



DIVISION OF
CORPORATION FINANCE

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

Mail Stop 3030

April 8, 2009

VIA U.S. MAIL AND FAX (602) 244-4830

Mr. Donald A. Colvin
Executive Vice President and Chief Financial Officer
ON Semiconductor Corporation
5005 East McDowell Road
Phoenix, Arizona 85008

Re: ON Semiconductor Corporation
Form 10-K for the year ended December 31, 2008
Filed February 27, 2009
File No. 000-30419

Dear Mr. Colvin:

We have reviewed your filings and have the following comments. We have limited our review to only your financial statements and related disclosures and do not intend to expand our review to other portions of your documents. Where indicated, we think you should revise your documents in response to these comments. If you disagree, we will consider your explanation as to why our comment is inapplicable or a revision is unnecessary. Please be as detailed as necessary in your explanation. In some of our comments, we may ask you to provide us with information so we may better understand your disclosure. After reviewing this information, we may raise additional comments.

Please understand that the purpose of our review process is to assist you in your compliance with the applicable disclosure requirements and to enhance the overall disclosure in your filing. We look forward to working with you in these respects. We welcome any questions you may have about our comments or any other aspect of our review. Feel free to call us at the telephone numbers listed at the end of this letter.

Form 10-K for the year ended December 31, 2008

Management's Discussion and Analysis of Financial Condition and Results of Operations, page 42

Critical Accounting Policies and Estimates, page 68

Inventories, page 69

1. We note your disclosures on pages 69 and 96 that you carry your inventories not related to an acquisition at the lower of standard cost or market. Please clarify in future filings if inventory acquired as part of past acquisitions are also carried at lower of cost or market, or disclose your accounting policy for this inventory.

Goodwill, page 70

2. In the interest of providing readers with a better insight into management's judgments into accounting for goodwill, please consider disclosing the following:
 - In addition to disclosing the valuation methodology used to value goodwill, please include sufficient information to enable a reader to understand why management selected this method as being the most meaningful for the company in preparing goodwill impairment analysis.
 - If applicable, how the assumptions used for valuing goodwill in the current year have changed since the prior year highlighting the impact of any changes.

Financial Statements, page 91

Note 3. Significant Accounting Policies, page 95

Goodwill, page 97

3. We note that you perform your annual impairment test on the first day of the fourth quarter and that your test this year resulted in an impairment of \$544.5 million. We also note your discussion elsewhere in the document regarding further declines in operating results and in your business outlook during the fourth quarter of fiscal 2008 and a continued decline in your stock price. Please tell us if you further tested your goodwill for impairment at the end of the fourth quarter, and if so, the result of such tests.
4. We note your remaining reporting units whose goodwill was not impaired had declines in business outlook, although not significant enough to trigger impairment. Consider further disclosure in future filings to explain to investors why these reporting units were not impaired, for example, consider further discussion regarding how the nature of the business or sales differ in these reporting units where impairment was significant.

Intangible Assets, page 99

5. We note that “despite a decline in business outlook, primarily due to the macroeconomic environment, during the fourth quarter of 2008 the company determined that the carrying amounts of its intangible assets were recoverable as of December 31, 2008.” Please tell us more about your impairment test performed for your intangible assets. Explain if you further tested your goodwill for impairment at the end of the fourth quarter and if so, the results of such tests. Refer to the guidance in SFAS 144 paragraph 7-24 in your response.

Note 14. Fair Value of Financial Instruments, page 147

Long-term Debt, Including Current Portion, page 147

6. We note that the fair values of your long-term borrowings are determined by obtaining quoted market prices (level 1) if available or market prices for comparable debt instruments (level 2). Please revise in future filings to disclose the level within the fair value hierarchy in which your long-term borrowings fall. Refer to the guidance in SFAS 157, paragraph 32. Also, explain to us the factors you considered in concluding that certain long-term borrowings could not be measured using level 1, but that level 2 was more appropriate.

As appropriate, please respond to these comments within 10 business days or tell us when you will provide us with a response. Please furnish a cover letter with your response that keys your responses to our comments and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your amendments responses to our comments.

We urge all persons who are responsible for the accuracy and adequacy of the disclosure in the filing to be certain that the filing includes all information required under the Securities Exchange Act of 1934 and that they have provided all information investors require for an informed investment decision. Since the company and its management are in possession of all facts relating to a company’s disclosure, they are responsible for the accuracy and adequacy of the disclosures they have made.

In connection with responding to our comments, please provide, in writing, a statement from the company acknowledging that:

- the company is responsible for the adequacy and accuracy of the disclosure in the filing;
- staff comments or changes to disclosure in response to staff comments do not foreclose the Commission from taking any action with respect to the filing; and

Mr. Donald A. Colvin
ON Semiconductor Corporation
April 8, 2009
Page 4

- the company may not assert staff comments as a defense in any proceeding initiated by the Commission or any person under the federal securities laws of the United States.

In addition, please be advised that the Division of Enforcement has access to all information you provide to the staff of the Division of Corporation Finance in our review of your filing or in response to our comments on your filing.

You may contact Julie Sherman, Staff Accountant, at (202) 551-3640 or me at (202) 551-3554 if you have any questions regarding these comments. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Angela Crane
Accounting Branch Chief