

Mail Stop 6010

December 21, 2005

Mr. Donald Colvin  
Chief Financial Officer  
On Semiconductor Corporation  
5005 E. McDowell Road  
Phoenix, Arizona 85008

Re: On Semiconductor Corporation  
Form 10-K for the Year Ended December 31, 2004  
Forms 10-Q for the Quarter Ended March 31, 2005, June 30, 2005,  
and  
September 30, 2005  
File No. 000-30419

Dear Mr. Colvin:

We have reviewed your filing and have the following comments. We have limited our review of your filing to those items we have addressed in our comments. Where indicated, we think you should revise your documents in future filings in response to these comments. If you disagree, we will consider your explanation as to why our comments are 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, 2004

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations

- Liquidity and Capital Resources, page 32
- EBITDA, page 35

1. We note your presentation of the non-GAAP measure, EBITDA as a liquidity measure. It appears from your discussion that your debt agreements contain covenants that required you to maintain an "Adjusted EBITDA" financial measure. In future filings, revise your presentation of EBITDA or Adjusted EBITDA to include a discussion indicating the materiality of the covenant and agreement, the amount or limit required for compliance with the covenant, and the actual or reasonably likely effects of compliance or non-compliance with the covenant on your financial condition, results of operations and liquidity. Refer to Item 10(e) of Regulation S-K and Question 10 in FAQ Regarding the Use of Non-GAAP Financial Measures, dated June 13, 2003.

Notes to Consolidated Financial Statements, page 87

Note 3. Significant Accounting Policies, page 88

- Short-term Investments, page 88

2. We note that you have classified your auction rate securities that mature after five years as short-term investments at December 31, 2004. Since your auction rate securities have long-term maturity dates and there is no guarantee that you will be able to liquidate the holdings, these securities do not meet the definition of cash equivalents as provided in paragraphs 8 and 9 of SFAS 95. These securities should be presented on the balance sheet as current assets or non-current assets in accordance with the guidance in ARB 43, Chapter 3A, Working Capital - Current Assets and Current Liabilities.

In future filings, please revise to classify these securities as non-current investments or tell us why you believe your presentation is appropriate.

Note 5. Restructuring, Asset Impairments and Other, net, page 97

3. We note that you have been implementing profitability enhancement programs since 2000. We further note that you have incurred restructuring charges of \$21.4 million, \$65.1 million, \$35.2 million during 2004, 2003, and 2002, respectively. In this regard, please provide the required disclosures by exit or disposal activity in future filings. For instance, please disclose a description for each of the exit or disposal activity, including the facts and circumstances leading to the expected activity and the expected completion date of your activity. Also, include the total amount expected to be incurred in connection with each activity, the amount incurred in the respective periods presented, and the cumulative amount incurred to date. Please provide to us these proposed disclosures for each exit or disposal activity that is not completed at December 31, 2004. Refer to SAB Topic 5-P (4) and paragraph 20 of SFAS 146.

Note 7. Long-Term Debt, page 109

4. We note that you have issued \$260 million of zero coupon convertible senior subordinated notes during 2004. We further note that these notes may contain a feature that allows the conversion price to adjust based upon certain events, a put option whereby the holder may redeem the notes at certain dates, and a call option whereby the issuer can redeem the notes. In this regard, tell us and revise in future filings to address how you have accounted for the following:

\* Tell us how you have accounted for the zero coupon bonds.

Include in your response how you recorded the zero coupon rate.

\* Tell us if you have concluded that the notes meet the definition of

conventional convertible debt as defined in paragraph 4 of EITF 00-

19. If not, you are required to analyze the conversion feature under

paragraphs 12-32 of EITF 00-19. Please provide us with an analysis of

your conclusions reached.

\* Tell us how you have accounted for the put and call options on the

debt. Also, confirm to us that there are not any other provisions

within this note agreement that may be embedded derivatives which

should be bifurcated and accounted for separately pursuant to SFAS 133.

Form 10-Q for the Quarter Ended September 30, 2005

Item 4. Controls and Procedures, page 66

5. We note your statement that "a control procedure, no matter how well conceived and operated, can provide only reasonable, not absolute, assurance that objectives of the control procedure are met.

Because of the inherent limitations in all control procedures, no evaluation of controls can provide absolute assurance that all control issues and instances of fraud, if any, within a company have

been detected." Please revise your filings to state, if true, that

your disclosure controls and procedures are designed to provide reasonable assurance of achieving their objectives. In the alternative, remove the paragraph which includes the reference to the

level of assurance of your disclosure controls and procedures.

Please refer to the guidance in the SEC Release No. 33-8238, Management's Reports on Internal Control over Financial Reporting and

Certification of Disclosure in Exchange Act Periodic Reports, specifically Section II.F.4, which is available on our website at <http://www.sec.gov/rules/final/33-8238.htm>.

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 that keys your responses to our comment

and provides any requested information. Detailed cover letters greatly facilitate our review. Please understand that we may have additional comments after reviewing your 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

\* 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 Tara Harkins, Staff Accountant, at (202) 551-3639 or me at (202) 551-3327 if you have questions regarding these comments. In this regard, do not hesitate to contact Martin James, Senior Assistant Chief Accountant, at (202) 551-3671.

Sincerely,

Michele Gohlke  
Branch Chief

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Mr. Donald Colvin  
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