

Date Created : 2008/04/17  
Date Issued On : 2008/05/07  
PCN# : Q4074815-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:

Technical Contact:

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Implementation of change:

Expected 1st Device Shipment Date: 2008/05/29

Earliest Year/Work Week of Changed Product: 0822

Change Type Description: Mold Compound

Description of Change (From): SC70 package assembly in FSC approved manufacturing location (FSCP) using non Green mold compound as shown in table 1:

Description of Change (To): SC70 package assembly in FSC approved manufacturing location (FSCP) using Green mold compound as shown in table 2:

Reason for Change : Green initiative by Fairchild Semiconductor. Fairchild Semiconductor is dedicated to being a good corporate citizen. All Fairchild Semiconductor products are 2nd level interconnect lead-free and RoHS compliance. The referenced material changes have been made to provide a 'Full Green' (Halogen Free Flame Retardant) package. For additional details on the corporate wide green initiative please visit our Web site at:

<http://www.fairchildsemi.com/company/green/index.html> Manufacturing will occur at the same assembly facilities producing the current non-green products. Package outline drawings of the affected products remain un-changed. Green products will be fully compliant to all published data sheet specifications and will be interchangeable with current non-green product. Quality and reliability will remain at the highest standards already demonstrated with Fairchild's existing products.

Qual/REL Plan Numbers : Q20070416

Qualification :

The Reliability Test requirements as defined in iRel QP Q20070416 for SC70-6L in Green EMC passed the Reliability Requirements using Green EMC GR828HS.

Change From

<b>BILL OF MATERIALS:</b>	
<b>PACKAGE: SC70-6L</b>	
<b>Location</b>	<b>FSCP</b>
Pin count	6-Leads
Leadframe	Alloy 42
Die Attach	Eutectic / Adhesive (Ablebond 84- 1LMISR4)
Wire	Gold
EMC	COOKSON AMC-2RC
Lead Finish	Matte Sn

Change To

BILL OF MATERIALS:	
PACKAGE: SC70-6L	
Location	FSCP
Pin count	6-Leads
Leadframe	Alloy 42
Die Attach	Eutectic / Adhesive (Ablebond 84-1LMISR4)
Wire	Gold
EMC	HENKEL GR828HS
Lead Finish	Matte Sn

## Results/Discussion

Test: (Autoclave)					
Lot	Device	96-HOURS	Failure Code		
Q20070416AAACLV	FDG313N	0/77			
Q20070416ABACLV	FDG313N	0/77			
Q20070416ACACLV	FDG313N	0/77			
Q20070416BAACLV	FDG6323L	0/77			
Q20070416BBACLV	FDG6323L	0/77			
Q20070416BCACLV	FDG6323L	0/77			
Q20070416CAACLV	FDG361N	0/77			
Q20070416DAACLV	NC7WZ17P6X	0/77			
Test: (High Humidity, High Temp, Rev. Bias)					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070416AAH3TRB	FDG313N	0/77	0/77	0/77	
Q20070416ABH3TRB	FDG313N	0/77	0/77	0/77	
Q20070416ACH3TRB	FDG313N	0/77	0/77	0/77	
Test: (High Temperature Gate Bias)					
Lot	Device	500-HOURS	1000-HOURS	Failure Code	
Q20070416AAHTGB	FDG313N	0/77	0/77		
Q20070416ABHTGB	FDG313N	0/77	0/77		
Q20070416ACHTGB	FDG313N	0/77	0/77		
Q20070416AHTGB	FDG313N	0/77	0/77		
Q20070416BHTGB	FDG313N	0/77	0/77		
Q20070416CHTGB	FDG313N	0/77	0/77		

