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| <b>Title of Change:</b>                           | Assembly and test manufacturing for NCV8170 SOT563 family transfer to Leshan Phoenix Semiconductor, China.   |
| <b>Proposed Changed Material First Ship Date:</b> | 10 Jan 2021 or earlier if approved by customer   |
| <b>Current Material Last Order Date:</b>          | 30 Jun 2020<br><i>Orders received after the Current Material Last Order Date expiration are to be considered as orders for new changed material as described in this PCN. Orders for current (unchanged) material after this date will be per mutual agreement and current material inventory availability.</i>  |
| <b>Current Material Last Delivery Date:</b>       | 09 Jan 2021<br><i>The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory</i>  |
| <b>Product Category:</b>                          | Active components – Integrated circuits  |
| <b>Contact information:</b>                       | Contact your local ON Semiconductor Sales Office or < <a href="mailto:Jan.Gryzbon@onsemi.com">Jan.Gryzbon@onsemi.com</a> >   |
| <b>PCN Samples Contact:</b>                       | Contact your local ON Semiconductor Sales Office to place sample order or < <a href="mailto:PCN.samples@onsemi.com">PCN.samples@onsemi.com</a> >. Sample requests are to be submitted no later than 45 days after publication of this change notification. Samples delivery timing will be subject to request date, sample quantity and special customer packing/label requirements.   |
| <b>Sample Availability Date:</b>                  | 28 Feb 2020  |
| <b>PPAP Availability Date:</b>                    | 10 Jan 2020  |
| <b>Additional Reliability Data:</b>               | Contact your local ON Semiconductor Sales Office or < <a href="mailto:Tomas.Vajter@onsemi.com">Tomas.Vajter@onsemi.com</a> >   |
| <b>Type of Notification:</b>                      | This is a Final Product/Process Change Notification (FPCN) sent to customers. FPCNs are issued 12 months prior to implementation of the change or earlier upon customer approval. ON Semiconductor will consider this proposed change and it's conditions acceptable, unless an inquiry is made in writing within 45 days of delivery of this notice. To do so, contact <a href="mailto:PCN.Support@onsemi.com">PCN.Support@onsemi.com</a> . |

**Change Category**

| Category           | Type of Change   |
|--------------------|--|
| Test Flow          | Move of all or part of electrical wafer test and/or final test to a different location/site/subcontractor  |
| Equipment          | Production from a new equipment/tool which uses the same basic technology (replacement equipment or extension of existing equipment pool) without change of process. |
| Process - Assembly | Move of all or part of assembly to a different location/site/subcontractor.,<br>Change of mold compound,<br>Change of product marking                                |

**Description and Purpose:**

This FPCN announces that NCV8170 family in SOT563 will be transferred to Leshan Phoenix Semiconductor, China.

Upon the effectivity of the pending FPCN, assembly and test of these devices will be transferred to Leshan Phoenix Semiconductor, China.

This change will apply for voltage options which are released after this change

|                      | Before Change Description           | After Change Description            |
|----------------------|-------------------------------------|-------------------------------------|
| <b>Mold Compound</b> | EME-G700LS                          | Hysol GR640HV-L1 M7A                |
| <b>Assembly Site</b> | ON Semiconductor Seremban, Malaysia | Leshan Phoenix Semiconductor, China |
| <b>Test Site</b>     | ON Semiconductor Seremban, Malaysia | Leshan Phoenix Semiconductor, China |



|  | From   | To                                     |          |                      |
|--|--|--|----------|----------------------|
| <b>Product marking change</b>  | M = Month Code, rotate=0°  | M = Month Code, rotate=270°            |          |                      |
| <p>Product assembled in Leshan, China will include the trace character of 'M' (rotated 270 degrees) in the trace. There are no other changes to the product marking as a result of this notification.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;"> <p><b>Seremban</b></p> </div> <div style="text-align: center;"> <p><b>Leshan</b></p> </div> </div> |  |  |          |                      |
| <b>Reason / Motivation for Change:</b>   | Source/Supply/Capacity Changes   |  |          |                      |
| <b>Anticipated impact on fit, form, function, reliability, product safety or manufacturability:</b>  | <p>The device has been qualified and validated based on the same Product Specification. The device has successfully passed the qualification tests. Potential impacts can be identified, but due to testing performed by ON Semiconductor in relation to the PCN, associated risks are verified and excluded.</p> <p>No anticipated impacts.</p> |  |          |                      |
| <b>Sites Affected:</b>   |  |  |          |                      |
| <b>ON Semiconductor Sites</b>  | <b>External Foundry/Subcon Sites</b>   |  |          |                      |
| Leshan Phoenix Semiconductor, China  | None   |  |          |                      |
| ON Semiconductor Seremban, Malaysia  |  |  |          |                      |
| <b>Marking of Parts/ Traceability of Change:</b>   | The affected products will be identified with date code.   |  |          |                      |
| <b>Reliability Data Summary:</b>   |  |  |          |                      |
| <b>QV device name : NCV8170AXV300T2G</b><br><b>RMS : 55565</b><br><b>Package : SOT563</b>  |  |  |          |                      |
| Test   | Specification  | Condition                              | Interval | Results              |
| HTOL   | JA108  | Ta= 25°C                               | 2008 hrs | 0/252                |
| HTSL   | J103   | Ta= 25°C and +85°C                     | 2008 hrs | 0/252                |
| PC (MSL1)  | J-Std-020<br>JA113   | MSL 1 @ 260 °C                         |          | 0/837                |
| SAT  |  | Test pre- and post- PC                 |          | Without delamination |
| PC (MSL1) - TC   | JA104  | MSL 1 @ 260 °C                         | 500cyc   | 0/269                |
| BS   | AEC-Q100-001   | Cpk 1.33, 30 bonds from 5units         |          | Cpk>1.67             |
| BPS  | M883<br>Method 2011  | 3gm Pull Force                         | 500cyc   | Cpk>1.67             |
| BPS  | M883<br>Method 2011  | 3gm Pull Force Min After TC            | 500cyc   | Cpk>1.67             |
| PC (MSL1) - AC   | JA102  | 4 assy lots<br>Ta = 25°C               | 96 hrs   | 0/252                |
| PC(MSL1) - HAST  | JA10<br>JA110  | 4 assy lots<br>Ta = 25°C, 85°C & 125°C | 96 hrs   | 0/251                |
| RSH  | JESD22<br>B106   | Test @ Room & Hot                      |          | 0/90                 |
| ED   | ON DataSheet   | Cpk > 1.67<br>Test @ R, H, C           |          | Cpk>1.67             |



**NOTE: AEC-1pager is attached.**

To view attachments:

1. Download pdf copy of the PCN to your computer
2. Open the downloaded pdf copy of the PCN
3. Click on the paper clip icon available on the menu provided in the left/bottom portion of the screen to reveal the Attachment field
4. Then click on the attached file/s

#### Electrical Characteristics Summary:

Electrical characteristics are not impacted.

#### List of Affected Parts:

**Note:** Only the standard (off the shelf) part numbers are listed in the parts list. Any custom parts affected by this PCN are shown in the customer specific PCN addendum in the PCN email notification, or on the **PCN Customized Portal**.

| Current Part Number | New Part Number | Qualification Vehicle |
|---------------------|-----------------|-----------------------|
| NCV8170AXV120T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV120T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV150T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV150T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV180T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV180T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV250T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV250T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV280T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV280T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV300T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV300T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV310T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV310T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV330T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV330T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170AXV360T2G    | NA              | NCV8170AXV300T2G      |
| NCV8170BXV360T2G    | NA              | NCV8170AXV300T2G      |