

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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PCN Originator:

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Implementation of change:

Expected 1st Device Shipment Date: 2008/03/04

Earliest Year/Work Week of Changed Product: 0810 (weekly date code)

Change Type Description: Alternate Assembly Site Location / Qualification, Package Change (Lead Frame), Plating Material Change

Description of Change (From): Fairchild's Micropak packages are currently assembled at ASEM and Hana. These packages are currently assembled as follows: Substrate: Bismaleimide Triazine (BT) CCL-HL832 with NiAu plated, Die attach material: Die attach film LE5000 and LE5030, Wire: 0.8mils Au, Compound: HC-100-SG-BM, Lead Finish: NiAu plated, Packages' dimension remains unchanged. Also refer to the tables below for comparisons of this change.

Description of Change (To): Add FSPM (Fairchild Malaysia) as an additional assembly location for Micropak package, 6-, 8-, and 10-leads. The package material details for the FSPM location are as follows: LeadFrame: Copper frame A194 Full hard with NiPdAu pre-plated, Die attach material: Die attach film LE5003, Wire: 0.8mils Au, Compound: CK203P (Premold) and CK203M (Final mold), Lead Finish: Matte Sn. The external package dimensions will remain unchanged. Additionally the parts produced on FSPM assembly line will be identified by an _F113 suffix on Fairchild part number.

Reason for Change : Increase manufacturing capacity and reduce the risk of single source supplier for BT substrates as multiple suppliers exist for the leadframes.

Qual/REL Plan Numbers : Q20070433

A qualification matrix consisting of two package footprints and three devices to be assembled in the new assembly location has been defined. This will result in a total of three assembly lot combinations to qualify the alternate assembly site for the affected product list per the reliability tests outlined in the qualification plan.

Qualification :

All the reliability tests as defined in Q20070433 qualification plan completed the release time point with no valid failure detected, qualifying FSPM (Fairchild Malaysia) as an alternate assembly site for 6, 8 and 10 lead Micropak packages.

Change From

Assembly Site	Hana & ASEM
Substrate	BT CCL-HL832 with <u>NiPdAu</u> Plating
Die Attach	Die attach film, LE5000/LE5030
Wire	0.8mils Au
Mold Compound	HC-100-XG-BM
Lead Finish	<u>NiAu</u> pre-plated
Product ID	per existing nomenclature

Change To

Assembly Site	Add FSPM (Fairchild Malaysia) as additional assembly site
Lead Frame	<u>Leadframe</u> based package: Cu A194, FH, <u>NiPdAu</u> flash pre-plated
Die Attach	Die Attach Film, LE5003
Wire	0.8mils Au
Mold Compound	<u>CK203P (Premolded)</u> , <u>CK203M (Final Mold)</u>
Lead Finish	Matte <u>Sn</u> (Post Plating)
Product ID	a suffix of F113 will be used to identify product assembled at FSPM

Results/Discussion

Test: (Gate Leakage Negative)				
Lot	Device	Results	Failure Code	
Q20070433AAGATE-	NC7WZ125L8X	0/3		
Q20070433BAGATE-	NC7SP74L8X	0/3		
Q20070433CAGATE-	FSA2267AL10X	0/3		
Test: (Gate Leakage Positive)				
Lot	Device	Results	Failure Code	
Q20070433AAGATE+	NC7WZ125L8X	0/3		
Q20070433BAGATE+	NC7SP74L8X	0/3		
Q20070433CAGATE+	FSA2267AL10X	0/3		
Test: (High Temperature Storage Life)				
Lot	Device	168-HOURS	1000-HOURS	Failure Code
Q20070433AAHTSL	NC7WZ125L8X	0/77		
Q20070433AAHTSL	NC7WZ125L8X		0/77	
Q20070433BAHTSL	NC7SP74L8X	0/77		
Q20070433BAHTSL	NC7SP74L8X		0/77	
Q20070433CAHTSL	FSA2267AL10X	0/77		
Q20070433CAHTSL	FSA2267AL10X		0/77	
Test: (Static Op Life)				
Lot	Device	168-HOURS	1000-HOURS	Failure Code
Q20070433AASOPL1	NC7WZ125L8X	0/77		
Q20070433AASOPL1	NC7WZ125L8X		0/77	
Q20070433BASOPL1	NC7SP74L8X	0/77		
Q20070433BASOPL1	NC7SP74L8X		0/77	
Q20070433CASOPL1	FSA2267AL10X	0/77		
Q20070433CASOPL1	FSA2267AL10X		0/77	
Test: -65C, 150C (Temperature Cycle)				
Lot	Device	500-CYCLES	Failure Code	
Q20070433AATMCL1	NC7WZ125L8X	0/77		
Q20070433BATMCL1	NC7SP74L8X	0/77		
Q20070433CATMCL1	FSA2267AL10X	0/77		
Test: 130C (Highly Accelerated Stress Test)				

