ON Semiconductor®

Final Product/Process Change Notification

Document #:FPCN23774Z
Issue Date:29 Jan 2021

Title of Change:	Gresham device release as drop-in replacement for 9731x family
Proposed Changed Material First Ship Date:	29 Jan 2022 or earlier if approved by customer
Current Material Last Order Date:	28 Jun 2021 *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*.
Current Material Last Delivery Date:	28 Jan 2022 *The Current Material Last Delivery Date may be subject to change based on build and depletion of the current (unchanged) material inventory*
Product Category:	Active components – Integrated circuits
Contact information:	Contact your local ON Semiconductor Sales Office or Kevin.Mathews@onsemi.com
PCN Samples Contact:	Contact your local ON Semiconductor Sales Office to place sample order or <PCN.samples@onsemi.com>. 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.
Sample Availability Date:	samples available now
PPAP Availability Date:	11 Feb 2021
Additional Reliability Data:	Contact your local ON Semiconductor Sales Office or Peter.Turlo@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

Category	Type of Change
Design	Design Change in Routing
Packing/Shipping	Change of labelling
Process - Wafer Production	Move of all or part of wafer fab to a different location/site/subcontractor, New wafer diameter
Process - Assembly	Change of mold compound, Change of product marking

Description and Purpose:

The 6'' wafer Fab2 Belgium variants of the 9731x family will stop production at Fab sell-off.
To prevent supply discontinuity, the released 8'' wafer Gresham variants are to be used as qualified drop-in replacements.

Summary of Part Differences:

- A design fix for floating node-issues is included on the Gresham variants.
- An overall improved package BOM is used on the Gresham variants (for improved solderability/delamination performance).
- Gresham production uses 8-inch (200mm) wafers for this family.
- For traceability, the Gresham variants use an updated package marking.

	Before Change Description	After Change Description
OPN	NCV97310MW33R2G NCV97311MW33R2G NCV97311MW50R2G	NCV97310MW33AR2G NCV97311MW33AR2G NCV97311MW50AR2G
Wafer Fab location	Fab2, Oudenaarde, Belgium	Gresham, Oregon, USA
Wafer Diameter	150mm	200mm
LeadFrame	SFS - Wettable Flanks	SLP - Step Cut - Wettable Flanks
Mold Compound	G770 HCD	G700 LTD

	From	*To*
Product marking change	Line 1: NCV9731X Line 2: XX	Line 1: NCV9731X Line 2: XXA

Reason / Motivation for Change:	Capacity improvement
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:

ON Semiconductor Sites	External Foundry/Subcon Sites
ON Semiconductor Gresham Oregon	UTAC, Thailand

Marking of Parts/ Traceability of Change:	New OPN with new package marking

Reliability Data Summary:

QV DEVICE NAME : NCV97311MW50AR2G
RMS : E53608, O51050, O50019, O43143, E43144, O48263, O48214, O46500, E48456, O38963
PACKAGE : QFN32 5x5

Test	Specification	Condition	Interval	Results
PC	JESD22 A113 J-STD-020	MSL= 1 @ 260°C		0 / all
HAST	JESD22 A110	130°C/85% RH, bias, 96hrs	96 hrs	0 / 250
UHAST	JESD22 A118	130°C/85% RH, 96hrs	96 hrs	0 / 239
TC	JESD22 A104	-65°C to+150°C; for 500cyc	500 cyc	0 / 240
PTC	JESD22 A105	-40°C to+125°C; for 1000cyc	1000 cyc	0 / 45
HTSL	JESD22 A103	Ta=175°C for 500 hrs.	500 hrs	0 / 80
HTOL	JESD22 A108	Tj=150°C for 1008hrs.	1008 hrs	0 / 239
ELFR	AEC-Q100-008	Ta= 125°C for 48hrs	48 hrs	0 / 2400
WBS	AEC-Q100-001	Cpk >1.67		0 / all
WBP	Mil-Std-883 Method 2011	3.0gr. Condition C. 0 fails or Cpk>1.67.		0 / all
SD	JESD22 B102	8hr steam age, >95% coverage		0 / 45
PD	JESD22 B100/8	Cpk>1.67		0 / 90

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

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
NCV97310MW33R2G	NCV97310MW33AR2G	NCV97311MW50AR2G
NCV97311MW33R2G	NCV97311MW33AR2G	NCV97311MW50AR2G
NCV97311MW50R2G	NCV97311MW50AR2G	NCV97311MW50AR2G