



| <b>Title of Change:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Planned capacity expansion for eFuse DFN packages, assembly and test in ON Semiconductor's factory in Tarlac, Philippines and assembly in UTAC, Thailand.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
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| <b>Proposed first ship date for Tarlac Test:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 30 June 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Proposed first ship date for Tarlac Assembly:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 29 December 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Proposed first ship date for UTAC Assembly:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 31 August 2017                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Contact information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Contact your local ON Semiconductor Sales Office or <ed.pope@onsemi.com>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Samples:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Samples should be available after completion of qualification.<br>Contact your local ON Semiconductor Sales Office.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Type of notification:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | <p>This is an Initial Product/Process Change Notification (IPCN) sent to customers. IPCNs are issued at least 30 days prior to the issuance of the Final Change Notice (FPCN). An IPCN is an advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan.</p> <p>The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN). This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change. In case of questions, contact &lt;PCN.Support@onsemi.com&gt;.</p> |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Change Part Identification:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | DC will identify the supply site                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Change category:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Assembly Change <input checked="" type="checkbox"/> Test Change <input type="checkbox"/> Other _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Change Sub-Category(s):</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div style="display: flex; justify-content: space-between;"> <div> <input checked="" type="checkbox"/> Manufacturing Site Change/Addition<br/> <input type="checkbox"/> Manufacturing Process Change         </div> <div> <input type="checkbox"/> Material Change<br/> <input type="checkbox"/> Product specific change         </div> <div> <input type="checkbox"/> Datasheet/Product Doc change<br/> <input type="checkbox"/> Shipping/Packaging/Marking<br/> <input type="checkbox"/> Other: _____         </div> </div>                                                                                                                                                                                                                                  |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Sites Affected:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | <div style="display: flex; justify-content: space-between;"> <div> <input type="checkbox"/> All site(s)    <input type="checkbox"/> not applicable         </div> <div> <input checked="" type="checkbox"/> ON Semiconductor site(s) :<br/> <u>ON Tarlac City, Philippines</u> </div> <div> <input checked="" type="checkbox"/> External Foundry/Subcon site(s)<br/> <u>UTAC Thai Limited</u> </div> </div>                                                                                                                                                                                                                                                                                                                                                    |                             |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| <b>Description and Purpose:</b><br><br><p>ON Semiconductor is pleased to announce additional capacity expansion for assembly and test at ON Semiconductor's factory in Tarlac, Philippines and assembly in UTAC, Thailand.</p> <p>The Final PCN will detail any lead frame, plating, epoxy, or mold compound changes. There will be no changes to the die or Data Sheet specifications. Existing assembly and test capacity will continue to be available from ON Semiconductor's current factory at Seremban, Malaysia.</p> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="background-color: #92d050;">Before Change<br/>Description</th> <th style="background-color: #92d050;">After Change<br/>Description</th> </tr> </thead> <tbody> <tr> <td>Lead Frame</td> <td>Ag Plated L/F DFN3030</td> <td>Per FPCN</td> </tr> <tr> <td>epoxy</td> <td>DA AB 841LMISR4 CON</td> <td>Per FPCN</td> </tr> <tr> <td>Mold Compound</td> <td>MC SU EMEG760</td> <td>Per FPCN</td> </tr> <tr> <td>Wire</td> <td>1 mil Au</td> <td>1 mil Au (No change)</td> </tr> <tr> <td>Die</td> <td>CZ4 FAB, no change</td> <td>CZ4 FAB, no change</td> </tr> </tbody> </table> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                             |  | Before Change<br>Description | After Change<br>Description | Lead Frame | Ag Plated L/F DFN3030 | Per FPCN | epoxy | DA AB 841LMISR4 CON | Per FPCN | Mold Compound | MC SU EMEG760 | Per FPCN | Wire | 1 mil Au | 1 mil Au (No change) | Die | CZ4 FAB, no change | CZ4 FAB, no change |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | Before Change<br>Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | After Change<br>Description |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| Lead Frame                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ag Plated L/F DFN3030                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Per FPCN                    |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| epoxy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | DA AB 841LMISR4 CON                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Per FPCN                    |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| Mold Compound                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | MC SU EMEG760                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Per FPCN                    |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| Wire                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 1 mil Au                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 1 mil Au (No change)        |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |
| Die                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CZ4 FAB, no change                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | CZ4 FAB, no change          |  |                              |                             |            |                       |          |       |                     |          |               |               |          |      |          |                      |     |                    |                    |

**Qualification Plan for Assembly:**

| Test  | Specification       | Condition                         | Interval    | Lots  | Units/Lot |
|-------|---------------------|-----------------------------------|-------------|-------|-----------|
| HTOL  | JESD22-A108         | Ta=125°C, 100% rated Vcc          | 1008 hrs    | 3     | 77        |
| HTRB  | JESD22-A108         | Ta=125°C, 100% rated Vcc          | 1008 hrs    | 3     | 77        |
| HTSL  | JESD22-A103         | Ta=150°C                          | 1008 hrs    | 3     | 77        |
| TC    | JESD22-A104         | Ta= -55°C to +150°C               | 1008 cycles | 3     | 77        |
| HAST  | JESD22-A110         | 130°C, 85% RH, 18.8psig, bias     | 96 hrs      | 3     | 77        |
| uHAST | JESD22-A118         | 130°C, 85% RH, 18.8psig, unbiased | 96 hrs      | 3     | 77        |
| PC    | J-STD-020 JESD-A113 | MSL 1 @ 260°C                     | ---         | 320x3 | ---       |
| RSH   | JESD22-B106         | Ta = 265°C, 10 Sec                | ---         | 3     | 10        |
| SD    | JSTD002             | Ta = 245°C, 10 Sec                | ---         | 3     | 15        |

Estimated date for Tarlac Test Qualification completion: 30 Jun 2017

Estimated date for Tarlac Assembly Qualification: 29 Dec 2017

Estimated date for UTAC Assembly Qualification: 31 Aug 2017

**List of affected Standard Parts:**

| Part Number   | Qualification Vehicle |
|---------------|-----------------------|
| NIS5132MN1TXG | NIS5132MN1TXG         |
| NIS5132MN2TXG |                       |
| NIS5132MN3TXG |                       |
| NIS5135MN1TXG |                       |
| NIS5135MN2TXG |                       |
| NIS5135MN4TXG |                       |