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:

<u>Technical Contact:</u> Name: Morneault, Ron

E-mail: Ron.Morneault@fairchildsemi.com

Phone: 207 761 3412

PCN Originator:

Name: Leng, HooiChin

E-mail: HooiChin.Leng@notes.fairchildsemi.com

Phone: 604-6437211, ext.788

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

_ot		e Storage Life)		168-HOURS		100	00-HOURS	Failure Code
Q20060387AAHTSLD		FIN224ACGFX		0/77		100	50-1100113	i allule Code
Q20060387AAHTSLD		FIN224ACGFX FIN224ACGFX		0/11		0/77		
Q20060387ABHTSLD		FIN224ACGFX FIN224ACGFX		0/77		0/77		
Q20060387ABHTSLD		FIN224ACGFX FIN224ACGFX		0/11		0/77		
Q20060387ACHTSLD		FIN224ACGFX FIN224ACGFX		0/77		0/11		
Q20060387ACHTSLD		FIN224ACGFX FIN224ACGFX		0/11		0/7	7	
Test: (Static Op Life)		114224A001A				0/1		
ot) Device	<u> </u>	168-HO	IIRS	500-HOUF	25	1000-HOURS	Failure Code
020060387AASOPL1D			0/77		010 500-110010		1000-110013	i andie Code
\$20000307AA3O1 L1D			0/11		0/77			
					0/11		0/77	
Q20060387ABSOPL1D	+		0/77				0,11	
	+		5,77		0/77		+	
					0/11		0/77	
Q20060387ACSOPL1D			0/77				0777	
220000007710007 212			0/17		0/77			
					0/11		0/77	
							077.	
Test: -65C, 150C (To								
_ot		evice		500-CY	CLES	100	00-CYCLES	Failure Code
Q20060387AATMCL1D		IN224ACGFX		0/77				
Q20060387AATMCL1D	lF.	FIN224ACGFX				0/77		
						0/7	<i>'</i>	
		IN224ACGFX		0/77				
Q20060387ABTMCL1D	F	IN224ACGFX IN224ACGFX				0/7		
Q20060387ABTMCL1D Q20060387ACTMCL1D	F	IN224ACGFX IN224ACGFX IN224ACGFX		0/77		0/7	7	
Q20060387ABTMCL1D Q20060387ACTMCL1D	F	IN224ACGFX IN224ACGFX					7	
Q20060387ABTMCL1D Q20060387ACTMCL1D Q20060387ACTMCL1D	F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX	est)			0/7	7	
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Cest: 110C (Highly A	F F Accele	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX	est)		URS	0/7	7	Failure Code
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Test: 110C (Highly A	F F Accele	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T	est)	0/77	URS	0/7	7	Failure Code
D20060387ABTMCL1D D20060387ACTMCL1D D20060387ACTMCL1D Fest: 110C (Highly A Lot D20060387AAHAST2D	F F Accele	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice	est)	0/77 264-HO	URS	0/7	77 73-HOURS	Failure Code
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Fest: 110C (Highly A .ot 220060387AAHAST2D 220060387AAHAST2D	F F Accele D F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX	est)	0/77 264-HO	URS	0/7	77 73-HOURS	Failure Code
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Test: 110C (Highly A .ot 220060387AAHAST2D 220060387AAHAST2D 220060387ABHAST2D	F F Accele D F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX IN224ACGFX	est)	0/77 264-HO 0/45	URS	0/7	7 7 3-HOURS	Failure Code
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Test: 110C (Highly A 20060387AAHAST2D 220060387AAHAST2D 220060387ABHAST2D 220060387ABHAST2D	F F Accele D F F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX	est)	0/77 264-HO 0/45	URS	0/7 0/7 528 0/4	7 7 3-HOURS	Failure Code
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Cest: 110C (Highly A 220060387AAHAST2D 220060387AAHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ABHAST2D	F F Accele D F F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX	est)	0/77 264-HO 0/45 0/45	URS	0/7 0/7 528 0/4	7 7 3-HOURS 5	Failure Code
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220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Fest: 110C (Highly A 220060387AAHAST2D 220060387AAHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ACHAST2D 220060387ACHAST2D	F F Accele D F F F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX		0/77 264-HO 0/45 0/45		0/7 0/7 528 0/4 0/4	7 7 3-HOURS 5 5	Failure Code Failure Code
220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Fest: 110C (Highly A 220060387AAHAST2D 220060387AAHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ACHAST2D 220060387ACHAST2D 220060387ACHAST2D Cest: MSL(2), PKG(5)	F F Accele D F F F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX	60c), Cy	0/77 264-HO 0/45 0/45	(Precond	0/7 0/7 528 0/4 0/4	7 7 3-HOURS 5 5	
220060387ABTMCL1D 220060387ABTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D 220060387ACTMCL1D Test: 110C (Highly A 20060387AAHAST2D 220060387AAHAST2D 220060387ABHAST2D 220060387ABHAST2D 220060387ACHAST2D 220060387ACHAST2D 220060387ACHAST2D Test: MSL(2), PKG(3 20060387AAPCNL2AD 220060387AAPCNL2AD	F F Accele D F F F F	IN224ACGFX IN224ACGFX IN224ACGFX IN224ACGFX rated Stress T evice IN224ACGFX	60c), Cy	0/77 264-HO 0/45 0/45	(Precond	0/7 0/7 528 0/4 0/4	7 7 3-HOURS 5 5	

Product Id Description:

Affected FSIDs:

FIN12ACGFX	FIN212ACGFX	FIN224ACGFX
FIN24ACGFX	FIN24CGFX	FIN324CGFX
FIN668CGFX	FIN670CGFX	