Lot	Device	96-HOURS	Failure Code
Q20070433AAHAST1	NC7WZ125L8X	0/45	
Q20070433BAHAST1	NC7SP74L8X	0/45	
Q20070433CAHAST1	FSA2267AL10X	0/45	

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

Lot	Device	Results	Failure Code
Q20070433AAPCNL1A	NC7WZ125L8X	0/276	
Q20070433BAPCNL1A	NC7SP74L8X	0/276	
Q20070433CAPCNL1A	FSA2267AL10X	0/276	

Product Id Description : This notification covers Fairchild Semiconductor Premolded Micropak MLP 1.0mm x 1.45mm, 6Leads, 1.6mmx1.6mm, 8Leads and 1.6mmx2.1mm, 10Leads packages. For a complete listing of products covered in this PCN release, please refer to the Affected FSID listing. The products covered by this notification will also be assembled in Fairchild Semiconductor Penang Malaysia (FSPM) offering increased source of supply for these devices.

Affected FSIDs :

FMS6151L6X	FSA1156L6X	FSA1156L6X_F042
FSA1156L6X_F087	FSA1156L6X_NL	FSA1157L6X
FSA1157L6X_F087	FSA1157L6X_NL	FSA1256AL8X
FSA1256AL8X_F087	FSA1256AL8X_NL	FSA1256L8X
FSA1256L8X_F087	FSA1257AL8X	FSA1257AL8X_F087
FSA1257AL8X_NL	FSA1257L8X	FSA1257L8X_F087
FSA1257L8X_NL	FSA1258AL8X	FSA1258AL8X_F087
FSA1258AL8X_NL	FSA1258L8X	FSA1258L8X_F087
FSA201L10X	FSA2156L6X	FSA221L10X
FSA223L10X	FSA2267AL10X	FSA2267AL10X_F087
FSA2267AL10X_F096	FSA2267AL10X_NL	FSA2267L10X
FSA2267L10X_F087	FSA2267L10X_NL	FSA2269L10X
FSA2269TSL10X	FSA266L8X	FSA266L8X_NL
FSA3357L8X	FSA4157AL6X	FSA4157AL6X_F087
FSA4157AL6X_NL	FSA4157L6X	FSA4157L6X_F087
FSA4157L6X_F096	FSA5157L6X	FSTD3306L8X
FSUSB20L10X	FSUSB20L10X_F087	FSUSB23L10X
FSUSB23L10X_F087	FSUSB30L10X	FSUSB30L10X_F087
FSUSB30L10X_F096	FSUSB31L8X	FSUSB40L10X
FXL2T245L10X	FXL2T245L10X_F096	FXL2T245L10X_NL
FXL2TD245L10X	NC7NP04L8X	NC7NP04L8X_NL
NC7NP14L8X	NC7NP34L8X	NC7NP34L8X_NL
NC7NZ04L8X	NC7NZ14L8X	NC7NZ17L8X
NC7NZ34L8X	NC7NZU04L8X	NC7SP74L8X
NC7SP74L8X_F087	NC7SV74L8X	NC7SV74L8X_F087
NC7SZ74L8X	NC7SZ74L8X_F087	NC7WB66L8X
NC7WB66L8X_F087	NC7WP00L8X	NC7WP00L8X_NL
NC7WP02L8X	NC7WP02L8X_F087	NC7WP02L8X_NL
NC7WP08L8X	NC7WP08L8X_NL	NC7WP125L8X
NC7WP125L8X_NL	NC7WP240L8X	NC7WP240L8X_NL
NC7WP32L8X	NC7WP32L8X_NL	NC7WZ00L8X
NC7WZ00L8X_F087	NC7WZ02L8X	NC7WZ08L8X
NC7WZ08L8X_F087	NC7WZ08L8X_NL	NC7WZ125L8X
NC7WZ125L8X_F087	NC7WZ126L8X	NC7WZ132L8X

NC7WZ240L8X	NC7WZ240L8X_NL	NC7WZ241L8X
NC7WZ32L8X	NC7WZ38L8X	NC7WZ86L8X
NC7WZ86L8X_F087		