

Mail Stop 6010

March 28, 2007

Mr. Jeffrey Staszak  
Chief Executive Officer  
Volterra Semiconductor Corporation  
3839 Spinnaker Court  
Fremont, CA 94538

**Re: Volterra Semiconductor Corporation  
Form 10-K for the Year Ended December 31, 2006  
Filed March 8, 2007  
File No. 000-50857**

Dear Mr. Staszak:

We have reviewed your filing and have the following comments. We have limited our review to only your financial statements and related disclosures and will make no further review of your documents. 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, 2006

Item 7. Management's Discussion and Analysis of Financial Condition and Results of Operations, page 23

-Overview, page 23

1. We note that you present non-GAAP financial measures such as non-GAAP gross margin and non-GAAP income from operations as a percentage of revenue. Please note that non-GAAP performance measures should not eliminate or smooth items identified as non-recurring, infrequent or unusual, when the nature of the charge or gain is such that it is reasonably likely to recur within two years or there was a similar charge or gain within the prior two years. Please revise your future filings to remove these non-GAAP measures. Alternatively, please explain to us why you believe you are in compliance with Item 10(e)(1)(ii)(B) of Regulation S-K and provide your proposed disclosure for your future filings. In preparing your draft disclosures, please consider the guidance in Question 8 of FAQ Regarding the Use of Non-GAAP Financial Measures dated June 13, 2003 and SAB Topic 14(G).

Item 8. Financial Statements and Supplementary Data, page 33

Consolidated Statement of Operations, page 35

2. Please revise your future filings to remove the total captions and amounts from the stock-based compensation table included as footnote (\*) on the face of your consolidated statements of operations. Otherwise, as indicated in SAB Topic 14-F, please revise the statement to present the related stock-based compensation charges in a parenthetical note to the appropriate income statement caption. That guidance also indicates that you may present the information in the notes to the financial statements or within MD&A.

Notes to the Consolidated Financial Statements, page 38

Note 2. Summary of Significant Accounting Policies, page 38

-(g) Revenue Recognition, page 40

3. We note that you record allowances at the time of the sale to provide for estimated future returns and allowances. We further note from page 27 that you give certain allowances to your US distributors and that you have made no sales to these distributors for the reporting periods presented. Please tell us and revise your future filings to disclose the nature of the allowances granted and how you account for them. Cite the accounting literature relied upon in reaching your conclusion. Refer to the guidance in SAB Topic 13 and EITF 01-9.

4. We note that you provide a one year standard warranty to your customers. Please tell us and revise future filings to explain how you are accounting for these warranties and to provide the disclosures required by paragraph 14 of FIN 45. In addition, explain why you record warranties, similar to SFAS 48, as a reduction to revenue for an estimated return and not as a cost of your sales. Discuss whether the warranty returns to which you refer in your disclosure result in a cancellation of the sale or your replacement or repair of the product sold. Tell us and revise your future filings to disclose the nature of these returns.

Form 8-K Dated January 29, 2007

5. We note that you present your non-GAAP measures in the form of statements of operations. This format may be confusing to investors as it reflects several non-GAAP measures, including but not limited to, non-GAAP net revenue, non-GAAP cost of revenue, non-GAAP gross profit, non-GAAP operating expenses, and non-GAAP income from operations which have not been identified or described to investors. In fact, it appears that management does not use all of these non-GAAP measures but they are shown here as a result of the presentation format. Please note that Instruction 2 to Item 2.02 of Form 8-K requires that when furnishing information under this item you must provide all the disclosures required by paragraph (e)(1)(i) of Item 10 of Regulation S-K and FAQ 8 Regarding the Use of Non-GAAP Financial Measures dated June 13, 2003 for each non-GAAP measure presented. Specifically, you should provide a reconciliation of each non-GAAP measure to the most directly comparable GAAP measure and explain why you believe each measure provides useful information to investors. To eliminate investor confusion, please remove the non-GAAP statements of operations format from all future filings. Instead, only disclose those non-GAAP measures used by management and which you intended to provide to investors (such as, non-GAAP net income, non-GAAP diluted earnings per share) with the appropriate reconciliations to the most directly comparable GAAP measure.

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 comments 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

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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) 551-3643 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,

Kate Tillan  
Assistant Chief Accountant