Date Created : **2008/09/01**
Date Issued On : **2008/09/10**
PCN# : **Q3083601**

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: 2008/12/07

Earliest Year/Work Week of Changed Product: 0850

Change Type Description: Die Attach Material, Mold Compound

Description of Change (From): SSOP-48 & -56 lead packages assemble with Sumitomo non-green mold compound, EME-6700 and Ablestik die-attach epoxy, JM-2000LB as shown in Table 1.

Description of Change (To): SSOP-48 & -56 lead packages assemble with Sumitomo green mold compound, EME-G630M and die-attach epoxy, CRM-1064L as shown in Table 2.

Reason for Change : Sumitomo Bakelite had discontinued production of EME-6700 mold compound since March 2008 and Ablestik will discontinue production of die-attach epoxy JM-2000LB in January 2009. Replace non-green by green (Halogen-free Flame Retardant) mold compound is to align with the Green Initiative by Fairchild Semiconductor and is dedicated to being a good corporate citizen. All Fairchild Semiconductor products are 2nd level interconnect lead-free and RoHS compliance.The reference material changes have been made to provide a 'full green' package. For additional details on the corporate wide Green Initiative, please visit our Web site: http://www.fairchildsemi.com/company/green/index.html Manufacturing will occur at the same assembly facility producing the current non-green products. Package outline drawings of the affected products remain unchanged. Green products will be fully compliant to all published data sheet specifications. Quality and reliability will remain at the highest standards already demonstrated with existing products.

Qual/REL Plan Numbers : Q20070484

Qualification :

All reliability tests outlined in Q20070484 qualification plan were successfully completed with no failure detected and meet the requirements for release. As such, SSOP-48 & -56 lead packages manufacture in Fairchild Semiconductor Malaysia are qualified to be assembled with die-attach epoxy CRM-1064L and green mold compound EME-G630M.

Change From

Table 1

Assembly Site	Fairchild Semiconductor, Malaysia
Lead-Frame	Olin 194
Die-Attach	Epoxy, JM-2000LB
Wire	Gold
Mold Compound	Sumitomo EME-6700
Lead-Finish	Matt Tin

Change To

Table 2

Assembly Site	Fairchild Semiconductor, Malaysia
Lead-Frame	Olin 194
Die-Attach	Epoxy, Sumitomo CRM-1064L
Wire	Gold
Mold Compound	Sumitomo EME-G630M
Lead-Finish	Matt Tin

Results/Discussion for Qual Plan NumberQ20070484

Test: (Autoclave)			
Lot	Device	96-HOURS	Failure Code
Q20070484AAACLV	74LVTH16501MEA	0/77	
Q20070484ABACLV	74LVTH16501MEA	0/77	
Q20070484BAACLV	74ABT16543CSSC	0/77	
Q20070484BBACLV	74ABT16543CSSC	0/77	
Q20070484CAACLV	GTLP18T612MEA	0/77	
Q20070484CBACLV	GTLP18T612MEA	0/77	
Test: (Gate Leakage Negative)			
Lot	Device	Results	Failure Code
Q20070484AAGATE-	74LVTH16501MEA	0/3	
Q20070484ABGATE-	74LVTH16501MEA	0/3	
Q20070484BAGATE-	74ABT16543CSSC	0/3	
Q20070484BBGATE-	74ABT16543CSSC	0/3	
Q20070484CAGATE-	GTLP18T612MEA	0/3	
Q20070484CBGATE-	GTLP18T612MEA	0/3	
Test: (Gate Leakage Positive)			
Lot	Device	Results	Failure Code
Q20070484AAGATE+	74LVTH16501MEA	0/3	
Q20070484ABGATE+	74LVTH16501MEA	0/3	
Q20070484BAGATE+	74ABT16543CSSC	0/3	
Q20070484BBGATE+	74ABT16543CSSC	0/3	

Q20070484CAGATE+	GTLP18T612MEA	0/3	
Q20070484CBGATE+	GTLP18T612MEA	0/3	

Test: (High Temperature Storage Life)

Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070484AAHTSL	74LVTH16501MEA	0/77			
			0/77		
				0/77	
Q20070484ABHTSL		0/77			
			0/77		
				0/77	
Q20070484BAHTSL	74ABT16543CSSC	0/77			
			0/77		
				0/77	
Q20070484BBHTSL		0/77			
			0/77		
				0/77	
Q20070484CAHTSL	GTLP18T612MEA	0/77			
			0/77		
				0/77	
Q20070484CBHTSL		0/77			
			0/77		
				0/77	

Test: (Static Op Life)

Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20070484AASOPL1	74LVTH16501MEA	0/77			
			0/77		
				0/77	
Q20070484ABSOPL1		0/77			
			0/77		
				0/77	
Q20070484BASOPL1	74ABT16543CSSC	0/77			
			0/77		
				0/77	
Q20070484BBSOPL1		0/77			
			0/77		
				0/77	
Q20070484CASOPL1	GTLP18T612MEA	0/77			
			0/77		
				0/77	
Q20070484CBSOPL1		0/77			
			0/77		
				0/77	

