire material for selected Atmel products available in 44L TQFP (10x10x1.0mm) package at MTAI Assembly site

CCB No.: 3296

| | | |
|-------------------|--------------------------|--------------------|
| Misc. | Assembly site | MTAI |
| | BD Number | BDM-001705 rev.A |
| | MP Code (MPC) | 354787T4XC01 |
| | Part Number (CPN) | ATMEGA644 |
| Lead-Frame | Paddle size | 180x180 mils |
| | Material | C7025 |
| | Surface | Bare Cu on paddle |
| | Treatment | Roughening |
| | Process | Stamped |
| | Lead-lock | No |
| | Part Number | 10104412 |
| | Lead Plating | Matte Tin |
| Bond Wire | Material | Au |
| Die Attach | Part Number | 3280 |
| | Conductive | Yes |
| MC | Part Number | G700HA |
| PKG | PKG Type | TQFP |
| | Pin/Ball Count | 44 |
| | PKG width/size | 10x10 mm |
| Die | Die Thickness | 11 mils |
| | Die Size | 164.4 x 119.8 mils |
| | MSL | MSL1/260 |

| 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 | Test Site | Special Instructions |
|--|--|---|--|-------------|-------------|------------------|----------------|-----------|---|
| Wire Bond Pull - WBP | Mil. Std. 883-2011 | 5 | 0 | 1 | 5 | 0 fails after TC | 5 | MTAI | 30 bonds from a min. 5 devices. |
| Wire Bond Shear - WBS | CDF-AEC-Q100-001 | 5 | 0 | 1 | 5 | | 5 | MTAI | 30 bonds from a min. 5 devices. |
| External Visual | Mil. Std. 883-2009/2010 | All devices prior to submission for qualification testing | 0 | 3 | ALL | 0 | 5 | MTAI | |
| HTSL (High Temp Storage Life) | +175 C for 504 hours or 150°C for 1008 hrs. Electrical test pre and post stress at +25C and hot temp. | 45 | 5 | 1 | 50 | 0 | 10 | MTAI | Must be in progress at time of package release to production, but completion is not required for release to production. |
| Preconditioning - Required for surface mount devices | +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 | Spares should be properly identified. 77 parts from each lot to be used for HAST, Autoclave, Temp Cycle test. |
| HAST | +130°C/85% RH for 96 hours. Electrical test pre and post stress at +25°C and hot temp. | 77 | 5 | 3 | 246 | 0 | 10 | MTAI | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |
| UHAST | +130°C/85% RH for 96hrs. Electrical test pre and post stress at +25°C | 77 | 5 | 3 | 246 | 0 | 10 | MTAI | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |
| Temp Cycle | -65°C to +150°C for 500 , 1000 cycles. Electrical test pre and post stress at hot temp; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. | 77 | 5 | 3 | 246 | 0 | 15 | MTAI | Spares should be properly identified. Use the parts which have gone through Pre-conditioning. |