ON Semiconductor

INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION #16450

Generic Copy

19-Apr-2010

TITLE: Capacity Expansion Qualification of ON Semiconductor Roznov, Czech Republic Wafer Fab (CZ4) for HD Plus Currently Fabricated at ON Semiconductor's Aizu Japan Wafer Fab

PROPOSED FIRST SHIP DATE: 19-Aug-2010

AFFECTED CHANGE CATEGORY(S): ON Semi Fab Site

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact your local ON Semiconductor Sales Office or following Sales and Marketing and Product Engineers:

IPCN Contact Person by Affected Technology:

Electronic Fuses	Sales / Marketing	Wes Reid	wes.reid@onsemi.com
	Product Engineering	Suem Loo	Suem.Loo@onsemi.com
Relays	Sales / Marketing	Alfonso Camacho	alfonso.camacho@onsemi.com
	Product Engineering	Geoff Garcia	geoff.garcia@onsemi.com
Protection IC LED Shunt	Sales / Marketing	Wes Reid	wes.reid@onsemi.com
	Product Engineering	Suem Loo	Suem.Loo@onsemi.com

NOTIFICATION TYPE:

Initial Product/Process Change Notification (IPCN)

First change notification sent to customers. IPCNs are issued at least 120 days prior to implementation of the change. An IPCN is advance notification about an upcoming change and contains general information regarding the change details and devices affected. It also contains the preliminary reliability qualification plan.

The completed qualification and characterization data will be included in the Final Product/Process Change Notification (FPCN).

This IPCN notification will be followed by a Final Product/Process Change Notification (FPCN) at least 90 days prior to implementation of the change.

DESCRIPTION AND PURPOSE:

ON Semiconductor is pleased to announce a capacity expansion qualification for devices currently fabricated on the HD Plus processes at ON Semiconductor's HD Plus wafer fab facility located in Aizu, Japan.

These products will now be qualified at ON Semiconductor's CZ4 wafer fabrication facility located in Roznov, Czech Republic. Upon expiration of the associated Final PCN(s), devices may be supplied from either the Aizu or CZ4 wafer fab.

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The HD Plus processes are being duplicated at the CZ4 wafer fab. No die design or process changes will occur. Device performance will be the same among the qualified facilities for each device family. No changes to packaging will occur as a result of this wafer fab qualification.

QUALIFICATION PLAN:

Full qualification testing will be performed on representative devices or family of devices as necessary to ensure compliance to all existing ON Semiconductor reliability requirements. Specific plans and qualification results for each device family will be announced via individual Final PCN's as those qualifications are achieved.

Qualification Vehicles:

- NIS5132MN1TXG
- NUD3160DMT1G
- NUD3160LT1G

Reliability testing for each qualification vehicle may include the following:

NIS5132MN1TXG Reliability Test:

#	Test	Test Conditions	Read points	Sample Size
1	HTOL	TA = 150°C for 1008 hrs	Test @ 0, 168, 504, 1008 Test @ RH	3 lots x 80 units
2	HTRB	TA = 150°C for 1008 hrs	Test @ 0, 168, 504, 1008 Test @ RH	3 lots x 80 units
3	PC-IOL	Ta=+25°C, delta Tj=100°C, 2min on/off for 15,000 cycles	Test @ 7,500 & 15,000 cycles	3 lots x 80 units
4	PC-TC	-65°C to +150°C for 1000 cycles	Test @ 0, 500 Test @ RH	3 lots x 80 units
5	PC-AC	Ta = 121°C RH = 100%	Test @ 0, 96hrs Test @ RH	3 lots x 80 units
6	PC-HST	130°C/85% RH for 96 hrs biased	Test @ 96hrs Test @ RH	3 lots x 80 units

NUD3160DMT1G / NUD3160LT1G Reliability Test:

#	Test	Test Conditions	Read points	Sample Size
1	HTRB	TA = 150°C for 1008 hrs	Test @ 0, 168, 504, 1008 Test @ RH	2 lots x 80 units on SC74 1 lot x 80 units on SOT-23
2	PC-IOL	Ta=+25°C, delta Tj=100°C, .5msec on/off for $3.6X10^9$ cycles	Test @ $1.8X10^9$ & $3.6X10^9$ cycles	2 lots x 80 units on SC74 1 lot x 80 units on SOT-23

EARLY RELIABILITY RESULTS:

Early reliability testing was performed on a selected lead qualification device, NIS5132MN1TXG. The results are shown as follows:

#	Test	Test Conditions	Read points	Sample Size	Results
1	HTOL	TA = 150°C for 504 hrs	Test @ 0, 168, 504 Test @ RH	1 lot x 80 units	0/84
2	HTRB	TA = 150°C for 504 hrs	Test @ 0, 168, 504, Test @ RH	1 lot x 80 units	0/84