



| <b>Title of Change:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | Final PCN for wafer fabrication site addition of ON Semiconductor Niigata Co., Ltd. In Niigata, Japan (Group JF)                                                                                                                                                                                                                                            |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
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| <b>Proposed first ship date:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 12 August 2015                                                                                                                                                                                                                                                                                                                                              |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Contact information:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Contact your local ON Semiconductor Sales Office or <Yasuhiro.Igarashi@onsemi.com>                                                                                                                                                                                                                                                                          |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Samples:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Contact your local ON Semiconductor Sales Office                                                                                                                                                                                                                                                                                                            |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Additional Reliability Data:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | Contact your local ON Semiconductor Sales Office or <Kazutoshi.Kitazume@onsemi.com>.                                                                                                                                                                                                                                                                        |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Type of notification:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 90 days prior to implementation of the change.<br>ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact <PCN.Support@onsemi.com>. |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Change Part Identification:</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Affected products will be identified with date code.                                                                                                                                                                                                                                                                                                        |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Change category(s):</b><br><input checked="" type="checkbox"/> Wafer Fab Change <input checked="" type="checkbox"/> Manufacturing Site Change/Addition <input type="checkbox"/> Product specific change<br><input type="checkbox"/> Assembly Change <input type="checkbox"/> Manufacturing Process Change <input type="checkbox"/> Datasheet/Product Doc change<br><input type="checkbox"/> Test Change <input type="checkbox"/> Material Change <input type="checkbox"/> Shipping/Packaging/Marking<br><input type="checkbox"/> Other: _____                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                             |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Sites Affected:</b><br><input type="checkbox"/> All site(s) <input type="checkbox"/> not applicable<br><input checked="" type="checkbox"/> ON Semiconductor site(s) :<br><input type="checkbox"/> External Foundry/Subcon site(s):                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | <b>Site 1</b><br><br>ON Niigata, Japan                                                                                                                                                                                                                                                                                                                      | <b>Site 2</b> |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Description and Purpose:</b><br>This is a Final Process Change Notification to announce the addition of a new wafer fabrication site for the device covered in this notice. Device formerly manufactured at the Manufacturers UMC will be manufactured at ON Semiconductor Niigata Co., Ltd. (OSNC) following the expiration of this notice. OSNC located in Niigata, Japan has obtained ISO9001 certification.<br><br>The product design and electrical specifications will remain identical. A full electrical characterization over the temperature range will be performed to check the device functionality and electrical specifications. Qualification tests are designed to show that the reliability of transferred devices will continue to meet or exceed ON Semiconductor standards.                                                                                                                                                                                                                                                                        |                                                                                                                                                                                                                                                                                                                                                             |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Reliability Data Summary:</b><br><br><table border="1"> <thead> <tr> <th>Test:</th> <th>Conditions:</th> <th>Interval:</th> <th>Results:</th> </tr> </thead> <tbody> <tr> <td>Steady State Operating Life</td> <td>Tj=150degC</td> <td>1000 hrs</td> <td>Pass</td> </tr> <tr> <td>High Temperature Reverse Bias</td> <td>Ta=150degC, VDSS =max</td> <td>1000 hrs</td> <td>Pass</td> </tr> <tr> <td>Temp Humidity Storage</td> <td>Ta=85degC, RH=85%</td> <td>1000 hrs</td> <td>Pass</td> </tr> <tr> <td>Temperature Cycle</td> <td>Ta=-55degC to 150degC 30min each</td> <td>100 cycles</td> <td>Pass</td> </tr> <tr> <td>Pressure Cooker</td> <td>Ta=121degC, 2.03×105Pa, 100%</td> <td>50 hrs</td> <td>Pass</td> </tr> <tr> <td>High Temperature Storage</td> <td>Ta=150degC</td> <td>1000 hrs</td> <td>Pass</td> </tr> <tr> <td>Resistance to Soldering heat(Reflow)</td> <td>Solder Temp.: 260degC±5degC</td> <td>10 s</td> <td>Pass</td> </tr> <tr> <td>Solderability</td> <td>Solder Temp.: 245degC±5degC</td> <td>5 s</td> <td>Pass</td> </tr> </tbody> </table> |                                                                                                                                                                                                                                                                                                                                                             |               |          | Test: | Conditions: | Interval: | Results: | Steady State Operating Life | Tj=150degC | 1000 hrs | Pass | High Temperature Reverse Bias | Ta=150degC, VDSS =max | 1000 hrs | Pass | Temp Humidity Storage | Ta=85degC, RH=85% | 1000 hrs | Pass | Temperature Cycle | Ta=-55degC to 150degC 30min each | 100 cycles | Pass | Pressure Cooker | Ta=121degC, 2.03×105Pa, 100% | 50 hrs | Pass | High Temperature Storage | Ta=150degC | 1000 hrs | Pass | Resistance to Soldering heat(Reflow) | Solder Temp.: 260degC±5degC | 10 s | Pass | Solderability | Solder Temp.: 245degC±5degC | 5 s | Pass |
| Test:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Conditions:                                                                                                                                                                                                                                                                                                                                                 | Interval:     | Results: |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| Steady State Operating Life                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | Tj=150degC                                                                                                                                                                                                                                                                                                                                                  | 1000 hrs      | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| High Temperature Reverse Bias                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Ta=150degC, VDSS =max                                                                                                                                                                                                                                                                                                                                       | 1000 hrs      | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| Temp Humidity Storage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Ta=85degC, RH=85%                                                                                                                                                                                                                                                                                                                                           | 1000 hrs      | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| Temperature Cycle                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Ta=-55degC to 150degC 30min each                                                                                                                                                                                                                                                                                                                            | 100 cycles    | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| Pressure Cooker                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Ta=121degC, 2.03×105Pa, 100%                                                                                                                                                                                                                                                                                                                                | 50 hrs        | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| High Temperature Storage                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Ta=150degC                                                                                                                                                                                                                                                                                                                                                  | 1000 hrs      | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| Resistance to Soldering heat(Reflow)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | Solder Temp.: 260degC±5degC                                                                                                                                                                                                                                                                                                                                 | 10 s          | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| Solderability                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | Solder Temp.: 245degC±5degC                                                                                                                                                                                                                                                                                                                                 | 5 s           | Pass     |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>Electrical Characteristic Summary:</b><br><br>There is no change in the electrical performance. Datasheet specifications remain unchanged.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                             |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |
| <b>List of affected Standard Parts:</b><br><br>ATP106-TL-H                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                             |               |          |       |             |           |          |                             |            |          |      |                               |                       |          |      |                       |                   |          |      |                   |                                  |            |      |                 |                              |        |      |                          |            |          |      |                                      |                             |      |      |               |                             |     |      |