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**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION**

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**08-July-2004**

**SUBJECT: ON Semiconductor Final Product/Process Change Notification #13522**

**TITLE: Final Notification for IPCN 13259, Wafer Capacity Addition for MOS9 Technology, Group 2.**

**EFFECTIVE DATE: 09-SEP-2004**

**AFFECTED CHANGE CATEGORY(S): Subcontractor Fab Site**

**AFFECTED PRODUCT DIVISION(S): Analog Products & ECL Products**

**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sales Office. (DON WARRING, RRG60@onsemi.com)

**SAMPLES:** Contact Below

Contact your local ON Semiconductor Sales Office. (CLARENCE REBELLO, FFBWPN@onsemi.com)

**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact Sales Office (CLARENCE REBELLO, FFBWPN@onsemi.com)

**DISCLAIMER:**

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 an FPCN for IPCN 13259. ON Semiconductor will be transferring 85% BiCMOS products formerly produced at the Freescale Semiconductor MOS 16 facility to MOS 9 located on the Freescale Semiconductor site in Glasgow, Scotland. MOS9 is an ISO9001 certified facility and currently manufactures the 85% BiCMOS product family. The MOS 9 85% BiCMOS technology is identical to the MOS16 85% BiCMOS technology. This process will provide for improved process consistency and enhanced manufacturing controls.

This is the Final PCN for the listed devices. The effective date of this change will be 60 days from the issuance of this PCN for the devices listed.



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Device parameters will continue to meet all Data Book specifications except as detailed below, and reliability will continue to meet or exceed ON Semiconductor standards.

In the course of reviewing the electrical data, Test Methodology improvements indicate prior limits were imprecisely set. The following changes will be made in the Data Sheet:

MC100EPT21:

- Change IIL Lower Limit at All Temperatures to -150 mA (was 0.5) mA
- Change VBB Limits at All Temperatures to 1910 to 2160 (was 1775 to 1975) mV
- Change Tplh Limits at -40 deg C to 800 to 2050 (was 1200 to 1800) ps
- Change Tphl Limits at 25 deg C to 800 to 2250 (was 1200 to 1800) ps
- Change Tplh Limits at 85 deg C to 900 to 2950 (was 1300 to 1900) ps
- Change Tphl Lower Limit at All Temperatures to 1100 (was 1200) ps
- Change Tr and Tf Lower Limit at all Temperatures to 250 (was 330) ps
- Change Jitter RMS Upper Limit at all Temperatures to 5 (was 1) ps,  
Typical is 3.5 ps.

(Continued in Additional Information section)

**ADDITIONAL INFORMATION**

NB100ELT23L:

- Change ESD HBM Upper Limit to 1500 (was 1200) V
- Change ESD MM Upper Limit to 100 (was 150) V
- Change IIL Lower Limit at All Temperatures to -150 mA (was 0.5) mA
- Change Tplh Limits at -40 deg C and 25 deg C to 1950 to 2950  
(was 1500 to 2750) ps
- Change Tphl Limits at 85 deg C to 1950 to 3250 (was 1500 to 2750) ps
- Change Tr Limits at all Temperatures to 700 to 1650 (was 500 to 1300)  
ps for 0.8 to 2V
- Change tJitter Upper Limit at all Temperatures to 20 (was 1) ps,  
Typical is 6 ps.

Changes reflect typographical errors and Family Specifications, which match MOS16 devices. There were no changes to the actual design or function of the parts.

**RELIABILITY DATA SUMMARY**

Below is a summary of the reliability results. A more detailed reliability report is available upon request.

Test	Conditions	Results
High Temp Op Life (HTOL)	Tj=150 deg c for 1008 hrs	0/231
Preconditioning (PC)	MSL1 IR at 240 deg c	0/462
	MSL2 IR at 260 deg c	0/770
HAST-PC after Preconditioning	130 deg c, 85%.RH	0/693
	18.8 PSIG for 96 hrs	
Temp Cycling after Preconditioning (TC-PC)	-65 to +150 deg c for 1000 cycles	0/693
ESD per JEDEC Std	Human Body Model(HBM)	1500V
	Machine Model(MM)	100V
	Charge Device Model(CDM)	2000V

Reliability Test Conclusions:

Reliability test data is consistent with passing ON Semiconductor requirements.



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**ELECTRICAL CHARACTERISTIC SUMMARY**

Data is available on request.

**CHANGED PART IDENTIFICATION**

Product with Date code of ww35 may be manufactured at MOS9.



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**AFFECTED DEVICE LIST:**

**PART**

MC100EPT21D  
MC100EPT21DG  
MC100EPT21DR2  
MC100EPT21DT  
MC100EPT21DTG  
MC100EPT21DTR2  
MC100EPT21DTR2G  
NB100ELT23LD  
NB100ELT23LDR2  
NB100ELT23LDT  
NB100ELT23LDTR2