Date Created : **2010/12/23**
Date Issued On : **2011/01/18**
PCN# : **P0C7A**

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:
Name: Hashimoto, Mai
E-mail: mai.hashimoto@fairchildsemi.com
Phone: 408-822-2317

PCN Originator:
Name: Wan, Andrew
E-mail: andrew.wan@fairchildsemi.com
Phone: Ext 2287

Implementation of change:
Expected 1st Device Shipment Date: 2011/04/12

Earliest Year/Work Week of Changed Product: 1116

Change Type Description: Die Shrink

Description of Change (From): Detector die ST-0139A (17x25mil)

Description of Change (To): Detector die ST-2118 (18x18mil)

Reason for Change : Qualification of a new detector die to replace the existing detector, which has been obsoleted . The new detector die will be manufactured at the same wafer fabrication facility. This change will have no impact on product quality, reliability, electrical, visual or mechanical performance and affected products will remain fully compliant to all published specifications. Products incorporating this change may be shipped interchangeably with existing unchanged products. This change is planned to take effect in 90 calendar days from the date of this notification. Please work with your local Fairchild Sales representative to manage your inventory of unchanged product if your evaluation of this change will require more than 90 calendar days. Please contact your local Customer Quality Engineer within 30 days of receipt of this notification if you require any additional data or samples.

Qual/REL Plan Number(s): Q20100514

Qualification :

Passed

## Results/Discussion for Qual Plan Number(s): Q20100514

| Test: (Autoclave) \| Conditions: 100%RH, 121C \| Standard: JESD22-A102 | | | |
|---|---|---|---|
| Lot | Device | 96-HOURS | Failure Code |

| | | | |
|---|---|---|---|
| Q20100514AAACLV | FOD817 | 0/77 | |
| Q20100514ABACLV | FOD817 | 0/77 | |
| Q20100514ACACLV | FOD817 | 0/77 | |
| Q20100514ADACLV | FOD817 | 0/77 | |

## Test: (High Temperature Op Life) | Conditions: 110C | Standard:

| Lot | Device | 168-HOURS | 500-HOURS | 1000-HOURS | Failure Code |
|---|---|---|---|---|---|
| Q20100514AAHTOL | FOD817 | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ABHTOL | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ACHTOL | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ADHTOL | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |

## Test: (High Temperature Reverse Bias) | Conditions: 150C, 80V | Standard: JESD22-A108

| Lot | Device | 500-HOURS | 1000-HOURS | Failure Code |
|---|---|---|---|---|
| Q20100514AAHTRB | FOD817 | 0/77 | | |
| Q20100514AAHTRB | FOD817 | | 0/77 | |
| Q20100514ABHTRB | FOD817 | 0/77 | | |
| Q20100514ABHTRB | FOD817 | | 0/77 | |
| Q20100514ACHTRB | FOD817 | 0/77 | | |
| Q20100514ACHTRB | FOD817 | | 0/77 | |
| Q20100514ADHTRB | FOD817 | 0/77 | | |
| Q20100514ADHTRB | FOD817 | | 0/77 | |

## Test: (High Temperature Storage Life) | Conditions: 150C | Standard: JESD22-A103

| Lot | Device | 500-HOURS | 1000-HOURS | Failure Code |
|---|---|---|---|---|
| Q20100514AAHTSL | FOD817 | 0/77 | | |
| Q20100514AAHTSL | FOD817 | | 0/77 | |
| Q20100514ABHTSL | FOD817 | 0/77 | | |
| Q20100514ABHTSL | FOD817 | | 0/77 | |
| Q20100514ACHTSL | FOD817 | 0/77 | | |
| Q20100514ACHTSL | FOD817 | | 0/77 | |
| Q20100514ADHTSL | FOD817 | 0/77 | | |
| Q20100514ADHTSL | FOD817 | | 0/77 | |

## Test: (Low Temperature Storage) | Conditions: -55C | Standard:

| Lot | Device | 168-HOURS | 500-HOURS | 1000 | Failure Code |
|---|---|---|---|---|---|
| Q20100514AALTS | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ABLTS | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ACLTS | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ADLTS | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |

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

| Lot | Device | Results | Failure Code |
|---|---|---|---|
| Q20100514AAPCNL1A | FOD817 | 0/462 | |
| Q20100514ABPCNL1A | FOD817 | 0/462 | |
| Q20100514ACPCNL1A | FOD817 | 0/462 | |
| Q20100514ADPCNL1A | FOD817 | 0/462 | |

## Test: (Temperature Cycle) | Conditions: -55C, 125C | Standard: JESD22-A104

| Lot | Device | 100-CYCLES | 200-CYCLES | Failure Code |
|---|---|---|---|---|
| Q20100514AATMCL1 | FOD817 | 0/77 | | |
| Q20100514AATMCL1 | FOD817 | | 0/77 | |
| Q20100514ABTMCL1 | FOD817 | 0/77 | | |
| Q20100514ABTMCL1 | FOD817 | | 0/77 | |
| Q20100514ACTMCL1 | FOD817 | 0/77 | | |

| | | | | |
|---|---|---|---|---|
| Q20100514ACTMCL1 | FOD817 | | 0/77 | |
| Q20100514ADTMCL1 | FOD817 | 0/77 | | |

Test: (Temperature Humidity Biased Test) | Conditions: 85%RH, 85C, 64V | Standard: JESD22-A101

| Lot | Device | 168-HOURS | 500-HOURS | 1000-HOURS | Failure Code |
|---|---|---|---|---|---|
| Q20100514AATHBT | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ABTHBT | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ACTHBT | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |
| Q20100514ADTHBT | | 0/77 | | | |
| | | | 0/77 | | |
| | | | | 0/77 | |

Product Id Description :

Affected FSIDs :

| | | |
|---|---|---|
| FOD617A3SD | FOD617B3SD | FOD617B |
| FOD617C3SD | FOD617C | FOD814300W |
| FOD814300 | FOD8143SD | FOD8143S |
| FOD814A300W | FOD814A300 | FOD814A3SD |
| FOD814A3S | FOD814ASD | FOD814AS |
| FOD814A | FOD814SD | FOD814S |
| FOD814 | FOD817300W | FOD817300 |
| FOD8173SD | FOD8173S | FOD817A300W |
| FOD817A300 | FOD817A3SD | FOD817A3S |
| FOD817ASD | FOD817ASD_F117 | FOD817AS |
| FOD817A | FOD817B300W | FOD817B300 |
| FOD817B3SD | FOD817B3S | FOD817BSD |
| FOD817BS | FOD817B | FOD817C300W |
| FOD817C300 | FOD817C3SD | FOD817C3S |
| FOD817CSD | FOD817CS | FOD817C |
| FOD817D300W | FOD817D300 | FOD817D3SD |
| FOD817D3S | FOD817DSD | FOD817DS |
| FOD817D | FOD817SD | FOD817S |
| FOD817X_5700W | FOD817X_5701W | FOD817 |