

Date Created : 2008/03/26
Date Issued On : 2008/05/01
PCN# : Q1081303

DESIGN/PROCESS CHANGE NOTIFICATION -- FINAL

Please note that Final PCN Q1081303 is an ADDENDUM to PCN 20032701 (20032701 reflects Pb Free plating qual as a qualified process). In addition, Bosch Flow results are available and will be emailed upon request.

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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Implementation of change:

Expected 1st Device Shipment Date: 2008/07/29

Earliest Year/Work Week of Changed Product: 0831

Change Type Description: Lead Finish Composition, Mold Compound

Description of Change (From): Selected TO263 and TO252 products manufactured using Non-Green Mold Compound and SnPb plating.

Description of Change (To): Selected TO263 and TO252 products will be manufactured using Green Mold Compound and Lead Free plating.

Reason for Change : Fairchild Semiconductor, Cebu Philippines, embarks on the use of Green mold compound (halogen free flame retardant) in addition to its Pb free plating as part of its green initiative program. This new green mold compound is aimed at improving delamination performance of TO263 and TO252 packages to further comply with Bosch's delamination criteria.

Qual/REL Plan Numbers : Q20080156

Qualification :

There shall be no change in assembly and test process flow. Package outline drawings of the affected products will remain unchanged. Green products will be fully compliant to all published data sheet specifications and its quality and reliability will remain at the highest standards already demonstrated with Fairchild's existing products.

Change From

TO-252

PROCESS	FROM	TO
Lead frame Material	12SnOFC	12SnOFC
Die Attach Solder	Pb92.5Sn5Ag2.5	Pb92.5Sn5Ag2.5
Al Wire	AlNi	AlNi
Molding Compound	EME-6600C	KTMC5900GM
Plating	SnPb	Pure Sn

TO-263

PROCESS	FROM	TO
Lead frame Material	12SnOFC	12SnOFC
Die Attach Solder	Pb92.5Sn5Ag2.5	Pb92.5Sn5Ag2.5
Al Wire	AlNi	AlNi
Molding Compound	MP195	KTMC5900GM
Plating	SnPb	Pure Sn

Results/Discussion

Test: (Autoclave)			
Lot	Device	96-HOURS	Failure Code
Q20080156AAACLV	HUF76629D3ST_R4885	0/77	
Q20080156ABACLV	HUF76629D3ST_R4885	0/77	
Q20080156ACACLV	HUF76629D3ST_R4885	0/77	
Q20080156BAACLV	ISL9V3040D3ST	0/77	
Q20080156CAACLV	HUFA75344S3ST_R4966	0/77	
Q20080156CBACLV	HUFA75344S3ST_R4966	0/77	
Q20080156CCACLV	HUFA75344S3ST_R4966	0/77	
Q20080156DAACLV	ISL9V5036S3ST_SB82065	0/77	

Test: (High Temperature Gate Bias)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20080156AAHTGB	HUF76629D3ST_R4885	0/77			
			0/77		
				0/77	
Q20080156ABHTGB	HUF76629D3ST_R4885	0/77			
			0/77		
				0/77	
Q20080156AHTGB	HUF76629D3ST_R4885	0/77			
			0/77		
				0/77	
Q20080156BAHTGB	ISL9V3040D3ST	0/77			
			0/77		
				0/77	
Q20080156CAHTGB	HUFA75344S3ST_R4966	0/77			
			0/77		
				0/77	
Q20080156CBHTGB	HUFA75344S3ST_R4966	0/77			
			0/77		
				0/77	
Q20080156CCHTGB	HUFA75344S3ST_R4966	0/77			
			0/77		
				0/77	
Q20080156DAHTGB	ISL9V5036S3ST_SB82065	0/77			
			0/77		
				0/77	

Test: (High Temperature Reverse Bias)						
Lot	Device	100-HOURS	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20080156AAHTRB	HUF76629D3ST_R4885		0/77			
				0/77		
					0/77	
Q20080156ABHTRB			0/77			
				0/77		
					0/77	
Q20080156ACHTRB			0/77			
				0/77		
					0/77	
Q20080156BAHTRB	ISL9V3040D3ST	0/77				
				0/77		
					0/77	
Q20080156CAHTRB	HUFA75344S3ST_R4966		0/77			
				0/77		
					0/77	
Q20080156CBHTRB			0/77			
				0/77		
					0/77	
Q20080156CCHTRB			0/77			
				0/77		
					0/77	
Q20080156DAHTRB	ISL9V5036S3ST_SB82065		0/77			
				0/77		
					0/77	

