Product Change Notification / NTDO-13QXLX842

## Date:

19-Dec-2022

## Product Category:

Motor Drivers

## PCN Type:

Manufacturing Change

## Notification Subject:

CCB 6024 Initial Notice: Qualification of MMT as an additional assembly site for selected MTD6508 device family available in 16L UQFN (4x4x0.5 mm) package.

## Affected CPNs:

NTDO-13QXLX842_Affected_CPN_12192022.pdf
NTDO-13QXLX842_Affected_CPN_12192022.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 MMT as an additional assembly site for selected MTD6508 device family available in 16L UQFN (4x4x0.5 mm) package.

**Pre and Post Change Summary:**

| | Pre Change | Post Change |
|---|---|---|

| Assembly Site | UTAC Thai Limited (NSEB) | UTAC Thai Limited (NSEB) | Microchip Technology Thailand (Branch) (MMT) |
|---|---|---|---|
| Wire Material | Au | Au | Au |
| Die Attach Material | 8600 | 8600 | 8600 |
| Molding Compound Material | G700LTD | G700LTD | G700LTD |
| Lead-Frame Material | EFTEC-64T | EFTEC-64T | EFTEC-64T |
| Lead-lock | No | No | Yes |

**Impacts to Data Sheet:**None

**Change Impact**None

**Reason for Change:**To improve productivity by qualifying MMT as an additional assembly site.

**Change Implementation Status:**In Progress

**Estimated Qualification Completion Date:**April 2023

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:**

| | **December 2022** | | | | | **->** | **April 2023** | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Workweek | 49 | 50 | 51 | 52 | 53 | | 14 | 15 | 16 | 17 | 18 |
| Initial PCN Issue Date | | | | X | | | | | | | |
| 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:**December 19, 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-13QXLX842_Pre and Post Change Summary.pdf
PCN_NTDO-13QXLX842_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.

# CCB#: 6024
# Pre and Post Change Summary
# PCN #: NTDO-13QXLX842


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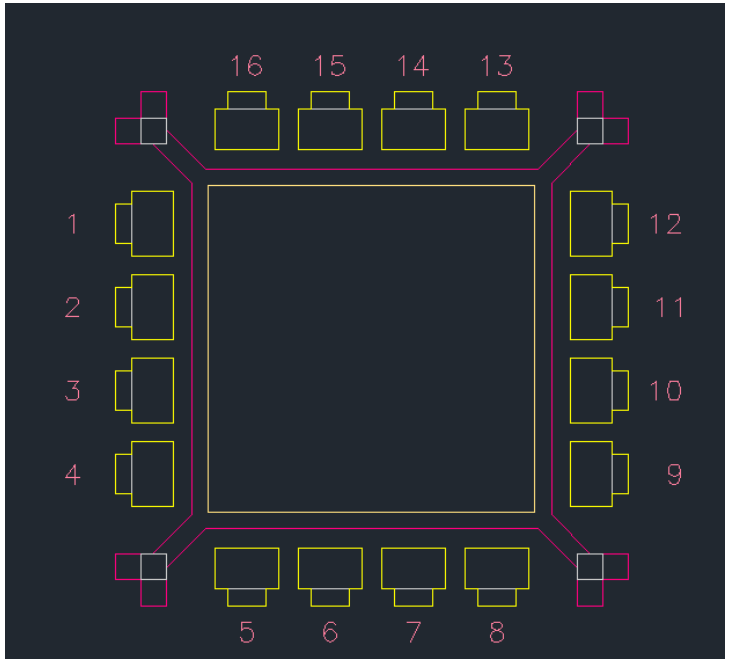
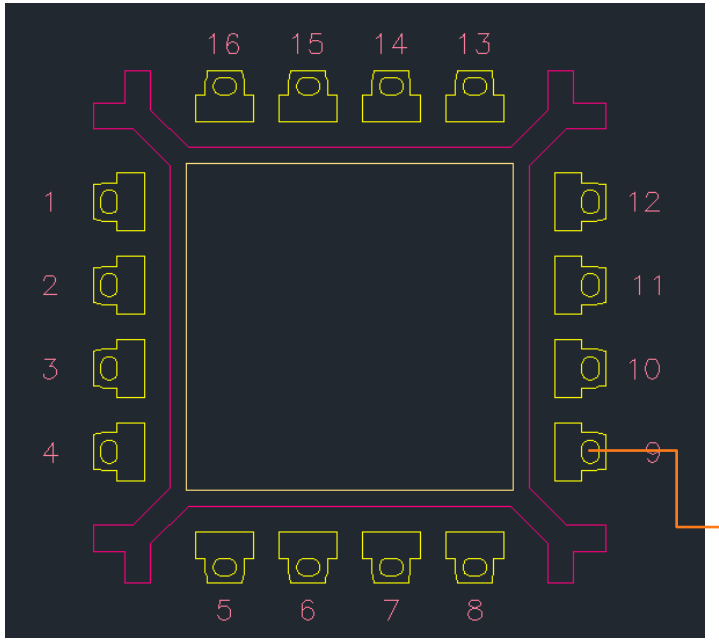
# Lead Frame Comparison

