

Date Created : 2007/04/14
Date Issued On : 2007/04/19
PCN# : Q2071503

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.**

Updated process quality documentation, such as FMEAs and Control Plans, are available for viewing upon request.

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

Technical Contact:

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PCN Originator:

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Phone: 82-32-680-1308

Implementation of change:

Expected 1st Device Shipment Date: 2007/07/29

Earliest Year/Work Week of Changed Product: ww31

Change Type Description: Fab Process Change

Description of Change (From): FAB process : 8um/40V

Description of Change (To): FAB process : 1.5um/40V

Reason for Change : Qualification of FAB process change. Improve ESD and product availability and manufacturing flexibility.

Qual/REL Plan Numbers : Q20060059

Qualification :

LM324 series product qualification for process change has successfully completed. allowing release of the affected product list

Change From

Change from

FG Item ID	LM324 series (Please refer to affected FSIDs)
Process	8um/40V bipolar process
Wafer size	4 inch

ESD Level

LM324 ESD results
HBM : CLASS 1C (1000V~ 2000V) , Min Level : 1500V
CDM : Min Level : 500V

Change To

Functionality and Electrical characteristics remain within current datasheet specifications.
Quality and reliability will remain at the highest standards already demonstrated with
Fairchild's existing products.

Change to

FG Item ID	LM324 series (Please refer to affected FSIDs)
Process	1.5um/40V bipolar process
Wafer size	5 inch

ESD Level

LM324 ESD results
HBM : CLASS 2 (2000V~ 4000V) -> Min Level : 3000V
CDM : Min Level : 2000V

Results/Discussion

Test: (High Temperature Op Life)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20060059AAHTOL	KA324A	0/77			
			0/77		
				0/77	
Test: (High Temperature Storage Life)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20060059AAHTSL		0/77			
			0/77		
				0/77	
Test: (Machine Model ESD)					
Lot	Device	Results	Failure Code		
Q20060059AAMM	KA324A	0/3			
Test: (Temperature Humidity Biased Test)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20060059AATHBT		0/77			
			0/77		
				0/77	
Test: -65C, 150C (Temperature Cycle)					
Lot	Device	200-CYCLES	500-CYCLES	Failure Code	
Q20060059AATMCL1	KA324A	0/77			
Q20060059AATMCL1	KA324A		0/77		

Product Id Description : Quad OP AMP

Affected FSIDs :

LM224M	LM224N	LM2902M
LM2902MX	LM2902MX_NL	LM2902M_NL
LM2902N	LM2902N_NL	LM324AM
LM324AMX	LM324AN	LM324AN_NL
LM324M	LM324MX	LM324N
LM324N_NL		