Date Created: 3/10/2004
Date Issued: 3/17/2004
PCN # 20041004

FORECAST CHANGE NOTIFICATION

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. This is a preliminary notification. A final PCN will be issued when qualification is complete and data is available.

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:

Name: Sorlie, Duane L.
E-Mail: Duane.Sorlie@notes.fairchildsemi.com
Phone: 719-528-2396

PCN Originator
Name: Garren, Malcolm
E-mail: Malcolm.Garren@notes.fairchildsemi.com
Phone: 970-776-2113

REL Engineer
Name: Garren, Malcolm
E-mail: Malcolm.Garren@notes.fairchildsemi.com
Phone: 970-776-2113

PCN Type: Alternate Fab Location

Effectivity
Expected 1st Device Shipment Date: 6/14/2004
Earliest Year/Work Week of Changed Product: 0420
(Note: Package marking may differ from this format)

Product ID (Description):
See affected FSID list.

Description of Change:
As part of Fairchild Semiconductor's effort to provide cost effective products and continue to improve customer service, we are planning to transfer the products in the affected FSID list from CSM fab 1 to CSM fab 2.

Effect of Change:
The quality, reliability and performance of the transferred products will remain the same or improve.

Qualification:
Qualification results will meet all Fairchild criteria for new process and design changes and the overall quality and reliability of our products.

Qual/REL Plan Numbers

Additional Qualification Data

RELIABILITY QUALIFICATION PLAN

Q20030076B

Project Charter

Project Title: Chartered 0.6um BiCMOS Process Transfer

Purpose of the Qualification: To qualify the transfer of 0.6um BiCMOS process from Fab1 to Fab2 at Chartered Semiconductor, Singapore.	**Author:** Elizabeth Del Nero **Requestor:** Malcolm Garren **Project Category:** Fab Process Transfer **Reliability Lab Location:** South Portland, ME **Test Location:** South Portland, ME **Date:** Jan 19, 2004

Project Scope:
FSID ML641X, SM300 wafer ID, to be packaged in Amkor's 8-lead SOIC package.

Release Criteria:
All stress tests outlined within this document must be completed successfully with zero valid failures in order for the Chartered fabrication process transfer to be qualified for production builds. Test requirements must meet FSC-QAR-0006 specification.

Additional Information:
Three separate fab2 lots, started at least three days apart, as well as two fab1 control lots are required for the process transfer qualification. ESD and Latch-up characterization will be performed.

Related Qualification Plans:

Signatures:

Author:	**Date:**
Requestor:	**Date:**
Approver:	**Date:**

Qualification Device Detail

Device A:	ML6416CS
Package:	NMSON
# Leads:	008

Process of Record:

Fabrication Process Flow:
Fabrication Site/Fabrication Area:
Assembly Site: PHILIPPINES SUBCONTRACTORS
Assembly Package: NMSON008 - 008, PLASTIC MOLDED, SOIC-8 PKG, NARROW BODY, SMD (S1)
Assembly Build Diagram:
Comments: Fabrication Process is 0.6um BiCMOS - Fab Location is Chartered, Singapore Fab2 - Wafer size is 8 inch.

Subgroup A Precondition Description: - PC1A: MSL(1), PKG(Small), PeakTemp(235c), Cycles(3)

#	Stress Type	Condition Description	Value	Measurement Units
1	TMCL1	Duration	5	CYCLES
		Low Temperature	-65	C
		High Temperature	150	C
2	VIS	Duration		
3	BAKE	Duration	24	HOURS
		High Temperature	125	C
4	MOIS	Duration	168	HOURS
		High Temperature	85	C
		Relative Humidity	85	%RH
5	REFL	Duration		
		High Temperature	235	C
6	FLUX	Duration		
7	RINSE	Duration		
8	DRY	Duration		

Subgroup B Precondition Description: - PC1A: MSL(1), PKG(Small), PeakTemp(235c), Cycles(3)

#	Stress Type	Condition Description	Value	Measurement Units
1	TMCL1	Duration	5	CYCLES
		Low Temperature	-65	C
		High Temperature	150	C
2	VIS	Duration		
3	BAKE	Duration	24	HOURS
		High Temperature	125	C
4	MOIS	Duration	168	HOURS
		High Temperature	85	C
		Relative Humidity	85	%RH
5	REFL	Duration		
		High Temperature	235	C
6	FLUX	Duration		
7	RINSE	Duration		
8	DRY	Duration		