## NSEB




| Lead Frame Material | EFTEC-64T |
|---|---|
| Lead Lock | No |

## MMT




| Lead Frame Material | EFTEC-64T |
|---|---|
| Lead Lock | Yes |

Note: The lead lock hole fills with mold compound during the assembly process and provides improved protection against moisture penetration around the interface edges between pins and mold compound.

Affected Catalog Part Numbers (CPN)

MTD6508-ADJE/JQ
MTD6508T-ADJE/JQ

# QUALIFICATION PLAN SUMMARY

## PCN #: NTDO-13QXLX842

**Date**
**December 4, 2022**

## Qualification of MMT as an additional assembly site for selected MTD6508 device family available in 16L UQFN (4x4x0.5 mm) package.

**Purpose: Qualification of MMT as an additional assembly site for selected MTD6508 device family available in 16L UQFN (4x4x0.5 mm) package.**

**CCB: 6024**

| | |
|---|---|
| Assembly site | MMT |
| BD Number | BD-001161/01 |
| MP Code (MPC) | UGBC14JQXA00 |
| Part Number (CPN) | MTD6508-ADJE/JQ |
| MSL information | MSL-1 @260 |
| Assembly Shipping Media (T/R, Tube/Tray) | Tube |
| Base Quantity Multiple (BQM) | 91 |
| Reliability Site | MTAI |
| Paddle size | 110x110 |
| Lead Frame Material | EFTEC-64T |
| DAP Surface Prep | Bare Cu |
| Treatment | Roughening LF |
| Process | Etched |
| Lead-lock | Yes |
| Part Number | 10101600 |
| Lead Plating | Matte Tin |
| Strip Size | 250x70mm |
| Strip Density | 700 unit/strip |
| Bond Wire Material | Au |
| Die Attach Material | 8600 |
| Conductive | Yes |
| Mold Compound | G700LTD |
| PKG Type | UQFN |
| Pin/Ball Count | 16 |
| PKG width/size | 4x4x0.5mm |

| 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 | Special Instructions |
|---|---|---|---|---|---|---|---|---|
| Standard Pb-free Solderability | J-STD-002D ; Perform 8 hour steam aging for Matte tin finish and 1 hour steam aging for NiPdAu finish prior to testing.<br><br>Standard Pb-free: Matte tin/ NiPdAu finish, SAC solder, wetting temp 245°C for both SMD & through hole packages. | 22 | 5 | 1 | 27 | > 95% lead coverage | 5 | Standard Pb-free solderability is the requirement.<br><br>SnPb solderability (backward solderability- SMD reflow soldering) is required for any plating related changes and highly recommended for other package BOM changes. |
| Wire Bond Pull - WBP | Mil. Std. 883-2011 | 5 | 0 | 1 | 5 | 0 | 5 | 30 bonds from a min. 5 devices. |
| Wire Bond Shear - WBS | CDF-AEC-Q100-001 | 5 | 0 | 1 | 5 | 0 | 5 | 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 | |
| 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. and hot 85 & 125C°<br><br>**MSL-1@260C°** | 231 | 15 | 3 | 738 | 0 | 15 | Spares should be properly identified. |
| HAST | JESD22-A110. +130°C/85% RH for 96 hours or 110°C/85%RH for 264 hours.<br><br>Electrical test pre and post stress at +25°C and hot temp 85 & 125C°. | 77 | 5 | 3 | 246 | 0 | 10 | Spares should be properly identified.<br>Use the parts which have gone through Pre-conditioning. |
| UHAST | JESD22-A118. +130°C/85% RH for 96 hrs or +110°C/85% RH for 264 hrs.<br><br>Electrical test pre and post stress at +25°C | 77 | 5 | 3 | 246 | 0 | 10 | Spares should be properly identified.<br>Use the parts which have gone through Pre-conditioning. |
| Temp Cycle | JESD22-A104. -65°C to +150°C for 500 cycles.<br><br>Electrical test pre and post stress at hot 85 & 125C°; 3 gram force WBP, on 5 devices from 1 lot, test following Temp Cycle stress. | 77 | 5 | 3 | 246 | 0 | 15 | Spares should be properly identified.<br>Use the parts which have gone through Pre-conditioning. |