Date Created : **2007/04/18**
Date Issued On : **2007/05/09**
PCN# : **Q1070902-A**

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:

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Implementation of change:
Expected 1st Device Shipment Date: 2007/05/31

Earliest Year/Work Week of Changed Product: 0724

Change Type Description: Bond Wire Material Composition, Lead Finish Composition, Lid or Base Material Composition, Mold Compound

Description of Change (From): Mold compound Sumitomo G770; Bond wire HP(99.99); Solder ball composition SAC405; Solder mask material AUS05

Description of Change (To): Mold compound Nitto GE-100-LFC-S; Bond wire HTS(99.0); Solder ball composition SAC105; Solder mask material AUS308

Reason for Change : To improve the robustness of the package bill of materials resulting in increased resistance to intermettalic degradation, use of a Green mold compound, and improved tolerance to mechanical shock. Overall, the BOM change is being pursued to improve the reliability of the product.

Qual/REL Plan Numbers : Q20060387

Qualification :

All environmental & mechanical stresses outlined in reliability qualification plan Q20060387 successfully meet the requirements for release, qualifying Nitto GE-100-LFC-S green mold compound for use with all BGA42 products assembled at Amkor Philippines.

Change From

BOM Item	Before
Epoxy Mold Compound	G770 Sumitomo
Bond Wire	HP(99.99)
Solder Ball Composition	SAC405
Solder Mask Material	AUS05

Change To

BOM Item	After
Epoxy Mold Compound	Nitto GE-100LFCS
Bond Wire	HTS(99.0)
Solder Ball Composition	SAC105
Solder Mask Material	AUS308

Results/Discussion

Test: (High Temperature Storage Life)

Lot	Device	168-HOURS	1000-HOURS	Failure Code
Q20060387AAHTSLD	FIN224ACGFX	0/77		
Q20060387AAHTSLD	FIN224ACGFX		0/77	
Q20060387ABHTSLD	FIN224ACGFX	0/77		
Q20060387ABHTSLD	FIN224ACGFX		0/77	
Q20060387ACHTSLD	FIN224ACGFX	0/77		
Q20060387ACHTSLD	FIN224ACGFX		0/77	

Test: (Static Op Life)

Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20060387AASOPL1D		0/77			
			0/77		
				0/77	
Q20060387ABSOPL1D		0/77			
			0/77		
				0/77	
Q20060387ACSOPL1D		0/77			
			0/77		
				0/77	

Test: -65C, 150C (Temperature Cycle)

Lot	Device	500-CYCLES	1000-CYCLES	Failure Code
Q20060387AATMCL1D	FIN224ACGFX	0/77		
Q20060387AATMCL1D	FIN224ACGFX		0/77	
Q20060387ABTMCL1D	FIN224ACGFX	0/77		
Q20060387ABTMCL1D	FIN224ACGFX		0/77	
Q20060387ACTMCL1D	FIN224ACGFX	0/77		
Q20060387ACTMCL1D	FIN224ACGFX		0/77	

Test: 110C (Highly Accelerated Stress Test)

Lot	Device	264-HOURS	528-HOURS	Failure Code
Q20060387AAHAST2D	FIN224ACGFX	0/45		
Q20060387AAHAST2D	FIN224ACGFX		0/45	
Q20060387ABHAST2D	FIN224ACGFX	0/45		
Q20060387ABHAST2D	FIN224ACGFX		0/45	
Q20060387ACHAST2D	FIN224ACGFX	0/45		
Q20060387ACHAST2D	FIN224ACGFX		0/45	

Test: MSL(2), PKG(Small), PeakTemp(260c), Cycles(3) (Precondition)

Lot	Device	Results	Failure Code
Q20060387AAPCNL2AD	FIN224ACGFX	0/286	
Q20060387ABPCNL2AD	FIN224ACGFX	0/286	
Q20060387ACPCNL2AD	FIN224ACGFX	0/286	

Product Id Description :

Affected FSIDs :

FIN12ACGFX	FIN212ACGFX	FIN224ACGFX
FIN24ACGFX	FIN24CGFX	FIN324CGFX
FIN668CGFX	FIN670CGFX	