



FINAL PRODUCT/PROCESS CHANGE NOTIFICATION
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24-AUG-2004

SUBJECT: ON Semiconductor Final Product/Process Change Notification #13577

TITLE: Qualification of XFAB Texas Wafer Fab for NCP2890A Micro-Bumped Devices

EFFECTIVE DATE: 24-Oct-2004

AFFECTED CHANGE CATEGORY: Subcontractor Fab Site

AFFECTED PRODUCT DIVISION: Analog Products

ADDITIONAL RELIABILITY DATA: Available
Contact your local ON Semiconductor Sales Representative or
Elizabeth Becker <R19517@onsemi.com>

SAMPLES: Contact your local ON Semiconductor Sales Representative
or Todd Manes <RP06650@onsemi.com>

FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:
Contact Sales Representative or Todd Manes RP06650@onsemi.com

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

Final change notification sent to customers. FPCNs are issued at least 60 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 your local ON Semiconductor Sales Office.

DESCRIPTION AND PURPOSE:

This is a Final PCN (Product Change Notice) to notify customers of the qualification of the XFAB Texas wafer fab, located in Lubbock, Texas, as an additional source for the NCP2890A micro-bumped devices. The device is currently run in the XFAB Germany facility, located in Erfurt, Germany. Both XFAB locations offer the same process technology; therefore, no die design changes were made.

An Initial PCN (#13480) was published on 28 May 2004 providing information regarding the plan to qualify XFAB Texas to run this device.

XFAB Texas is certified: ISO9001:2000, ISO TS 16949; VDA 61.1; QS 9000.

The NCP2890A will continue to be assembled and tested at existing, qualified locations. XFAB offers the same process technology in both fab locations; therefore, no die design changes were made. The NCP2890A device has been fully qualified and is now ready to run at the XFAB Texas wafer fab. No change in the device functionality or in electrical test parameter distributions have been noted.

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Samples are available upon request. At the expiration of this PCN (60 days), fabrication of the NCP2890A micro-bumped devices may occur at either XFAB site.

RELIABILITY DATA SUMMARY:

Reliability testing included Temperature Cycling on two wafer lots, on devices bumped at both currently-qualified Bump Assembly factories, and using both types of solder (Eutectic, Part No. NCP2890AFCT2; and Lead-Free, Part No. NCP2890AFCT2G).

Temperature cycles were from -40degC to +125degC, air-to-air.

Results Summary:

1. Wafer Lot A
Assembly Factory = FCI
Solder Type = Pb-Free (NCP2890AFCT2G)
Qual Point = 500 cycles
Sample Size = 77
No. Rejects = 0
Qual Result = PASS
2. 1. Wafer Lot A
Assembly Factory = FCI
Solder Type = Eutectic (NCP2890AFCT2)
Qual Point = 500 cycles
Sample Size = 77
No. Rejects = 0
Qual Result = PASS
3. Wafer Lot B
Assembly Factory = FCI
Solder Type = Pb-Free (NCP2890AFCT2G)
Qual Point = 500 cycles
Sample Size = 77
No. Rejects = 0
Qual Result = PASS
4. Wafer Lot A
Assembly Factory = ASE
Solder Type = Pb-Free (NCP2890AFCT2G)
Qual Point = 500 cycles
Sample Size = 77
No. Rejects = 0
Qual Result = PASS
5. Wafer Lot A
Assembly Factory = ASE
Solder Type = Eutectic (NCP2890AFCT2)
Qual Point = 500 cycles
Sample Size = 77
No. Rejects = 0
Qual Result = PASS
6. Wafer Lot B
Assembly Factory = ASE
Solder Type = Pb-Free (NCP2890AFCT2G)
Qual Point = 500 cycles
Sample Size = 77
No. Rejects = 0
Qual Result = PASS

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In addition, ESD and Latch-Up performance were checked on 2 wafer lots of XFAB Texas fabricated devices. Devices passed ESD testing up to 2500V (Human Body Model) and 250V (Machine Model) and passed Latch-Up testing. Solder Ball Strength was checked on devices of each solder type bumped at each Bump Assembly factory. All devices passed.

A full Reliability Qualification report is available upon request.

ELECTRICAL CHARACTERISTIC SUMMARY:

Electrical test characterization was performed on devices fabricated at XFAB Texas and compared to data for devices fabricated at the XFAB Germany wafer fab.

No changes in electrical performance were observed.

A full characterization data report is available upon request.

CHANGED PART IDENTIFICATION:

Product with date codes of "0438" or later may be manufactured in XFAB Texas.

AFFECTED DEVICE LIST :**PART**

NCP2890AFCT2

NCP2890AFCT2G