Q20070416CAHTGB	FDG361N	0/77			
Q20070416CAHTGB	FDG361N		0/77		
<b>Test: (High Temperature Reverse Bias)</b>					
Lot	Device	500-HOURS	1000-HOURS	Failure Code	
Q20070416AAHTRB	FDG313N	0/77			
Q20070416AAHTRB	FDG313N		0/77		
Q20070416ABHTRB	FDG313N	0/77			
Q20070416ABHTRB	FDG313N		0/77		
Q20070416ACHTRB	FDG313N	0/77			
Q20070416ACHTRB	FDG313N		0/77		
Q20070416CAHTRB	FDG361N	0/77			
Q20070416CAHTRB	FDG361N		0/77		
<b>Test: (Power Cycle)</b>					
Lot	Device	5000-CYCLES	10000-CYCLES	Failure Code	
Q20070416AAPRCL	FDG313N	0/77			
Q20070416AAPRCL	FDG313N		0/77		
Q20070416ABPRCL	FDG313N	0/77			
Q20070416ABPRCL	FDG313N		0/77		
Q20070416ACPRCL	FDG313N	0/77			
Q20070416ACPRCL	FDG313N		0/77		
Q20070416CAPRCL	FDG361N	0/77			
Q20070416CAPRCL	FDG361N		0/77		
<b>Test: (Static Op Life)</b>					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070416BASOPL1	FDG6323L	0/77			
			0/77		
				0/77	
Q20070416BBSOPL1	FDG6323L	0/77			
			0/77		
				0/77	
Q20070416BCSOPL1	FDG6323L	0/77			
			0/77		
				0/77	
Q20070416DASOPL1	NC7WZ17P6X	0/77			
			0/77		
				0/77	
<b>Test: (Temperature Humidity Biased Test)</b>					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070416BATHBT	FDG6323L	0/77			
			0/77		
				0/77	
Q20070416BBTHBT	FDG6323L	0/77			
			0/77		
				0/77	
Q20070416BCTHBT	FDG6323L	0/77			
			0/77		
				0/77	
Q20070416DATHBT	NC7WZ17P6X	0/77			
			0/77		
				0/77	
<b>Test: -65C, 150C (Temperature Cycle)</b>					
Lot	Device	100-CYCLES	500-CYCLES	Failure Code	
Q20070416AATMCL1	FDG313N	0/77			
Q20070416AATMCL1	FDG313N		0/77		
Q20070416ABTMCL1	FDG313N	0/77			
Q20070416ABTMCL1	FDG313N		0/77		
Q20070416ACTMCL1	FDG313N	0/77			
Q20070416ACTMCL1	FDG313N		0/77		
Q20070416BATMCL1	FDG6323L	0/77			
Q20070416BATMCL1	FDG6323L		0/77		
Q20070416BBTMCL1	FDG6323L	0/77			
Q20070416BBTMCL1	FDG6323L		0/77		
Q20070416BCTMCL1	FDG6323L	0/77			
Q20070416BCTMCL1	FDG6323L		0/77		
Q20070416CATMCL1	FDG361N	0/77			
Q20070416CATMCL1	FDG361N		0/77		

Q20070416DATMCL1	NC7WZ17P6X	0/77		
Q20070416DATMCL1	NC7WZ17P6X		0/77	
<b>Test: 110C (Highly Accelerated Stress Test)</b>				
Lot	Device	132-HOURS	264-HOURS	Failure Code
Q20070416CAHAST2	FDG361N	0/77		
Q20070416CAHAST2	FDG361N		0/77	
<b>Test: MSL(1), PKG(Small), PeakTemp(260c), Cycles(3) (Precondition)</b>				
Lot	Device	Results	Failure Code	
Q20070416AAPCNL1A	FDG313N	0/231		
Q20070416ABPCNL1A	FDG313N	0/231		
Q20070416ACPCNL1A	FDG313N	0/231		
Q20070416BAPCNL1A	FDG6323L	0/231		
Q20070416BBPCNL1A	FDG6323L	0/231		
Q20070416BCPCNL1A	FDG6323L	0/231		
Q20070416CAPCNL1A	FDG361N	0/231		
Q20070416DAPCNL1A	NC7WZ17P6X	0/231		

Product Id Description : This Final notification covers Fairchild Semiconductor MOSFET devices in SC70-6 package. For complete listing of product covered in this PCN release, please refer to the Affected FSID listing.

Affected FSIDs :

FDG311N	FDG311N_NL	FDG312P
FDG313N	FDG313N_D87Z	FDG313N_NL
FDG314P	FDG315N	FDG316P
FDG316P_NL	FDG326P	FDG326P_NL
FDG327N	FDG327NZ	FDG327N_NL
FDG328P	FDG328P_NL	FDG329N
FDG330P	FDG332PZ	FDG361N
FDG6301N	FDG6301N_NL	FDG6302P
FDG6303N	FDG6303N_NL	FDG6304P
FDG6304P_D87Z	FDG6304P_NL	FDG6306P
FDG6306P_NL	FDG6306P_SBGX002	FDG6308P
FDG6313N	FDG6316P	FDG6316P_NL
FDG6317NZ	FDG6318P	FDG6318PZ
FDG6318P_NL	FDG6320C	FDG6320C_NL
FDG6321C	FDG6321C_NL	FDG6322C
FDG6322C_D87Z	FDG6323L	FDG6323L_NL
FDG6324L	FDG6331L	FDG6331L_NL
FDG6332C	FDG6332C_NL	FDG6335N
FDG6335N_NBHX002	FDG6335N_NL	FDG6342L
FDG8842CZ	FDG8850NZ	