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

Lot	Device	100-CYCLES	500-CYCLES	Failure Code
Q20070484AATMCL1	74LVTH16501MEA	0/77		
Q20070484AATMCL1	74LVTH16501MEA		0/77	
Q20070484ABTMCL1	74LVTH16501MEA	0/77		
Q20070484ABTMCL1	74LVTH16501MEA		0/77	
Q20070484BATMCL1	74ABT16543CSSC	0/77		
Q20070484BATMCL1	74ABT16543CSSC		0/77	
Q20070484BBTMCL1	74ABT16543CSSC	0/77		
Q20070484BBTMCL1	74ABT16543CSSC		0/77	
Q20070484CATMCL1	GTLP18T612MEA	0/77		
Q20070484CATMCL1	GTLP18T612MEA		0/77	
Q20070484CBTMCL1	GTLP18T612MEA	0/77		
Q20070484CBTMCL1	GTLP18T612MEA		0/77	

Test: 110C (Highly Accelerated Stress Test)

Lot	Device	264-HOURS	Failure Code
Q20070484AAHAST2	74LVTH16501MEA	0/45	
Q20070484ABHAST2	74LVTH16501MEA	0/45	
Q20070484BAHAST2	74ABT16543CSSC	0/45	
Q20070484BBHAST2	74ABT16543CSSC	0/45	
Q20070484CAHAST2	GTLP18T612MEA	0/45	
Q20070484CBHAST2	GTLP18T612MEA	0/45	

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

Lot	Device	Results	Failure Code

Q20070484AAPCNL1A	74LVTH16501MEA	0/353	
Q20070484ABPCNL1A	74LVTH16501MEA	0/353	
Q20070484BAPCNL1A	74ABT16543CSSC	0/353	
Q20070484BBPCNL1A	74ABT16543CSSC	0/353	
Q20070484CAPCNL1A	GTLP18T612MEA	0/353	
Q20070484CBPCNL1A	GTLP18T612MEA	0/353	

Product Id Description :

Affected FSIDs :

74ABT16244CSSCX	74ABT16244CSSC	74ABT16245CSSCX
74ABT16245CSSC	74ABT16374CSSCX	74ABT16374CSSC
74ABT16500CSSCX	74ABT16500CSSC	74ABT16543CSSCX
74ABT16543CSSC	74ABT16652CSSCX	74ABT16652CSSC
74ACT16244SSCX	74ACT16244SSC	74ACT16245SSCX
74ACT16245SSC	74ACT16373SSCX	74ACT16373SSC
74ACT16646SSCX	74ACT16646SSC	74ACTQ16244SSCX
74ACTQ16244SSC	74ACTQ16245SSCX	74ACTQ16245SSC
74ACTQ16373SSCX	74ACTQ16373SSC	74ACTQ16374SSCX
74ACTQ16374SSC	74ACTQ16541SSCX	74ACTQ16541SSC
74ACTQ16646SSCX	74ACTQ16646SSC	74LCX162244MEAX
74LCX162244MEA	74LCX162373MEAX	74LCX162373MEA
74LCX162374MEAX	74LCX162374MEA	74LCX16240MEAX
74LCX16240MEA	74LCX16244MEAX	74LCX16244MEA
74LCX16245MEAX	74LCX16245MEA	74LCX16373MEAX
74LCX16373MEA	74LCX16374MEAX	74LCX16374MEA
74LCX16500MEAX	74LCX16500MEA	74LCX16501MEAX
74LCX16501MEA	74LCX16543MEAX	74LCX16543MEA
74LCX16646MEAX	74LCX16646MEA	74LCX16652MEAX
74LCX16652MEA	74LCX16821MEAX	74LCX16821MEA
74LCX16841MEAX	74LCX16841MEA	74LCXH162244MEA
74LCXH162244MEX	74LCXH16244MEAX	74LCXH16244MEA
74LCXH16374MEAX	74LCXH16374MEA	74LCXP16245MEAX
74LCXP16245MEA	74LCXR162245MEA	74LCXR162245MEX
74LCXZ16244MEAX	74LCXZ16244MEA	74LVT162244MEAX
74LVT162244MEA	74LVT162245MEAX	74LVT162245MEA
74LVT16244MEAX	74LVT16244MEA	74LVT16245MEAX
74LVT16245MEA	74LVT16373MEAX	74LVT16373MEA
74LVT16374MEAX	74LVT16374MEA	74LVTH162244MEA
74LVTH162244MEX	74LVTH162245MEA	74LVTH162245MEX
74LVTH162373MEA	74LVTH162373MEX	74LVTH16244MEAX
74LVTH16244MEA	74LVTH16245MEAX	74LVTH16245MEA
74LVTH16373MEAX	74LVTH16373MEA	74LVTH16374MEAX
74LVTH16374MEA	74LVTH16543MEAX	74LVTH16543MEA
74LVTH16646MEAX	74LVTH16646MEA	74LVTH16652MEAX
74LVTH16652MEA	74LVTH16952MEAX	74LVTH16952MEA
74LVX161284MEAX	74LVX161284MEA	74VHC161284MEAX
74VHC161284MEA	GTLP16612MEAX	GTLP16612MEA
GTLP16617MEAX	GTLP18T612MEAX	GTLP18T612MEA
SCAN18245TSSCX	SCAN18245TSSC	SCAN18373TSSCX
SCAN18373TSSC	SCAN18540TSSCX	SCAN18540TSSC

SCAN18541TSSCX	SCAN18541TSSC	