Saifun Semiconductors Ltd.
Form 6-K
January 31, 2007

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER

Pursuant to Rule 13a-16 or 15d-16 of the

Securities Exchange Act of 1934

For the month of: January

Commission File No.: 000-51581

Saifun Semiconductors Ltd.

(Exact name of registrant as specified in charter)

ELROD Building, 45 Hamelacha Street,
Sappir Industrial Park, Netanya 42504, Israel
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover Form 20-F or Form 40-F.

Form 20-F x Form 40-F o

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): _____

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): _____

Indicate by check mark whether by furnishing the information contained in this Form, the registrant is also thereby furnishing the information to the Commission pursuant to Rule 12g3-2(b) under the Securities Exchange Act of 1934.

Yes o No x

If Yes is marked, indicate below the File Number assigned to the registrant in connection with Rule 12g3-2(b): _____.

EXPLANATORY NOTE

On January 31, 2007, Saifun Semiconductors Ltd. issued a press release announcing Q4 2006 earnings results. A copy of the document is attached to this Form 6-K as Exhibit 99.1.

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EXPLANATORY NOTE   1

SIGNATURE

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

SAIFUN SEMICONDUCTORS LTD.

Date: January 31, 2007   By: /s/ Igal Shany

                                                          Igal Shany
                                                          Chief Financial Officer

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EXHIBIT INDEX

The following exhibit is filed as part of this Form 6-K:

Exhibit   Description

99.1   Press release, dated January 31, 2007, titled "Saifun Semiconductors Reports Q4 2006 Results"

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