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PCN # 20033708-B

DESIGN/PROCESS CHANGE NOTIFICATION -- FINAL

This is to inform you that a design and/or process change will be made to the following product(s). This notification is for your information and concurrence.

If you require data or samples to qualify this change, please contact **Fairchild Semiconductor within 30 days of receipt of this notification.**

If you have any questions concerning this change, please contact:

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PCN Originator

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PCN Type: Alternate Fab Location

Effectivity

Expected 1st Device Shipment Date: 4/12/2004
Earliest Year/Work Week of Changed Product: 0416
(Note: Package marking may differ from this format)

Product ID (Description):

Fairchild Semiconductor's selected HCMOS logic products currently being manufactured using Fairchild's 4-inch, class 100, fab process in South Portland, ME. Please refer to affected FSID listing attached.

Description of Change:

Fairchild Semiconductor is announcing a wafer fab location change for the processing of existing versions of HCMOS devices currently manufactured using Fairchild's 4-inch, Class-100 fab facility located in South Portland, Maine, which is closing. These devices will be transferred to Fairchild's 6-inch, Class-1 fab facility located in South Portland, ME. This facility is currently used to manufacture many of Fairchild's other logic products including VCX, FACT, ABT, LCX, LVT, and VHC. There are no die size, design, geometry or layout changes planned for the affected Fairchild products.

Effect of Change:

This change will not impact the parametric performance or electrical characteristics of any affected device. Product manufactured at the new wafer fab location will continue to be fully compliant to all published datasheet specification and will be completely interchangeable with products manufactured at the existing wafer fab location. Quality and reliability will remain at the highest standards already demonstrated with Fairchild's existing products.

Qualification:

Qual/REL Plan Numbers

Additional Qualification Data



**RELIABILITY
TEST REPORT**

F20030043B

Results/Discussion

Test: (Autoclave)					
Lot	Device	96-HOURS	Failure Code		
Q20030043AAACLVB	MM74HC393M	0 / 77			
Q20030043ABACLVB	MM74HC393M	0 / 77			
Q20030043ACACLVB	MM74HC393M	0 / 77			
Test: (High Temperature Storage Life)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20030043AAHTSLB	MM74HC393M	0 / 77	0 / 77	0 / 77	
Q20030043ABHTSLB	MM74HC393M	0 / 77	0 / 77	0 / 77	
Q20030043ACHTSLB	MM74HC393M	0 / 77	0 / 77	0 / 77	
Test: (Highly Accelerated Stress Test)					
Lot	Device	96-HOURS	Failure Code		
Q20030043AAHAST1B	MM74HC393M	0 / 45			
Q20030043ABHAST1B	MM74HC393M	0 / 45			
Q20030043ACHAST1B	MM74HC393M	0 / 45			
Test: (Static Op Life)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20030043AASOPL1B	MM74HC393M	0 / 77	0 / 77	0 / 77	
Q20030043ABSOP1B	MM74HC393M	0 / 77	0 / 77	0 / 77	
Q20030043ACSOPL1B	MM74HC393M	0 / 77	0 / 77	0 / 77	
Test: (Temperature Cycle)					
Lot	Device	500-Cycles	Failure Code		
Q20030043AATMCL1B	MM74HC393M	0 / 77			
Q20030043ABTMCL1B	MM74HC393M	0 / 77			
Q20030043ACTMCL1B	MM74HC393M	0 / 77			
Test: (Gate Leakage)					
Lot	Device		Failure Code		
Q20030043AAGATEB	MM74HC393M	0 / 3			
Q20030043ABGATEB	MM74HC393M	0 / 3			

Q20030043ACGATEB	MM74HC393M	0 / 3	
Test: (Gate Leakage)			
Lot	Device		Failure Code
Q20030043AAGATEB	MM74HC393M	0 / 3	
Q20030043ABGATEB	MM74HC393M	0 / 3	
Q20030043ACGATEB	MM74HC393M	0 / 3	

Mechanical Results:

Test: (Bond Pull)			
Lot	Device		Failure Code
Q20030043AABPULLB	MM74HC393M	0 / 45	
Q20030043ABBPULLB	MM74HC393M	0 / 45	
Q20030043ACBPULLB	MM74HC393M	0 / 45	
Test: (Bond Shear)			
Lot	Device		Failure Code
Q20030043AABSHRB	MM74HC393M	0 / 45	
Q20030043ABBSHRB	MM74HC393M	0 / 45	
Q20030043ACBSHRB	MM74HC393M	0 / 45	
Test: (Die Shear)			
Lot	Device		Failure Code
Q20030043AADSHRB	MM74HC393M	0 / 5	
Q20030043ABDSHRB	MM74HC393M	0 / 5	
Q20030043ACDSHRB	MM74HC393M	0 / 5	

Conclusion

All reliability stresses outlined in the reliability qualification plan Q20030043B were successfully met, and unconditionally qualify for production HCMOS manufactured in the 6-inch South Portland Fab.

