ON Semiconductor

FINAL PRODUCT/PROCESS CHANGE NOTIFICATION #16687

Generic Copy

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>

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>

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>.

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 ACMOS1 process. The same ACMOS1 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:

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