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**INITIAL PRODUCT/PROCESS CHANGE NOTIFICATION**  
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19-AUG -2004

**SUBJECT: ON Semiconductor Initial Product/Process Change Notification #13568**

**TITLE: Addition of Tower Fab for Minigate, LCX, VHC, LVX and Analog Switch Products.**

**EFFECTIVE DATE: 19-DEC-2004**

**AFFECTED CHANGE CATEGORY: Subcontractor Fab Site**

**AFFECTED PRODUCT DIVISION: Logic Products**

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office or Lyle Stewart <RJJ930@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 60 days prior to implementation of the change.

**DESCRIPTION AND PURPOSE:**

ON Semiconductor is pleased to announce the addition of Tower Semiconductor for wafer fabrication of additional MiniGate™, LCX, VHC, LVX and Analog Switch devices. This IPCN follows PCNs 10770 and 12313 also moving Logic devices to Tower. ON Semiconductor will implement this increase in capacity to support rapidly growing demand for these Logic products in an effort to assure our customers of ON Semiconductor's continued commitment to assured supply, on time delivery and continuous quality improvement. The products will be re-designed using Tower's 0.6um design rules for their double layer metal, single polysilicon gate standard CMOS process. No performance changes are expected for the MiniGate, LCX, LVX and Analog Switch products. VHC designs will have some parameters (output drive and propagation delay) that will be retargeted to better match industry standards. All product performance will meet the existing datasheet specifications.

Tower Semiconductor is a high volume silicon supplier for flash memory, image sensors, mixed signal and standard CMOS products. They are located in Migdal Haemek, Israel, and are an ISO9001/QS9000 certified facility.

Final PCN's will be issued as parts complete reliability testing and will contain specific information for each set of devices. Samples will be available per FPCN issuance.



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**QUALIFICATION PLAN:**

Reliability Test Results:

Tower 0.6 micron CMOS MiniGate™ reliability summary:  
SC88A package, 1 lot ea. of 74VHC1GT00, 74VHC1G00, 74VHC1GT08:

Test	Conditions	Results (#fail/total SS)
High Temp Op Life	TA=150C for 504 hrs	0/77, 0/77, 0/77
High Temp Bake	150C for 504 hrs	0/77, 0/77, 0/77
RSH	260C, 10 seconds	0/30, 0/30, 0/30
PC-Temp Cycle	-65/+150C for 500 cyc	0/77, 0/77, 0/77
PC-Autoclave	121C/100%RH/15psig for 96hrs	0/77, 0/77, 0/77
PC-HAST	131C/80%RH for 96 hrs	0/77, 0/77, 0/77
PC	168hrs 85C/85%, 3 IR at 260C	0/231, 0/231, 0/231

Tower 0.6 micron CMOS Multigate reliability summary:  
Two lots of the MC74VHC00D, 2 lots of the MC74VHCT00D, 77 pcs/lot per test:

Test	Conditions	Results (#fail/total SS)
High Temp Bake	TA=150C, 1008 hrs	0/308
MSL1 preconditioning	3 IR at 260C	0/924
TC+MSL1	-65/+150C, 1000 cyc	0/308
HAST+MSL1	TA= +130C, RH = 85%, PSIG= 18.8, bias, 192 hrs	0/308
Autoclave+MSL1	TA = 121 C, RH = 100%, PSIG = 15, 192 hrs	0/308

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

**PART**

- M74VHC1GT125DF1G
- M74VHC1GT125DF2G
- M74VHC1GT126DF1G
- M74VHC1GT126DF2G
- MC74LCX16245DT
- MC74LCX16245DTG
- MC74LCX16245DTR2
- MC74LCX16245DTRG
- MC74LCX240DTR2
- MC74LCX240DWR2
- MC74LCX244DT
- MC74LCX244DTR2
- MC74LCX244DW
- MC74LCX244DWG
- MC74LCX244DWR2
- MC74LCX244DWR2G
- MC74LCX244MEL
- MC74LVX4051D
- MC74LVX4051DG
- MC74LVX4051DR2
- MC74LVX4051DR2G
- MC74LVX4051DT
- MC74LVX4051DTR2
- MC74LVX4051M



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MC74LVX4051MEL  
MC74LVX4052D  
MC74LVX4052DR2  
MC74LVX4052DT  
MC74LVX4052DTR2  
MC74LVX4052M  
MC74LVX4052MEL  
MC74LVX4053D  
MC74LVX4053DR2  
MC74LVX4053DT  
MC74LVX4053DTR2  
MC74LVX4053M  
MC74LVX4053MEL  
MC74LVX4245DT  
MC74LVX4245DTR2  
MC74LVX4245DW  
MC74LVX4245DWR2  
MC74LVX4245DWR2G  
MC74LVXT4051D  
MC74LVXT4051DR2  
MC74LVXT4051DT  
MC74LVXT4051DTR2  
MC74LVXT4051M  
MC74LVXT4051MEL  
MC74LVXT4052D  
MC74LVXT4052DR2  
MC74LVXT4052DT  
MC74LVXT4052DTR2  
MC74LVXT4052M  
MC74LVXT4052MEL  
MC74LVXT4053D  
MC74LVXT4053DR2  
MC74LVXT4053DT  
MC74LVXT4053DTR2  
MC74LVXT4053M  
MC74LVXT4053MEL  
MC74LVXT4066DR2  
MC74LVXT4066DTR2  
MC74LVXT4066M  
MC74LVXT4066MEL  
MC74VHC1GT125D1G  
MC74VHC1GT125DF1  
MC74VHC1GT125DF2  
MC74VHC1GT125DT1  
MC74VHC1GT126DF1  
MC74VHC1GT126DF2  
MC74VHC1GT126DT1  
NL27WZ16DFT2  
NL27WZ16DFT2G  
NL27WZ16DTT1  
NL7SZ18DFT2  
NL7SZ19DFT2  
NLAS4051DR2  
NLAS4051DTR2  
NLAS4051QSR  
NLAS4052DR2



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NLAS4052DTR2  
NLAS4052QSR  
NLAS4053DR2  
NLAS4053DR2G  
NLAS4053DT  
NLAS4053DTR2  
NLAS4053QSR  
NLASB3157DFT2  
NLASB3157DFT2G  
NLAST4051DR2  
NLAST4051DTR2  
NLAST4051QSR  
NLAST4052DR2  
NLAST4052DTR2  
NLAST4052QSR  
NLAST4053DR2  
NLAST4053DTR2  
NLAST4053QSR  
NLAST4066DT  
NLAST4066DTR2  
NLSF595DTR2  
NLSF595MNR2  
NLVLVX4245DTR2  
NLVVHC1GT125DF1  
NLVVHC1GT125DF2  
NLVVHC1GT126DF1  
NLVVHC1GT126DF2