Affected FSIDs

74VHC4046M	74VHC4046MTC	74VHC4046MTCX
74VHC4046MX	74VHC4046N	74VHC4066M
74VHC4066MTC	74VHC4066MTCX	74VHC4066MX
74VHC4066N	74VHC4316M	74VHC4316MTC
74VHC4316MTCX	74VHC4316MX	74VHC4316N
74VHC4316WMX	MM74HC139M	MM74HC139MTC
MM74HC139MTCX	MM74HC139MX	MM74HC139N
MM74HC139SJ	MM74HC148M	MM74HC148MX
MM74HC148N	MM74HC151CW	MM74HC151M
MM74HC151MTC	MM74HC151MTCX	MM74HC151MX
MM74HC151N	MM74HC151SJ	MM74HC151SJX
MM74HC154CW	MM74HC154MTC	MM74HC154MTCX
MM74HC154N	MM74HC154WM	MM74HC154WMX
MM74HC157CW	MM74HC157M	MM74HC157MTC
MM74HC157MTCX	MM74HC157MX	MM74HC157N
MM74HC157SJ	MM74HC157SJX	MM74HC161M
MM74HC161MTC	MM74HC161MTCX	MM74HC161MX

MM74HC161N
MM74HC163MX
MM74HC165CW
MM74HC165MTCX
MM74HC165SJX
MM74HC174MTC
MM74HC174N
MM74HC221AM
MM74HC221ASJ
MM74HC251MTC
MM74HC251N
MM74HC259CW
MM74HC259MTCX
MM74HC259SJ
MM74HC393M
MM74HC393MX
MM74HC393SJX
MM74HC4020N
MM74HC4040M
MM74HC4040SJ
MM74HC4046M
MM74HC4046MX
MM74HC4046SJX
MM74HC4049MTC
MM74HC4049N
MM74HC4050MTC
MM74HC4050N
MM74HC4060MTC
MM74HC4060N
MM74HC423AM
MM74HC423AMX
MM74HC4316CW
MM74HC4316MTCX
MM74HC4316SJ
MM74HC4316WMX
MM74HC4514MTCX
MM74HC4514WMX
MM74HC4538MX
MM74HC4538SJX
MM74HC589MX
MM74HC589SJX
MM74HC594MX
MM74HC597MX
MM74HC688CW
MM74HC688N
MM74HC688WM

MM74HC161SJ
MM74HC163N
MM74HC165M
MM74HC165MX
MM74HC174CW
MM74HC174MTCX
MM74HC174SJ
MM74HC221AMX
MM74HC251CW
MM74HC251MTCX
MM74HC251SJ
MM74HC259M
MM74HC259MX
MM74HC259SJX
MM74HC393MTC
MM74HC393N
MM74HC4020M
MM74HC4020SJ
MM74HC4040MX
MM74HC4040SJX
MM74HC4046MTC
MM74HC4046N
MM74HC4049CW
MM74HC4049MTCX
MM74HC4050CW
MM74HC4050MTCX
MM74HC4060CW
MM74HC4060MTCX
MM74HC4060SJ
MM74HC423AMTC
MM74HC423AN
MM74HC4316M
MM74HC4316MX
MM74HC4316SJX
MM74HC4514CW
MM74HC4514N
MM74HC4538CW
MM74HC4538N
MM74HC589CW
MM74HC589N
MM74HC594CW
MM74HC594N
MM74HC597N
MM74HC688MTC
MM74HC688SJ
MM74HC688WMX

MM74HC163M
MM74HC163SJ
MM74HC165MTC
MM74HC165N
MM74HC174M
MM74HC174MX
MM74HC174SJX
MM74HC221AN
MM74HC251M
MM74HC251MX
MM74HC251SJX
MM74HC259MTC
MM74HC259N
MM74HC393CW
MM74HC393MTCX
MM74HC393SJ
MM74HC4020MX
MM74HC4040CW
MM74HC4040N
MM74HC4046CW
MM74HC4046MTCX
MM74HC4046SJ
MM74HC4049M
MM74HC4049MX
MM74HC4050M
MM74HC4050MX
MM74HC4060M
MM74HC4060MX
MM74HC4060SJX
MM74HC423AMTCX
MM74HC423ASJ
MM74HC4316MTC
MM74HC4316N
MM74HC4316WM
MM74HC4514MTC
MM74HC4514WM
MM74HC4538M
MM74HC4538SJ
MM74HC589M
MM74HC589SJ
MM74HC594M
MM74HC597M
MM74HC597SJ
MM74HC688MTCX
MM74HC688SJX