

**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION # 16770**

Apple Corporation

Issue Date: 17-Nov-2011**TITLE:** Request for approval to use an alternate production site for ECH8651R-R-TL-H**PROPOSED FIRST SHIP DATE:** WW4 2012**AFFECTED CHANGE CATEGORY(S):** Transfer of Product to Alternate Site**FOR ANY QUESTIONS CONCERNING THIS NOTIFICATION:**

Contact your local ON Semiconductor Sanyo Division Sales Office

SAMPLES: Contact your local ON Semiconductor Sanyo Division Sales Office**ADDITIONAL RELIABILITY DATA:** Available

Contact your local ON Semiconductor Sanyo Sales Office

NOTIFICATION TYPE:

Final Product/Process Change Notification (FPCN)

ON Semiconductor will consider this change approved unless specific conditions of acceptance are provided in writing within 30 days of receipt of this notice. To do so, contact Mitsuhiko.Yoshimura@sanyo.com.

DESCRIPTION AND PURPOSE:

Due to the flooding in Thailand, our subsidiary SANYO Semiconductor Thailand Co., Ltd. (SSTH) has ceased production. This Process Change Notice is to notify our customers that we are adding an alternate production site to minimize the impact on your production. We apologize for any inconvenience this has caused.

We need your approval of the alternate site so we can begin production.

No design changes will be made and Sanyo Semiconductor Thailand (SSTH) manufacturing processes and procedures will be duplicated (copied exact) at our Sanyo Semiconductor China (SSL) facility. There will be no changes in device functionality. Reliability will continue to meet or exceed ON Semiconductor's highest standards.

We ensure products produced by Sanyo Semiconductor (Shekou) Co., Ltd. (SSL) will have the same quality level as our facility at Sanyo Semiconductor Thailand (SSTH).

Please review the change information below. Your diligent review, cooperation and quick approval of the changes below are appreciated. If you have any questions, please contact ON Semiconductor, Sanyo Division, Sales representative Mitsuhiko.Yoshimura@sanyo.com.

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Background:

Sanyo Semiconductor Thailand (SSTH) has been damaged by flooding.

**FINAL PRODUCT/PROCESS CHANGE NOTIFICATION # 16770****Transfer to alternate production site**

Sanyo Semiconductor Thailand (SSTH) is disabled, we will transfer production for ECH packages to our Sanyo Semiconductor (Shekou) Co., Ltd. (SSL)

Company Name: Sanyo Semiconductor (Shekou) Co., Ltd. (SSL)

Location: The third industrial Park, Liuxiandong, Xili Street, Nanshan District, Shenzhen, China

Changes

- a. **Production site move:** from Sanyo Thailand (SSTH) to Sanyo Semiconductor(Shekou) China (SSL)
- b. **Facilities and Processes:** Sanyo Semiconductor Thailand (SSTH) manufacturing processes and procedures will be duplicated (copied exact) at our Sanyo Semiconductor China (SSL)
- c. **Plating of external terminals:** Will be done by an existing Sanyo Semiconductor(Shekou) China (SSL) subcontractor

Schedule

- (1) Sample shipment: WW2 in 2012
- (2) Mass production start: WW4 in 2012

Items for your review and approval

a. Reliability Evaluation:

In order to quickly supply your product prior to the completion of our full 1,000 hrs of reliability evaluation, we need approval from you to ship product based on the initial evaluation after 168 hrs of reliability testing. We will continue the reliability qualification to the full 1,000 hrs endpoint.

b. Change of product's part number

Part number remains the same - no part number will be changed when you place an order

Please note:

You may receive both the SSTH and SSL products concurrently.

Qualification Plan:

Estimated Date for Qualification Completion: 168 hours is ww04 in 2012, 1000 hours is ww10 in 2012.


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Planned reliability tests are:

	Test Items	Test Conditions	End Point Req's	Read point
1	Steady State Operating Life	Tch=150 degC	c=0,Room	1000 hours
2	High-Temperature Reverse-Bias	Ta=150 degC, VDSS=24 V	c=0,Room	1000 hours
3	Temperature Humidity Storage	Ta=85 degC, RH=85 %	c=0,Room	1000 hours
4	Temperature Cycling	Ta=-55 degC to 150 degC (each 30min)	c=0,Room	100 cycles
5	Pressure Cooker	Ta=121 degC, 2.03x10 ⁵ Pa	c=0,Room	50 hours
6	High Temperature Storage	Ta=150 degC	c=0,Room	1000 hours
7	Low Temperature Storage	Ta=-55 degC	c=0,Room	1000 hours
8	Resistance to Soldering heat	Solder Temp.:260±5 degC	c=0,Room	10 seconds
9	Solderability	Solder Temp.:245±5 degC	c=0,Room	5 seconds
10	Terminal Strength (Pull)	Load=1 N	c=0,Room	10 seconds
11	Free Drop	H=75cm, Maple board	c=0,Room	3 times

CHANGED PART IDENTIFICATION:

To differentiate the manufacturing source we are changing the product's bar-code label to identify each production factory as follows.

Existing Sanyo Semiconductor Thailand (SSTH): ECH8651R-R-TL-H

New Sanyo Semiconductor China (SSL): ECH8651R-R-TL-HX

(X will be used to identify SSL)

ON Semiconductor is diligently evaluating our alternatives for the Sanyo Semiconductor (SSTH) facility and once a decision is made we will promptly inform you of that decision.

Once a decision has been made, we will remove the suffix "X" and revert back to the original labelling.

Existing Sanyo Semiconductor Thailand (SSTH): ECH8651R-R-TL-H

New Sanyo Semiconductor China (SSL): ECH8651R-R-TL-HX

Final (after alternatives for SSTH are decided): ECH8651R-R-TL-H

Please note: your product name will remain the same when you place an order. The product bar-code label, as noted above, will be changed to control our inventory.

You may receive both the SSTH and SSL products concurrently.

List of affected Customer Specific Parts:

ECH8651R-R-TL-H