

Date Created : 2009/07/20
Date Issued On : 2009/09/15
PCN# : Q3093001

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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PCN Originator:

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Implementation of change:

Expected 1st Device Shipment Date: 2009/12/14

Earliest Year/Work Week of Changed Product: 0950

Change Type Description: Mold Compound

Description of Change (From): Products assembled in the 8-, 16-, and 28-lead SOIC packages assembly at Amkor Technologies - Philippines (ATP) using EME-6300H or EME-6600H mold compound as shown in table 1.

Description of Change (To): Products assembled in the 8-, 16-, and 28-lead SOIC packages assembly at ATP using EME-G600 low halogen mold compound as shown in table 2.

Reason for Change : EME-6300H mold compound has been discontinued by the supplier. EME-G600 has superior properties, such as lower coefficients of thermal expansion, lower stress, better adhesion to copper leadframes and lower extractable ionics. Please do not delay in requesting any samples required to approve of this change as there is a potential for a mold compound material shortage if this PCN is not approved within the timeframe noted above. Please contact your local Fairchild Sales representative to place orders for a sufficient volume of product if your approval process will require more than 90 days. Package outline drawings of the affected products remain un-changed. Affected products will be fully compliant to all published data sheet specifications. Quality and reliability will remain at the highest standards already demonstrated with Fairchild's existing products.

Qual/REL Plan Numbers : Q20090516

Qualification :

All the reliability tests defined in this qual plan completed with no failures. Therefore ATP is qualified to assembly SOIC 8/16/28L packages.

Change From

Table 1:

Assembly site	ATP		
Package Type	SOIC 8	SOIC 16	SOIC 28
Lead Frame	Copper	Copper	Copper
Die Attach	84-1LMISR4/ 8290	84-1LMISR4/ 8290	84-1LMISR4
Wire	Au	Au	Au
Mold Compound	EME-6300H/ EME-6600H	EME-6300H/ EME-6600H	EME-6300H
Lead Finish	Matte Tin	Matte Tin	Matte Tin

Change To

Table 2:

Assembly site	ATP		
Generic Package	SOIC 8	SOIC 16	SOIC 28
Lead Frame	Copper	Copper	Copper
Die Attach	84-1LMISR4/ 8290	84-1LMISR4/ 8290	84-1LMISR4
Wire	Au	Au	Au
Mold Compound	G600	G600	G600
Lead Finish	Matte Tin	Matte Tin	Matte Tin

Results/Discussion for Qual Plan Number Q20090516

Test: (Autoclave) Conditions: 100%RH, 121C Standard: JESD22-A102					
Lot	Device	96-HOURS		Failure Code	
Q20090516AAACLV	FMS6406CS	0/77			
Q20090516BACLV	FMS6406CS	0/77			
Q20090516BAACLV	FDfS6N754	0/77			
Q20090516CAACLV	ML4425CS	0/77			
Q20090516CBACLV	ML4425CS	0/77			
Q20090516CCACLV	ML4425CS	0/77			
Test: (Dynamic Op Life) Conditions: 125C, Biased V Standard: JESD22-A108					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20090516CADOPL	ML4425CS	0/77			
			0/77		
				0/77	
Q20090516CBDOPL		0/77			
			0/77		
				0/77	
Q20090516CCDOPL		0/77			
			0/77		
				0/77	
Test: (Gate Leakage Negative) Conditions: 155C, -400V Standard: AEC-Q100-006					
Lot	Device	Results		Failure Code	
Q20090516AAGATE-	FMS6406CS	0/3			
Q20090516ABGATE-	FMS6406CS	0/3			
Q20090516BAGATE-	FDfS6N754	0/3			
Test: (Gate Leakage Positive) Conditions: 155C, 400V Standard: AEC-Q100-006					
Lot	Device	Results		Failure Code	
Q20090516AAGATE+	FMS6406CS	0/3			
Q20090516ABGATE+	FMS6406CS	0/3			
Q20090516BAGATE+	FDfS6N754	0/3			

Test: (High Temperature Storage Life) Conditions: 150C Standard: JESD22-A103					
Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20090516AAHTSL	FMS6406CS	0/77			
			0/77		
				0/77	
Q20090516ABHTSL		0/77			
			0/77		
				0/77	
Q20090516BAHTSL	FDFS6N754	0/77			
			0/77		
				0/77	
Q20090516CAHTSL	ML4425CS	0/77			
			0/77		
				0/77	
Q20090516CBHTSL		0/77			
			0/77		
				0/77	
Q20090516CCHTSL		0/77			
			0/77		
				0/77	

