

Date Created : 2007/02/27
Date Issued On : 2007/12/07
PCN# : Q1070904

DESIGN/PROCESS CHANGE NOTIFICATION -- FINAL

Please note that Final PCN Q1070904 is a replacement of PCN Q4064201. The following changes have been made: I. The following devices have been removed from the Affected FSID list: HUF75329D3ST_R4820, HUF75637S3ST_NB82113, HUFA75343P3_F085, HUFA76429D3ST_F085, HUFA76413DK8T_B76001A, ISL9V3040D3ST_SB82019B, ISL9V5036S3ST_SB82065, HUF75345P3_R4908, HUF76419D3ST_R4921, HUF75344S3ST_S2457, HUF76432S3ST_R4908, HUF76633S3ST_R4884, HUFA75344S3ST_R4966, and HUF75639S3ST_S2515. II. ISL9V3040S3ST_R4969 has been added to the Affected FSID list.

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: 2008/03/04

Earliest Year/Work Week of Changed Product: 0810

Change Type Description: Alternate Assembly/Test Location/Qualification, Alternate Fab Location, Mold Compound, Wafer Diameter, Plating Material Change

Description of Change (From): Selected TO252, TO262, and TO263 automotive products currently manufactured in Mountain Top, PA using Fairchild's 8-inch Fab line. These products are presently assembled and tested in Fairchild Semiconductor Cebu, Philippines or STATSChipPAC Kuala Lumpur, Malaysia subcontractor facilities. The current mold compound and plating material of the selected devices will be changed. Please refer to detailed table on page 2 of this PCN "Description of change ("From" and "To")."

Description of Change (To): Selected products will now be produced on both 8-inch wafer diameter (located in Mountain Top, PA) as well as 6-inch wafer diameter (located in Bucheon, Korea; Fairchild Semiconductor QS 9000 and TS16949 certified Bucheon, Korea). The plating finish is being changed to Matte Sn. For mold compound changes please refer to detailed table on page 2 of this PCN "Description of change ("From" and "To")."

Reason for Change : Fairchild Semiconductor is adding 6-inch wafer capacity located in Bucheon, Korea for processing of selected TO252, TO262, and TO263 automotive products currently manufactured using Fairchild's 8-inch fab process in Mountain Top, PA. Fairchild

Semiconductor is also qualifying its assembly/test site located in Suzhou, China, in addition to its location in Cebu, Philippines and STATChipPAC in Kuala Lumpur, Malaysia. These changes are part of ongoing effort to increase manufacturing capacity for certain Functional Power Group products.

Qual/REL Plan Numbers : Q20070431

Qualification :

This PCN notices the automotive qualification of the Bucheon, Korea fab as an alternative fab to the Mountaintop, PA fab for UltraFET medium voltage technology products and Ignition IGBT technology products. In addition, this PCN notices the automotive qualification of the Suzhou, China assembly/test facility for these products.

Change From

"Description of change ("From" and "To")											
FSID	Pkg	Wafer Fab Location		Wafer Diameter		Assembly Test Location		Molding Compound		Lead Finish	
		From	To	From	To	From	To	From	To	From	To
HUF76409D3ST_S2457	TO252	MT	BK	8"	6"	CB	SZ	EME6600C	AMC-2RC	SnPb	Matte Sn
HUFA76409D3ST_B76008A	TO252	MT	BK	8"	6"	CB	SZ	EME6600C	AMC-2RC	SnPb	Matte Sn
HUFA76409D3ST_R4974	TO252	MT	BK	8"	6"	CB	SZ	EME6600C	AMC-2RC	SnPb	Matte Sn
ISL9V2540S3ST_SB49015	TO263	MT	BK	8"	6"	CB	SZ	MP-195	EME6600CS	Matte Sn	Matte Sn
ISL9V3040D3ST_B49006A	TO252	MT	BK	8"	6"	SCPM	SZ	EME6600C	AMC-2RC	Matte Sn	Matte Sn
ISL9V3040D3ST_R4940	TO252	MT	BK	8"	6"	CB	SZ	EME6600C	AMC-2RC	SnPb	Matte Sn
ISL9V3040D3ST_R4956	TO252	MT	BK	8"	6"	CB	SZ	EME6600C	AMC-2RC	SnPb	Matte Sn
ISL9V3040D3ST_R4969	TO252	MT	BK	8"	6"	CB	SZ	EME6600C	AMC-2RC	SnPb	Matte Sn
ISL9V3040S3ST_R4969	TO263	MT	BK	8"	6"	CB	SZ	MP-195	EME6600CS	SnPb	Matte Sn
ISL9V5036S3_SB82027C	TO262	MT	BK	8"	6"	CB	CB	MP-195	MP-195	Matte Sn	Matte Sn
ISL9V5036S3_SB82032A	TO262	MT	BK	8"	6"	CB	CB	MP-195	MP-195	SnPb	Matte Sn
ISL9V5036S3ST_R4971	TO263	MT	BK	8"	6"	CB	SZ	MP-195	EME6600CS	SnPb	Matte Sn
ISL9V5036S3ST_SB82026C	TO263	MT	BK	8"	6"	CB	CB	MP-195	MP-195	SnPb	Matte Sn
ISL9V5036S3ST_SB82031B	TO263	MT	BK	8"	6"	CB	CB	MP-195	MP-195	SnPb	Matte Sn