Subgroup C Precondition Description: - PC1A: MSL(1), PKG(Small), PeakTemp(235c), Cycles(3)

#	Stress Type	Condition Description	Value	Measurement Units
1	TMCL1	Duration	5	CYCLES
		Low Temperature	-65	C
		High Temperature	150	C
2	VIS	Duration		
3	BAKE	Duration	24	HOURS
		High Temperature	125	C
4	MOIS	Duration	168	HOURS
		High Temperature	85	C
		Relative Humidity	85	%RH
5	REFL	Duration		
		High Temperature	235	C
6	FLUX	Duration		
7	RINSE	Duration		
8	DRY	Duration		

Subgroup D Precondition Description: - PC1A: MSL(1), PKG(Small), PeakTemp(235c), Cycles(3)

#	Stress Type	Condition Description	Value	Measurement Units
1	TMCL1	Duration	5	CYCLES
		Low Temperature	-65	C
		High Temperature	150	C
2	VIS	Duration		
3	BAKE	Duration	24	HOURS
		High Temperature	125	C
4	MOIS	Duration	168	HOURS
		High Temperature	85	C
		Relative Humidity	85	%RH
5	REFL	Duration		
		High Temperature	235	C
6	FLUX	Duration		
7	RINSE	Duration		
8	DRY	Duration		

Subgroup E Precondition Description: - PC1A: MSL(1), PKG(Small), PeakTemp(235c), Cycles(3)

#	Stress Type	Condition Description	Value	Measurement Units
1	TMCL1	Duration	5	CYCLES
		Low Temperature	-65	C
		High Temperature	150	C
2	VIS	Duration		
3	BAKE	Duration	24	HOURS
		High Temperature	125	C
4	MOIS	Duration	168	HOURS
		High Temperature	85	C
		Relative Humidity	85	%RH
5	REFL	Duration		
		High Temperature	235	C
6	FLUX	Duration		
7	RINSE	Duration		
8	DRY	Duration		

Subgroup Descriptions:

SUBGROUP	UNIQUE IDENTIFIER DESCRIPTION

A	Fab2 lot A
B	Fab2 lot B
C	Fab2 lot C
D	Fab1 Control Lot
E	Fab1 Control Lot 2

Subgroup POR Detail:

	A	**B**	**C**	**D**	**E**
Die Revision	F	F	F	F	F
Die Size					
Fab Lot Number					
Fab Location	CH	CH	CH	CH	CH
Assy Lot Number					
Wafer Number					
Assy Location	H	H	H	H	H
Subgroup Comments	Mold Compound is EME6300H, Die Attach is 84-1LMIS R4, Wire size is 1 mil and Die Size is 1.74 x 2.11				

RELIABILITY
QUALIFICATION PLAN

Q20030076B

Qualification Stress Test and Sample Size Detail

Device A:	ML6416CS
Package:	NMSON
# Leads:	008

Environmental Stress Detail:

				Readpoints			**Sample**				
Stress	**P/C**	**Standard**	**Conditions**	**TP1**	**TP2**	**TP3**	**A**	**B**	**C**	**D**	**E**
ACLV	X		100%RH, 121C	96			77	77	77	77	77
HAST1	X		85%RH, 130C, 5V	96			45	45	45	45	45
HTSL			150C	168	500	1000	77	77	77	77	77
SOPL1			125C, 5V	168	500	1000	77	77	77	77	77
TMCL1	X		-65C, 150C	100	500		77	77	77	77	77

Electrical Stress Detail:

				Readpoints	**Sample**				
Stress	**P/C**	**Standard**	**Conditions**	**TP1**	**A**	**B**	**C**	**D**	**E**
HBM			2000, Class 2V, Target	1	3				
LU			100mA + Inom	1	3				
MM			200V, Class BV, Target	1	3				

Affected FSIDs

FMS6410CS
FMS6410CSX
FMS6413CS
FMS6413CSX
FMS6414CS
FMS6414CSX
FMS6417CH
FMS6417CHX
ML6415CS
ML6415CSX
ML6416CS
ML6416CSX