



Date Created: 3/15/2004
Date Issued: 3/22/2004
PCN # 20040405-A

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.**

If you have any questions concerning this change, please contact:

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PCN Originator

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PCN Type: Die Shrink

Effectivity

Expected 1st Device Shipment Date: 5/5/2004
Earliest Year/Work Week of Changed Product: 0419
(Note: Package marking may differ from this format)

Product ID (Description):

This notification applies to the FAN1655M, FAN1655MP and FAN1655MTF products:3A DDR BUS Termination Regulator.

Description of Change:

The FAN1655 is fabricated with a bipolar technology (BCH4)
The die has been redesigned to a more competitive bipolar technology (BCH5) and the result is a significantly smaller die size.

Effect of Change:

This new die has no effect on the performance of the FAN1655 in the intended application and the specifications in the current data sheet are not changed.

Qualification:

Qual/REL Plan Numbers

Qual Results: FMV20040016

Test: Autoclave Test (ACLV) + MSL1 Preconditioning

| Test Request | Device | Sbgrp | TP | Duration | Sample Size | Rejects |
|--------------|------------|-------|----|----------|-------------|---------|
| REP200400001 | FAN1655MTF | A | 1 | 96 | 77 | 0 |
| REP200400001 | FAN1655MTF | B | 1 | 96 | 77 | 0 |
| REP200400001 | FAN1655MTF | C | 1 | 96 | 77 | 0 |

Test: High Temperature Storage test (bake) (HTSL)

| Test Request | Device | Sbgrp | TP | Duration | Sample Size | Rejects |
|--------------|------------|-------|----|----------|-------------|---------|
| REP200400001 | FAN1655MTF | A | 1 | 168 | 77 | 0 |
| REP200400001 | FAN1655MTF | A | 2 | 500 | 77 | 0 |
| REP200400001 | FAN1655MTF | A | 3 | 1000 | 77 | 0 |
| REP200400001 | FAN1655MTF | B | 1 | 168 | 77 | 0 |
| REP200400001 | FAN1655MTF | B | 2 | 500 | 77 | 0 |
| REP200400001 | FAN1655MTF | B | 3 | 1000 | 77 | 0 |
| REP200400001 | FAN1655MTF | C | 1 | 168 | 77 | 0 |
| REP200400001 | FAN1655MTF | C | 2 | 500 | 77 | 0 |
| REP200400001 | FAN1655MTF | C | 3 | 1000 | 77 | 0 |

Test: Temperature Cycle (TMCL) + MSL1 Preconditioning

| Test Request | Device | Sbgrp | TP | Duration | Sample Size | Rejects |
|--------------|------------|-------|----|----------|-------------|---------|
| REP200400001 | FAN1655MTF | A | 1 | 100 | 77 | 0 |
| REP200400001 | FAN1655MTF | A | 2 | 500 | 77 | 0 |

| | | | | | | |
|--------------|------------|---|---|-----|----|---|
| REP200400001 | FAN1655MTF | B | 1 | 100 | 77 | 0 |
| REP200400001 | FAN1655MTF | B | 2 | 500 | 77 | 0 |
| REP200400001 | FAN1655MTF | C | 1 | 100 | 77 | 0 |
| REP200400001 | FAN1655MTF | C | 2 | 500 | 77 | 0 |

Test: Operating Life Test (Dynamic) (DOPL)

| Test Request | Device | Sbgrp | TP | Duration | Sample Size | Rejects |
|--------------|------------|-------|----|----------|-------------|---------|
| RMV200400129 | FAN1655MTF | A | 1 | 168 | 80 | 0 |
| RMV200400129 | FAN1655MTF | A | 1 | 500 | 80 | 0 |
| RMV200400129 | FAN1655MTF | B | 1 | 168 | 80 | 0 |
| RMV200400129 | FAN1655MTF | B | 2 | 500 | 80 | 0 |
| RMV200400022 | FAN1655MTF | B | 3 | 1000 | 80 | 0 |
| RMV200400129 | FAN1655MTF | C | 1 | 168 | 80 | 0 |
| RMV200400129 | FAN1655MTF | C | 2 | 500 | 80 | 0 |
| RMV200400129 | FAN1655MTF | C | 3 | 1000 | 80 | 0 |
| RMV200400129 | FAN1655MTF | D | 1 | 168 | 80 | 0 |
| RMV200400129 | FAN1655MTF | D | 1 | 500 | 80 | 0 |

Assembly Level Reliability Test Results

| Parameter | Die shear | Wire Pull | Ball Shear |
|-------------------------|-------------|-----------|------------|
| Units of Measure | (g / sq mm) | (g) | (g) |
| Minimum | 0.64 | 27.93 | 91.48 |
| Maximum | 0.78 | 39.44 | 128.79 |
| Average | 0.68 | 32.52 | 113.26 |
| Std Dev | 0.06 | 2.68 | 11.33 |

Test: Electrostatic Dissipation (ESD)

| | |
|------------------|--------------|
| Model | Highest Pass |
| Human Body Model | 6000 V |



Conclusion

Per FSC-QAR-0006, a code R (Production) is recommended for the BCH5 Fab Process at Fairchild's South Portland facility.

Affected FSIDs

FAN1655M

FAN1655MTFX

FAN1655MPX

FAN1655MX

FAN1655MTF