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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**  
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**02-DEC-2004**

**SUBJECT: ON Semiconductor Final Product/Process Change Notification #13751**

**TITLE: Final PCN for Qualification of QFN (3.3MM TO 8X8MM, 6 TO 52-LD) at ASAT China**

**EFFECTIVE DATE: 02-Feb-2005**

**AFFECTED CHANGE CATEGORY: Subcontractor Assembly Site**

**AFFECTED PRODUCT DIVISION:**

Analog Products  
Discretes Products  
Logic Products  
Ecl Products

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office or Anju Parasher [R16742@onsemi.com](mailto:R16742@onsemi.com)

**SAMPLES:** Contact your local ON Semiconductor Sales Office  
or Ilana Flyer <[RVFK50@onsemi.com](mailto:RVFK50@onsemi.com)>

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Representative or Anju Parasher [R16742@onsemi.com](mailto:R16742@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 Product Change Notice to IPCN 13716, announcing that the ASAT facility in Chang-an, Dongguan, China is qualified as a manufacturing source for the below listed QFN packages. Subsequent FPCNs will follow as reliability results are completed. ASAT China will provide QFN packages from 2x2.2mm to 8x8mm for ON Semiconductor. ASAT China is a ISO-9001 certified factory. The same equipment, materials, and process is being used in the ASAT Dongguan facility as was used in the ASAT Hong Kong facility, thus allowing reduced reliability testing requirements.

**Final Product/Process Change Notification #13751****RELIABILITY DATA SUMMARY:**

ASAT China QFN Reliability Test Results:

Package: 8x8 mm, 52 lead Qual Vehicle: NB100LVEP221  
Pre-conditioning MSL Level 2, 235C - SAT analysis: Passed with no delamination

Package: 7x7 mm, 48 ld Qual Vehicle: NCP5316  
Pre-conditioning MSL Level 2, 235C - SAT analysis: Passed with no delamination

Package: 5x6 mm, 18 ld Qual Vehicle: 3 lots NCP5201/ 5210  
Pre-conditioning MSL Level 1, 235C - SAT analysis: Passed with no delamination  
Pre-conditioning MSL Level 1, 235C: 0 rej/510 units  
Pre-conditioning-Autoclave (121C/100% RH/15 PSIG) 96 hours: 0 rej/240 units  
Pre-conditioning - Temperature Cycling (-65C to +150C) 500 cycles: 0 rej/255 units

Package: 4x4 mm, 24 ld Qual Vehicle: NB100LVEP17  
Pre-conditioning MSL Level 1, 235C - SAT analysis: Passed with no delamination

Package: 3x3 mm, 16 lead Qual Vehicle: NLSF1174MNR2  
Pre-conditioning MSL Level 1, 235C - SAT analysis: Passed with no delamination

Package: 3x3 10 DFN Qual Vehicle: NCP1422  
Pre-conditioning MSL Level 1, 235C - SAT analysis: Passed with no delamination

**ELECTRICAL CHARACTERISTIC SUMMARY:**

All product performance meets current datasheet specifications.

**CHANGED PART IDENTIFICATION:**

Product marked with a date code of ww50 2004 and after may be manufactured at ASAT China, however, product will not ship until expiration of this FPCN.

**AFFECTED DEVICE LIST (WITHOUT SPECIALS):****PART**

NB100LVEP17MN  
NB100LVEP17MNR2  
NB100LVEP56MN  
NB100LVEP56MNR2  
NB100LVEP91MN  
NB100LVEP91MNR2  
NBSG11MN  
NBSG11MNG  
NBSG11MNR2  
NBSG11MNR2G  
NBSG14MN  
NBSG14MNG  
NBSG14MNR2  
NBSG16MMN  
NBSG16MMNG  
NBSG16MMNR2  
NBSG16MN  
NBSG16MNG  
NBSG16MNR2



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NBSG16VSMN  
NBSG16VSMNG  
NBSG16VSMNR2  
NBSG53AMN  
NBSG53AMNG  
NBSG53AMNR2  
NBSG72AMN  
NBSG72AMNG  
NBSG72AMNR2  
NBSG86AMN  
NBSG86AMNG  
NBSG86AMNR2  
NCP1422MNR2  
NCP1422MNR2G  
NCP5201MN  
NCP5201MNR2  
NCP5201MNR2G  
NCP5203MNR2  
NCP5210MNR2  
NCP5220MNR2  
NCP5220MNR2G  
NCS5021MN  
NCS5021MNR2  
NLAS44599MN  
NLAS44599MNR2  
NLAS44599MNR2G  
NLAS4684MNR2  
NLAS4684MNR2G  
NLAS4685MNR2  
NLAST44599MN  
NLAST44599MNR2  
NLSF1174MNR2  
NLSF302MNR2  
NLSF308MNR2  
NLSF3T125MNR2  
NLSF3T126MNR2  
NLSF595MNR2  
PB7L1653MN  
PCP5209MN  
SBSG113MN