



# Final Product/Process Change Notification

Document #:FPCN21292ZO

Issue Date:11 Oct 2023

<b>Title of Change:</b>	Qualification of VHVIC (Very High Voltage IC) Technology at onsemi Aizu Japan - Automotive Release
<b>Proposed Changed Material First Ship Date:</b>	18 Apr 2024 or earlier if approved by customer
<b>Current Material Last Order Date:</b>	N/A <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>	N/A <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 onsemi Sales Office or <a href="mailto:Melai.Obnial@onsemi.com">Melai.Obnial@onsemi.com</a>
<b>PCN Samples Contact:</b>	Contact your local onsemi Sales Office to place sample order. 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>	13 Jul 2023
<b>PPAP Availability Date:</b>	29 Sep 2023
<b>Additional Reliability Data:</b>	Contact your local onsemi 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. The change will be implemented at 'Proposed Change Material First Ship Date' in compliance to J-STD-46 or ZVEI, or earlier upon customer approval, or per our signed agreements. onsemi 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> .
<b>Change Category</b>	
<b>Category</b>	<b>Type of Change</b>
Process - Wafer Production	New / change of wafer substrate material, Move of all or part of wafer fab to a different location/site/subcontractor

## Description and Purpose:

onsemi would like to notify its customers of the qualification of our Very High Voltage IC (VHVIC) Technology at our onsemi Aizu, Japan FAB. This qualification enables expanded capacity for this technology. All products listed in this PCN may be dual sourced from either the current onsemi wafer FAB in Gresham, OR US or onsemi Aizu, Japan. This is the latest PCN associated with this change. This technology was previously qualified into Aizu and has been running at this FAB for > 5 years for other products in this technology. Reference FPCN21292X-FPCN21292XQ for previous notifications on this equivalent change.

Change Item	Before Change Description	After Change Description	
FAB	onsemi Gresham, USA	onsemi Aizu, Japan	onsemi Gresham, USA
Substrate Epi Thickness	60um	3um	60um
Backgrind Site	Gresham , ISMF	Aizu2 (JND) , ISMF	Gresham , ISMF

Automotive devices NCV1077CSTBT3G and NCV1077STBT3G were originally released to production in Aizu and will only have the substrate Epi Thickness change as part of this notification.

	From	To
Substrate Epi Thickness	60um	3um

There is no product marking change as a result of this change.

<b>Reason / Motivation for Change:</b>	Process/Materials Change,Capacity improvement
<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 onsemi in relation to the PCN, associated risks are verified and excluded.</p> <p>No anticipated impacts.</p>
<b>Sites Affected:</b>	
<b>onsemi Sites</b>	<b>External Foundry/Subcon Sites</b>
onsemi Aizu, Japan	None
<b>Marking of Parts/ Traceability of Change:</b>	Product out of Aizu, Japan can be identified on the label by referring to the "Diffused In" location. If produced in Aizu, it will show JP, if produced in Gresham, it will show US. Product will also be identifiable by trace codes and lot numbers associated with the product. onsemi cannot lot combine product from (2) different wafer FABs on the same reel of product.

## Reliability Data Summary:

**QV DEVICE NAME NCV1060BD100R2G**

**RMS O85340**

**PACKAGE SOIC10 AU SNGL HPBF**

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc, HV = 700V	1008 hrs	0/240
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/240
Preconditioning	J-STD-020 JESD-A113	MSL 1 @260 °C, Pre TC, uHAST, HAST for surface mount pkgs only		0/1080
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/381
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240

**QV DEVICE NAME NCV5183ADR2G**

**RMS 089561**

**PACKAGE SOIC8N STD VHVIC PBFH**

Test	Specification	Condition	Interval	Results
High Temperature Operating Life	JESD22-A108	Ta=125°C, 100 % max rated Vcc, HV = 600V	1008 hrs	0/240
High Temperature Storage Life	JESD22-A103	Ta= 150°C	1008 hrs	0/240
Preconditioning	J-STD-020 JESD-A113	MSL 1 @260 °C, Pre TC, uHAST, HAST for surface mount pkgs only		0/1080
Temperature Cycling	JESD22-A104	Ta= -65°C to +150°C	1000 cyc	0/381
Highly Accelerated Stress Test	JESD22-A110	130°C, 85% RH, 18.8psig, bias	96 hrs	0/240
Unbiased Highly Accelerated Stress Test	JESD22-A118	130°C, 85% RH, 18.8psig, unbiased	96 hrs	0/240

**NOTE: AEC-1pager are 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
NCV1060BD060R2G	N/A	NCV1060BD100R2G
NCV1060BD100R2G	N/A	NCV1060BD100R2G
NCV1063AD060R2G	N/A	NCV1060BD100R2G
NCV1063AD100R2G	N/A	NCV1060BD100R2G
NCV1397ADR2G	N/A	NCV5183DR2G
NCV1397BDR2G	N/A	NCV5183DR2G
NCV5106ADR2G	N/A	NCV5183DR2G
NCV5104DR2G	N/A	NCV5183DR2G
NCV5183DR2G	N/A	NCV5183DR2G
NCV1034DR2G	N/A	NCV5183DR2G
NCV1077CSTBT3G	N/A	NCV1060BD100R2G
NCV1077STBT3G	N/A	NCV1060BD100R2G