Test: (Highly Accelerated Stress Test) Conditions: 85%RH, 110C, Biased V Standard: JESD22-A110			
Lot	Device	264-HOURS	Failure Code
Q20090516AAHAST2	FMS6406CS	0/45	
Q20090516ABHAST2	FMS6406CS	0/45	
Q20090516BAHAST2	FDFS6N754	0/45	

Test: (Lead Integrity) Conditions: Standard: JESD22-B105			
Lot	Device	Results	Failure Code
Q20090516AALINTB	FMS6406CS	0/5	
Q20090516ABLINTB	FMS6406CS	0/5	
Q20090516BALINTB	FDFS6N754	0/5	

Test: (Moisture Sensitivity) Conditions: Standard: J-STD_020			
Lot	Device	Results	Failure Code
Q20090516AAMSLNL1A	FMS6406CS	0/11	
Q20090516ABMSLNL1A	FMS6406CS	0/11	
Q20090516BAMSLNL1A	FDFS6N754	0/11	
Q20090516CAMSLNL1A	ML4425CS	0/11	
Q20090516CBMSLNL1A	ML4425CS	0/11	
Q20090516CCMSLNL1A	ML4425CS	0/11	

Test: (Physical Dimensions) Conditions: Standard: JESD22-B100			
Lot	Device	Results	Failure Code
Q20090516AAPHYD	FMS6406CS	0/5	
Q20090516ABPHYD	FMS6406CS	0/5	
Q20090516BAPHYD	FDFS6N754	0/5	
Q20090516CAPHYD	ML4425CS	0/5	

Test: (Precondition) Conditions: Standard: JESD22-A113			
Lot	Device	Results	Failure Code
Q20090516AAPCNL1A	FMS6406CS	0/353	
Q20090516ABPCNL1A	FMS6406CS	0/353	
Q20090516BAPCNL1A	FDFS6N754	0/353	
Q20090516CAPCNL1A	ML4425CS	0/308	
Q20090516CBPCNL1A	ML4425CS	0/308	
Q20090516CCPCNL1A	ML4425CS	0/308	

Test: (Solderability) Conditions: Standard: JESD22-B102			
Lot	Device	Results	Failure Code
Q20090516AASOLDCA	FMS6406CS	0/11	
Q20090516AASOLDCB	FMS6406CS	0/11	
Q20090516ABSOLDCA	FMS6406CS	0/11	
Q20090516ABSOLDCB	FMS6406CS	0/11	
Q20090516BASOLDCA	FDFS6N754	0/11	
Q20090516BASOLDCB	FDFS6N754	0/11	
Q20090516CASOLDCA	ML4425CS	0/11	
Q20090516CASOLDCB	ML4425CS	0/11	
Q20090516CBSOLDCA	ML4425CS	0/11	
Q20090516CCSOLDCB	ML4425CS	0/11	

Test: (Static Op Life) Conditions: 150C, Biased V Standard: JESD22-A108			
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Lot	Device	168-HOURS	500-HOURS	1000-HOURS	Failure Code
Q20090516AASOPL1	FMS6406CS	0/77			
			0/77		
				0/77	
Q20090516ABSOPL1		0/77			
			0/77		
				0/77	
Q20090516BASOPL1	FDFS6N754	0/77			
			0/77		
				0/77	

Test: (Temperature Cycle) | Conditions: -65C, 150C | Standard: JESD22-A104

Lot	Device	100-CYCLES	500-CYCLES	1000	Failure Code
Q20090516AATMCL1	FMS6406CS	0/77			
			0/77		
Q20090516ABTMCL1		0/77			
			0/77		
Q20090516BATMCL1	FDFS6N754	0/77			
			0/77		
Q20090516CATMCL1	ML4425CS	0/77			
			0/77		
				0/77	
Q20090516CBTMCL1		0/77			
			0/77		
				0/77	
Q20090516CCTMCL1		0/77			
			0/77		
				0/77	

Product Id Description : This Final PCN covers Fairchild Semiconductor SOIC 8/16/28L packages. For a complete listing of products covered in this PCN release, please refer to the Affected FSID listing.

Affected FSIDs :

FAN4803CS2X_NA3C228	FDS2572	FDS2582
FDS3572	FDS3682	FDS3992
FMS6143CSX	FMS6143CSX_F065	ML4425CSX
ML4800CSX	ML4800CS	ML4800ISX
ML4824CS1X	ML4824CS1X_NL4C226	ML4824CS2X
ML4824CS2X_NL	ML4824IS1X	ML4824IS1X_NL