

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**

<b>FG Item ID</b>	<b>LM324 series (Please refer to affected FSIDs)</b>
<b>Process</b>	8um/40V bipolar process
<b>Wafer size</b>	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**

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