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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16687**

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**Issue Date:** 25-Jul-2011

**TITLE:** NCP304 Qualification at Gresham Wafer Fab

**PROPOSED FIRST SHIP DATE:** 25-Oct-2011

**AFFECTED CHANGE CATEGORY(S):** ON Semi Fab Site

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact your local ON Semiconductor Sales Office or Todd Manes <[todd.manes@onsemi.com](mailto:todd.manes@onsemi.com)>

**SAMPLES:** Contact your local ON Semiconductor Sales Office

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Edmond Gallard  
<[Edmond.gallard@onsemi.com](mailto:Edmond.gallard@onsemi.com)>

**NOTIFICATION TYPE:**

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 90 days prior to implementation of the change.

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 <[quality@onsemi.com](mailto:quality@onsemi.com)>.

**DESCRIPTION AND PURPOSE:**

ON Semiconductor is pleased to announce a capacity expansion qualification for the NCP304 product family.

This device family is currently qualified at ON Semiconductor's Aizu wafer fab facility located in Aizu, Japan and is now qualified at ON Semiconductor's Gresham wafer fabrication facility located in Gresham, Oregon. Upon expiration (or approval) of this Final PCN, devices may be supplied by either wafer fab.

The Gresham wafer fab is compliant to ISO9001:2008, ISO/TS16949:2009, and ISO14001:2004.

The NCP304 family currently runs on the Aizu CMOS1 process. The same CMOS1 process has been transferred to and successfully qualified at the Gresham wafer fab. No device design changes have been made. Device performance is the same for Aizu and Gresham-sourced devices.

The NCP304 family will continue to be assembled and tested in existing, qualified locations. No changes to packaging will occur as a result of this fab qualification.



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**RELIABILITY DATA SUMMARY:**

The Gresham-sourced NCP304 family has been qualified based on the following test results:

**Reliability Test Results:**

<b>Test</b>	<b>Conditions</b>	<b>Results</b>
High Temp Op Life NCP304 NCP551 NCP2860 NCS2002	Ta=+125C, 1008 hours	0/80 (1 lot) 0/80 (1 lot) 0/80 (3 lots) 0/80 (1 lot)
Early Life Failure Rate NCP304 NCP551 NCS2002	Ta=+125C, 48 hours	0/800 (1 lot) 0/800 (1 lot) 0/800 (1 lot)
Highly Accelerated Stress NCP304 NCP551 NCS2002	Ta=131C/85% RH, 96 hours w/MSL1 pre-conditioning	0/80 (1 lot) 0/80 (1 lot) 0/80 (1 lot)
Unbiased Highly Accel. Stress NCP304 NCP551 NCP2860 NCS2002	Ta=131C/85% RH, 96 hours w/MSL1 pre-conditioning	0/80 (1 lot) 0/80 (1 lot) 0/80 (3 lots) 0/80 (1 lot)
Temperature Cycle NCP304 NCP551 NCP2860 NCS2002	-65C to +150C, 500 cycles	0/80 (1 lot) 0/80 (1 lot) 0/80 (3 lots) 0/80 (1 lot)
Scan. Acoustical Tomography MSL1 NCP304 NCP551 NCP2860 NCS2002		0/5 (1 lot) 0/5 (1 lot) 0/5 (3 lots) 0/5 (1 lot)
ESD	Human Body Model Machine Model	Pass 2000V (NCP304) Pass 200V (NCP304)
Latch Up	JEDEC JESD78	Pass 500mA Pos / 170mA Neg (NCP304)



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**ELECTRICAL CHARACTERISTIC SUMMARY:**

Electrical characterization test data has been obtained on Gresham NCP304 material. No significant changes in part performance as compared to the existing Aizu-sourced product were observed. Cpk's of all critical parameters are greater than 1.67. Data may be provided upon request.

**CHANGED PART IDENTIFICATION:**

Devices with date codes of 2011 work week 43 or later may be sourced from either wafer fab.



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**List of affected General Parts:**

**PART**

NCP304HSQ09T1G  
NCP304HSQ18T1G  
NCP304HSQ20T1G  
NCP304HSQ22T1G  
NCP304HSQ27T1G  
NCP304HSQ29T1G  
NCP304HSQ30T1G  
NCP304HSQ45T1G  
NCP304HSQ47T1G  
NCP304LSQ09T1G  
NCP304LSQ18T1G  
NCP304LSQ20T1G  
NCP304LSQ23T1G  
NCP304LSQ25T1G  
NCP304LSQ27T1G  
NCP304LSQ29T1G  
NCP304LSQ29T1GH  
NCP304LSQ30T1G  
NCP304LSQ33T1G  
NCP304LSQ37T1G  
NCP304LSQ38T1G  
NCP304LSQ40T1G  
NCP304LSQ42T1G  
NCP304LSQ43T1G  
NCP304LSQ43T1GH  
NCP304ALSQ43T1G  
NCP304LSQ45T1G  
NCP304LSQ46T1G  
NCP304LSQ47T1G