

Date Created : 2009/06/23
Date Issued On : 2009/07/09
PCN# : Q2092602

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: 2009/10/16

Earliest Year/Work Week of Changed Product: 0942

Change Type Description: Alternate Assembly Site Location / Qualification, Die Revision, Die Step Revision, Mold Compound

Description of Change (From): Fairchild FXLP34 device manufactured on the FS35C Fab process line located in Maine and assembled in Micropak at Hana, and SC70 at Fairchild Malaysia.

Description of Change (To): Please see details in "Change To" section below.

Reason for Change : This change is being implemented to increase manufacturing capacity for the Micropak and SC70 packages. An additional benefit for SC70 includes the qualification of a low halogen mold compound.

Qual/REL Plan Numbers : Q20090380

Qualification :

Below is the representative Reliability data for the FXLP34 die revision with Bond Pad Over Active from each of the assembly locations and each package: -----
----- NC7SZ125L6X ----- Hana, Thailand ----- Micropak -----
----- NC7SZ125L6X_F113 --- Penang, Malaysia ----- Micropak -----
----- NC7WZ17P6X ----- Cebu, Philippines ----- SC70

Change To

This PCN covers the qualification of three changes affecting FXLP34 products.

1) Die revision change: the same design schematics are used. However, the die layout will be revised to add a “Bond Pad Over Active” layer (BPOA). This change affects all products listed in the affected FSID section.

2) Micropak package (L6X suffix): Fairchild Malaysia (FSPM) will be added as an assembly location using a lead frame design. A suffix of L6X_F113 is currently used to designate Micropak product assembled at FSPM.

3) SC70 package (P5X suffix): Fairchild Cebu will be added as an assembly location. The product will use low halogen mold compounds with improved thermal-mechanical properties.

| Product | Assembly Location | Mold compound | |
|-----------|-----------------------------|----------------------------------|---|
| | | Change from these Mold compounds | To include these alternative mold compounds |
| FXLP34P5X | Fairchild Cebu, Philippines | Cookson AMC-2RC | Cookson CK5000A or Henkel GR828HS |

The package outline drawings of the affected products have not changed and are fully compliant to all published data sheet specifications. Quality and reliability will remain at the highest standards already demonstrated.

Results/Discussion for Qual Plan Number Q20090380

| Test: (Autoclave) Conditions: 100%RH, 121C Standard: JESD22-A102 | | | | |
|--|------------------|----------|--------------|--|
| Lot | Device | 96-HOURS | Failure Code | |
| Q20090380AAACL | NC7SZ125L6X | 0/77 | | |
| Q20090380BAACL | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BBACL | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BCACL | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380CAACL | NC7WZ17P6X | 0/77 | | |
| Q20090380CBACL | NC7WZ17P6X | 0/77 | | |

| Test: (High Temperature Storage Life) Conditions: 150C Standard: JESD22-A103 | | | | |
|--|------------------|-----------|------------|--------------|
| Lot | Device | 168-HOURS | 1000-HOURS | Failure Code |
| Q20090380AAHTSL | NC7SZ125L6X | 0/77 | | |
| Q20090380BAHTSL | NC7SZ125L6X | | 0/77 | |
| Q20090380BAHTSL | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BAHTSL | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380BBHTSL | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BBHTSL | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380BCHTSL | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BCHTSL | NC7SZ125L6X_F113 | | 0/77 | |

| Test: (Highly Accelerated Stress Test) Conditions: 85%RH, 110C, 5.0V Standard: JESD22-A110 | | | | |
|--|-------------|-----------|--------------|--|
| Lot | Device | 264-HOURS | Failure Code | |
| Q20090380AAHAST2 | NC7SZ125L6X | 0/45 | | |
| Q20090380CAHAST2 | NC7WZ17P6X | 0/45 | | |
| Q20090380CBHAST2 | NC7WZ17P6X | 0/45 | | |

| Test: (Highly Accelerated Stress Test) Conditions: 85%RH, 130C, 5.0V Standard: JESD22-A110 | | | | |
|--|------------------|----------|--------------|--|
| Lot | Device | 96-HOURS | Failure Code | |
| Q20090380BAHAST1 | NC7SZ125L6X_F113 | 0/45 | | |
| Q20090380BBHAST1 | NC7SZ125L6X_F113 | 0/45 | | |
| Q20090380BCHAST1 | NC7SZ125L6X_F113 | 0/45 | | |

| Test: (Precondition) Conditions: Standard: JESD22-A113 | | | | |
|--|--|--|--|--|
|--|--|--|--|--|

| Lot | Device | Results | Failure Code |
|-------------------|------------------|---------|--------------|
| Q20090380AAPCNL1A | NC7SZ125L6X | 0/353 | |
| Q20090380BAPCNL1A | NC7SZ125L6X_F113 | 0/353 | |
| Q20090380BBPCNL1A | NC7SZ125L6X_F113 | 0/353 | |
| Q20090380BCPCNL1A | NC7SZ125L6X_F113 | 0/353 | |
| Q20090380CAPCNL1A | NC7WZ17P6X | 0/276 | |
| Q20090380CBPCNL1A | NC7WZ17P6X | 0/276 | |

Test: (Static Op Life) | Conditions: 150C, 5.0V | Standard: JESD22-A108

| Lot | Device | 168-HOURS | 1000-HOURS | Failure Code |
|------------------|------------------|-----------|------------|--------------|
| Q20090380AASOPL1 | NC7SZ125L6X | 0/77 | | |
| Q20090380AASOPL1 | NC7SZ125L6X | | 0/77 | |
| Q20090380BASOPL1 | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BASOPL1 | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380BBSOPL1 | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BBSOPL1 | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380BCSOPL1 | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BCSOPL1 | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380CASOPL1 | NC7WZ17P6X | 0/77 | | |
| Q20090380CASOPL1 | NC7WZ17P6X | | 0/77 | |
| Q20090380CBSOPL1 | NC7WZ17P6X | 0/77 | | |
| Q20090380CBSOPL1 | NC7WZ17P6X | | 0/77 | |

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

| Lot | Device | 100-CYCLES | 500-CYCLES | Failure Code |
|------------------|------------------|------------|------------|--------------|
| Q20090380AATMCL1 | NC7SZ125L6X | | 0/77 | |
| Q20090380BATMCL1 | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BATMCL1 | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380BBTMCL1 | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BBTMCL1 | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380BCTMCL1 | NC7SZ125L6X_F113 | 0/77 | | |
| Q20090380BCTMCL1 | NC7SZ125L6X_F113 | | 0/77 | |
| Q20090380CATMCL1 | NC7WZ17P6X | 0/77 | | |
| Q20090380CATMCL1 | NC7WZ17P6X | | 0/77 | |
| Q20090380CBTMCL1 | NC7WZ17P6X | 0/77 | | |
| Q20090380CBTMCL1 | NC7WZ17P6X | | 0/77 | |

Product Id Description : Single Bit unidirectional translator.

Affected FSIDs :

| | | |
|-----------|----------------|-------------|
| FXLP34L6X | FXLP34L6X_F065 | FXLP34L6X_G |
| FXLP34P5X | FXLP34P5X_F065 | FXLP34P5X_G |