Notes:
 MT = Mountaintop, PA, USA; Fairchild owned; QS9000 approved; TS16949 certified
 BK = Bucheon, Korea; Fairchild owned; QS9000 approved; TS16949 certified
 CB = Cebu, Philippines; Fairchild owned; QS9000 approved; TS16949 certified
 SZ = Suzhou, China; Fairchild owned; QS9000 approved; TS16949 certified
 SCPM = Kuala Lumpur, Malaysia; STAT ChipPAC owned; QS9000 approved; TS16949 certified

Results/Discussion

Test: (Autoclave)			
Lot	Device	96-HOURS	Failure Code
Q20070431AAACLV	ISL9V3040D3S	0/77	
Q20070431ABACLV	ISL9V3040D3S	0/77	
Q20070431ACACLV	ISL9V3040D3S	0/77	
Q20070431ADACLV	ISL9V3040D3S	0/77	
Q20070431AEACLV	ISL9V3040D3S	0/77	
Q20070431AFACLV	ISL9V3040D3S	0/77	
Q20070431BAACLV	ISL9V5036S3	0/77	
Q20070431BBACLV	ISL9V5036S3	0/77	
Q20070431BCACLV	ISL9V5036S3	0/77	
Q20070431BDACLV	ISL9V5036S3	0/77	
Q20070431BEACLV	ISL9V5036S3	0/77	
Q20070431BFACLV	ISL9V5036S3	0/77	

Test: (High Humidity, High Temp, Rev. Bias)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070431AAH3TRB	ISL9V3040D3S	0/77			
			0/77		
				0/77	
Q20070431ABH3TRB		0/77			
			0/77		
				0/77	
Q20070431ACH3TRB		0/77			
			0/77		
				0/77	

Q20070431ADH3TRB		0/77			
			0/77		
				0/77	
Q20070431AEH3TRB		0/77			
			0/77		
				0/77	
Q20070431AFH3TRB		0/77			
			0/77		
				0/77	
Q20070431BAH3TRB	ISL9V5036S3	0/77			
			0/77		
				0/77	
Q20070431BBH3TRB		0/77			
			0/77		
				0/77	
Q20070431BCH3TRB		0/77			
			0/77		
				0/77	
Q20070431BDH3TRB		0/77			
			0/77		
				0/77	
Q20070431BEH3TRB		0/77			
			0/77		
				0/77	
Q20070431BFH3TRB		0/77			
			0/77		
				0/77	

Test: (High Temperature Gate Bias)

Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070431AAHTGB	ISL9V3040D3S	0/77			
			0/77		
				0/77	
Q20070431ABHTGB		0/77			
			0/77		
				0/77	
Q20070431AHTGB		0/77			
			0/77		
				0/77	
Q20070431ADHTGB		0/77			
			0/77		
				0/77	
Q20070431AEHTGB		0/77			
			0/77		
				0/77	
Q20070431AFHTGB		0/77			
			0/77		
				0/77	
Q20070431BAHTGB	ISL9V5036S3	0/77			
			0/77		
				0/77	
Q20070431BBHTGB		0/77			
			0/77		
				0/77	
Q20070431BCHTGB		0/77			
			0/77		
				0/77	
Q20070431BDHTGB		0/77			
			0/77		
				0/77	
Q20070431BEHTGB		0/77			
			0/77		
				0/77	
Q20070431BFHTGB		0/77			
			0/77		
				0/77	

Test: (High Temperature Reverse Bias)

Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
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Q20070431AAHTRB	ISL9V3040D3S	0/77			
			0/77		
				0/77	
Q20070431ABHTRB		0/77			
			0/77		
				0/77	
Q20070431ACHTRB		0/77			
			0/77		
				0/77	
Q20070431ADHTRB		0/77			
			0/77		
				0/77	
Q20070431AEHTRB		0/77			
			0/77		
				0/77	
Q20070431AFHTRB		0/77			
			0/77		
				0/77	
Q20070431BAHTRB	ISL9V5036S3	0/77			
			0/77		
				0/77	
Q20070431BBHTRB		0/77			
			0/77		
				0/77	
Q20070431BCHTRB		0/77			
			0/77		
				0/77	
Q20070431BDHTRB		0/77			
			0/77		
				0/77	
Q20070431BEHTRB		0/77			
			0/77		
				0/77	
Q20070431BFHTRB		0/77			
			0/77		
				0/77	

Test: (Power Cycle)