Test: (Power Cycle)							
Lot	Device	4000-CYCLES	5000-CYCLES	8572-CYCLES	10000-CYCLES	15000-CYCLES	Failure Code
Q20080156AAPRCL	HUF76629D3ST_R4885		0/77				
					0/77		
						0/77	
Q20080156ABPRCL			0/77				
					0/77		
						0/77	
Q20080156ACPRCL			0/77				
					0/77		
						0/77	
Q20080156BAPRCL	ISL9V3040D3ST		0/77				
					0/77		
						0/77	
Q20080156CAPRCL	HUFA75344S3ST_R4966		0/77				
				0/77			
Q20080156CBPRCL		0/77					
				0/77			
Q20080156CCPRCL		0/77					
				0/77			
Q20080156DAPRCL	ISL9V5036S3ST_SB82065		0/77				
				0/77			

Test: -65C, 150C (Temperature Cycle)					
Lot	Device	100-CYCLES	500-CYCLES	1000	Failure Code
Q20080156AATMCL1	HUF76629D3ST_R4885	0/77			
			0/77		
				0/77	
Q20080156ABTMCL1	HUF76629D3ST_R4885	0/77			
			0/77		
				0/77	
Q20080156ACTMCL1	HUF76629D3ST_R4885	0/77			
			0/77		
				0/77	
Q20080156BATMCL1	ISL9V3040D3ST	0/77			
			0/77		
				0/77	
Q20080156CATMCL1	HUFA75344S3ST_R4966	0/77			
			0/77		
				0/77	
Q20080156CBTMCL1	HUFA75344S3ST_R4966	0/77			
			0/77		

				0/77	
Q20080156CCTMCL1	HUFA75344S3ST_R4966	0/77			
			0/77		
				0/77	
Q20080156DATMCL1	ISL9V5036S3ST_SB82065	0/77			
			0/77		
				0/77	

Test: 110C (Highly Accelerated Stress Test)

Lot	Device	132-HOURS	264-HOURS	Failure Code
Q20080156AAHAST2	HUF76629D3ST_R4885	0/77		
Q20080156AAHAST2	HUF76629D3ST_R4885		0/77	
Q20080156ABHAST2	HUF76629D3ST_R4885	0/77		
Q20080156ABHAST2	HUF76629D3ST_R4885		0/77	
Q20080156ACHAST2	HUF76629D3ST_R4885	0/77		
Q20080156ACHAST2	HUF76629D3ST_R4885		0/77	
Q20080156BAHAST2	ISL9V3040D3ST	0/77		
Q20080156BAHAST2	ISL9V3040D3ST		0/77	
Q20080156CAHAST2	HUFA75344S3ST_R4966	0/77		
Q20080156CAHAST2	HUFA75344S3ST_R4966		0/77	
Q20080156CBHAST2	HUFA75344S3ST_R4966	0/77		
Q20080156CBHAST2	HUFA75344S3ST_R4966		0/77	
Q20080156CCHAST2	HUFA75344S3ST_R4966	0/77		
Q20080156CCHAST2	HUFA75344S3ST_R4966		0/77	
Q20080156DAHAST2	ISL9V5036S3ST_SB82065	0/77		
Q20080156DAHAST2	ISL9V5036S3ST_SB82065		0/77	

Test: MSL(1), PKG(Large), PeakTemp(245c), Cycles(3) (Precondition)

Lot	Device	Results	Failure Code
Q20080156CAPCNL1B	HUFA75344S3ST_R4966	0/318	
Q20080156CBPCNL1B	HUFA75344S3ST_R4966	0/549	
Q20080156CCPCNL1B	HUFA75344S3ST_R4966	0/626	
Q20080156DAPCNL1B	ISL9V5036S3ST_SB82065	0/703	

Test: MSL(1), PKG(Small), PeakTemp(260c), Cycles(3) (Precondition)

Lot	Device	Results	Failure Code
Q20080156AAPCNL1A	HUF76629D3ST_R4885	0/626	
Q20080156ABPCNL1A	HUF76629D3ST_R4885	0/626	
Q20080156ACPCNL1A	HUF76629D3ST_R4885	0/549	
Q20080156BAPCNL1A	ISL9V3040D3ST	0/626	

Product Id Description : Fairchild Semiconductor's selected TO263 and TO252 products currently manufactured at Fairchild Semiconductor, Cebu Philippines.

Affected FSIDs :

FDB3672_SB82072	FDD14AN06LA0_SB82123	FDD20AN06A0_SB82095
FDD24AN06LA0_SB82060	FDD5810_SB82124	HUF75307D3ST_SB78016
HUF75321S3ST_R4908	HUF75329D3ST_SB78017	HUF76409D3ST_R4921
HUF76419D3ST_R4921	HUF76419S3ST_R4908	HUF76437S3ST_R4908
HUF76629D3ST_R4885	HUF76639S3ST_R4882	ISL9V3040D3ST_SB82019B
ISL9V3040S3ST_SB82020A	ISL9V5036S3ST_SB82065	ISL9V5036S3ST_SB82184