ON Semiconductor®

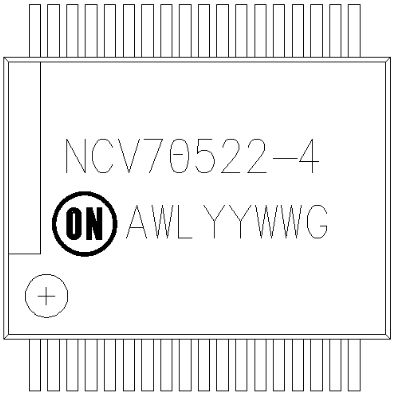
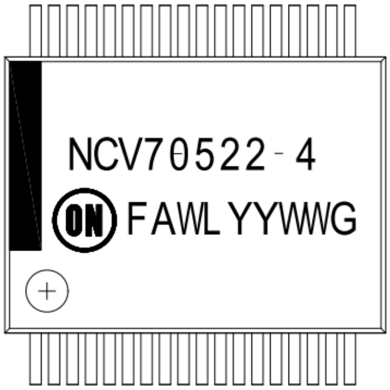
Final Product/Process Change Notification

Document # : FPCN20990Z
Issue Date: 26 September 2017

Title of Change:	Addition of ON Semiconductor Pocatello, Idaho Fab10 as a wafer fab manufacturing location for the **NCV70522DQ004R2G** product.
Proposed Changed Material First Ship Date:	26 September 2018
Current Material Last Order Date:	N/A
Current Material Last Delivery Date:	N/A
Product Category:	Active components – Integrated circuits
Contact information	Contact your local ON Semiconductor Sales Office or Customer Quality interface
Samples	Contact your local ON Semiconductor Sales Office to place sample order. Sample requests are to be submitted no later than 45 days after publication of this change notification.
Sample Availability Date:	15 September 2017
PPAP Availability Date:	23 October 2017
Additional Reliability Data	Contact your local ON Semiconductor Sales Office or <Catherine.DeKeukeleire@onsemi.com>.
Type of Notification	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 <PCN.Support@onsemi.com>.
Change Category:	**Type of Change**
Process – Wafer Production	New wafer diameter New / change of metallization (specifically chip frontside)" New / change of passivation or die coating (without bare die) Change in process technology (e. g. process changes like lithography, etch, oxide deposition, diffusion, die back surface preparation/backgrind, ...) Move of all or part of wafer fab to a different location/site/subcontractor
Equipment	Production from a new equipment/tool which uses a different basic technology or which due to its unique form or function can be expected to influence the integrity of the final product
Process – Assembly	Change of product marking

Description and Purpose:

Addition of ON Semicondcutor Pocatello, Idaho Fab10 as a wafer fab location (I2T100 technology, 200 mm fab), currently manufactured in Fab2, Oudenaarde, Belgium (150 mm fab), for NCV70522DQ004R2G. For traceability, the dual-source version of the device will get a new OPN (NCV70522DQ004**A**R2G).

	Before Change Description	**After Change Description**
Wafer Fab Location	ON Semiconductor Fab2 (Oudenaarde, Belgium)	ON Semiconductor Fab2 (Oudenaarde, Belgium) or ON Semiconductor Fab10 (Pocatello, Idaho)
Wafer diameter	6 inch	8 inch
Fab process equipment	All: 6 inch equipment Photo: Canon I-Line Steppers Implant: Eaton MC Implanter Implant: AMAT HC Implanter Etch: AMAT poly etch Etch: AMAT Oxide Etch Diffusion: TEL Horizontal Furnace	All: 8 inch equipment Photo: ASM I-Line Steppers Implant: Varian MC Implanter Implant: Varian HC Implanter Etch: LAM poly etch Etch: LRC oxide etch Diffusion: BTI Vertical Furnace
Die Metallization	M1: 0.6um; M2: 0.65um; M3: 0.85um	M1: 0.60um; M2: 0.65um; M3: 0.90um
Die Passivation	1.1um	1.05um
Marking	Without fab indicator  A = ASSEMBLY LOCATION WL = WAFER LOT YYWW = YEAR / WORK WEEK G = Pb–Free Designator	With fab indicator  F = Fab A = ASSEMBLY LOCATION WL = WAFER LOT YYWW = YEAR / WORK WEEK G = Pb-Free Designator The “F” character in the date code will identify the originating fabrication facility: “2” for Fab2, “T” for Fab10

Reason / Motivation for Change:

- Change benefits for customer: Dual sourcing increases flexibility to handle capacity issues
- Risk for late release for customer: Capacity or flexibility constraints could limit material availability

Anticipated impact on fit, form, function, reliability, product safety or manufacturability

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.

No anticipated impacts.

Sites Affected:

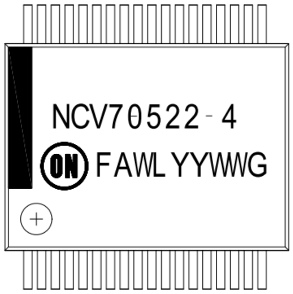
☐ All site(s) ☐ not applicable ☒ ON Semiconductor site(s) : ☐ External Foundry/Subcon site(s)
ON Pocatello, Idaho

Marking of Parts/ Traceability of Change:

For traceability the OPN will be updated:

Current OPN: NCV70522DQ004R2G (Fab2)
Dual Fab OPN: NCV70522DQ004**A**R2G (Fab2 and Fab10)

New Part Marking:
The part marking will be modified to enable identification of the originating fabrication facility. The fab will be identified by the first character of the date code. The character for Fab2 is "2", while for Fab10 it is "T".



F = Fab
A = ASSEMBLY LOCATION
WL = WAFER LOT
YYWW = YEAR / WORK WEEK
G = Pb-Free Designator

Reliability Data Summary:

NOTE: The AEC 1-pager, HTOL Aging Reports, FA Reports, and 8D Reports are attached.

To access file attachments on pdf copy of PCN, please be guided by the steps below:

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 Characteristic Summary:

Electrical characteristics are not impacted.

NOTE: The Cpk Report is attached.

To access file attachments on pdf copy of PCN, please be guided by the steps below:

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*

List of Affected Standard Parts:

Current Part Number	New Part Number	Qualification Vehicle
NCV70522DQ004R2G	NCV70522DQ004**A**R2G	21490-903 (C522 Fab10)