Lot	Device	5000-CYCLES	10000-CYCLES	15000-CYCLES	Failure Code
Q20070431AAPRCL	ISL9V3040D3S	0/77			
			0/77		
				0/77	
Q20070431ABPRCL		0/77			
			0/77		
				0/77	
Q20070431ACPRCL		0/77			
			0/77		
				0/77	
Q20070431ADPRCL		0/77			
			0/77		
				0/77	
Q20070431AEPRL		0/77			
			0/77		
				0/77	
Q20070431AFPRCL		0/77			
			0/77		
				0/77	

Test: -55, 150C (Temperature Cycle)

Lot	Device	500-CYCLES	1000-CYCLES	Failure Code
Q20070431AATMCL3	ISL9V3040D3S	0/77		
Q20070431AATMCL3	ISL9V3040D3S		0/77	
Q20070431ABTMCL3	ISL9V3040D3S	0/77		
Q20070431ABTMCL3	ISL9V3040D3S		0/77	
Q20070431ACTMCL3	ISL9V3040D3S	0/77		
Q20070431ACTMCL3	ISL9V3040D3S		0/77	
Q20070431ADTMCL3	ISL9V3040D3S	0/77		
Q20070431ADTMCL3	ISL9V3040D3S		0/77	
Q20070431AETMCL3	ISL9V3040D3S	0/77		

Q20070431AETMCL3	ISL9V3040D3S		0/77	
Q20070431AFTMCL3	ISL9V3040D3S	0/77		
Q20070431AFTMCL3	ISL9V3040D3S		0/77	
Q20070431BATMCL3	ISL9V5036S3	0/77		
Q20070431BATMCL3	ISL9V5036S3		0/77	
Q20070431BBTMCL3	ISL9V5036S3	0/77		
Q20070431BBTMCL3	ISL9V5036S3		0/77	
Q20070431BCTMCL3	ISL9V5036S3	0/77		
Q20070431BCTMCL3	ISL9V5036S3		0/77	
Q20070431BDTMCL3	ISL9V5036S3	0/77		
Q20070431BDTMCL3	ISL9V5036S3		0/77	
Q20070431BETMCL3	ISL9V5036S3	0/77		
Q20070431BETMCL3	ISL9V5036S3		0/77	
Q20070431BFTMCL3	ISL9V5036S3	0/77		
Q20070431BFTMCL3	ISL9V5036S3		0/77	

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

Lot	Device	Results	Failure Code
Q20070431AAPCNL1A	ISL9V3040D3S	0/308	
Q20070431ABPCNL1A	ISL9V3040D3S	0/308	
Q20070431ACPCNL1A	ISL9V3040D3S	0/308	
Q20070431ADPCNL1A	ISL9V3040D3S	0/308	
Q20070431AEPCL1A	ISL9V3040D3S	0/308	
Q20070431AFPCNL1A	ISL9V3040D3S	0/308	
Q20070431BAPCNL1A	ISL9V5036S3	0/308	
Q20070431BBPCNL1A	ISL9V5036S3	0/308	
Q20070431BCPCNL1A	ISL9V5036S3	0/308	
Q20070431BDPCNL1A	ISL9V5036S3	0/308	
Q20070431BEPCL1A	ISL9V5036S3	0/308	
Q20070431BFPCNL1A	ISL9V5036S3	0/308	

Test: Medium Size Pkg's (TO-220, D2) (Power Cycle)

Lot	Device	4000-CYCLES	8572-CYCLES	Failure Code
Q20070431BAPRCL1	ISL9V5036S3	0/77		
Q20070431BAPRCL1	ISL9V5036S3		0/77	
Q20070431BBPRCL1	ISL9V5036S3	0/77		
Q20070431BBPRCL1	ISL9V5036S3		0/77	
Q20070431BCPRCL1	ISL9V5036S3	0/77		
Q20070431BCPRCL1	ISL9V5036S3		0/77	
Q20070431BDPRCL1	ISL9V5036S3	0/77		
Q20070431BDPRCL1	ISL9V5036S3		0/77	
Q20070431BEPCL1	ISL9V5036S3	0/77		
Q20070431BEPCL1	ISL9V5036S3		0/77	
Q20070431BFPRCL1	ISL9V5036S3	0/77		
Q20070431BFPRCL1	ISL9V5036S3		0/77	

Product Id Description : This change affects certain automotive TO252, TO262, and TO263 products which are run on the 8" wafer fab line in Mountaintop, PA and at subcontractor STATChipPAC, Malaysia for assembly/test or at Fairchild Semiconductor Cebu, Philippines for assembly/test. The products affected by this change are listed below in the "Affected FSIDs" section.

Affected FSIDs :

HUF76409D3ST_S2457	HUFA76409D3ST_B76008A	HUFA76409D3ST_R4974
ISL9V2540S3ST_SB49015	ISL9V3040D3ST_B49006A	ISL9V3040D3ST_R4940
ISL9V3040D3ST_R4956	ISL9V3040D3ST_R4969	ISL9V3040S3ST_R4969
ISL9V5036S3ST_R4971	ISL9V5036S3ST_SB82026C	ISL9V5036S3ST_SB82031B
ISL9V5036S3_SB82027C	ISL9V5036S3_SB82032A	