

SunEdison Semiconductor Ltd
Form 8-A12B
May 19, 2014

UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, DC 20549

FORM 8-A

For Registration of Certain Classes of Securities

Pursuant to Section 12(b) or 12(g) of the

Securities Exchange Act of 1934

SunEdison Semiconductor Limited

(Exact name of registrant as specified in its charter)

Singapore
(State or other jurisdiction of incorporation)

N/A
(IRS Employer Identification No.)

11 Lorong 3 Toa Payoh

Singapore
(Address of principal executive offices)

319579
(Zip Code)

Securities to be registered pursuant to Section 12(b) of the Act:

**Title of Each Class
to be so Registered**
Ordinary Shares, no par value

**Name of Each Exchange on which
Each Class is to be Registered**
The NASDAQ Stock Market LLC

If this form relates to the registration of a class of securities pursuant to Section 12(b) of the Exchange Act and is effective pursuant to General Instruction A.(c), please check the following box.

If this form relates to the registration of a class of securities pursuant to Section 12(g) of the Exchange Act and is effective pursuant to General Instruction A.(d), please check the following box.

Securities Act registration statement file number to which this form relates: 333-191052

Securities to be registered pursuant to Section 12(g) of the Act:

None

(Title of Class)

Item 1. Description of Registrant's Securities to be Registered.

The description of the ordinary shares, no par value (the "Ordinary Shares"), of SunEdison Semiconductor Limited (the "Company"), as included under the caption "Description of Share Capital" in the Prospectus forming a part of the Registration Statement on Form S-1, as originally filed with the Securities and Exchange Commission (the "Commission") on September 9, 2013 (Registration No. 333-191052), including exhibits, and as may be subsequently amended from time to time (the "Registration Statement"), is hereby incorporated by reference. In addition, all of the above-referenced descriptions included in any Prospectus relating to the Registration Statement filed with the Commission pursuant to Rule 424(b) under the Securities Act of 1933, as amended, shall be deemed to be incorporated by reference herein.

Item 2. Exhibits.

Pursuant to the Instructions as to Exhibits for Form 8-A, no exhibits are required to be filed, because no other securities of the Company are registered on The NASDAQ Stock Market LLC and the securities registered hereby are not being registered pursuant to Section 12(g) of the Securities Exchange Act of 1934, as amended.

SIGNATURE

Pursuant to the requirements of Section 12 of the Securities Exchange Act of 1934, the Registrant has duly caused this registration statement to be signed on its behalf by the undersigned, thereto duly authorized.

Date: May 19, 2014

SunEdison Semiconductor Limited

(Registrant)

By: /s/ Shaker Sadasivam

Name: Shaker Sadasivam

Title: President and Chief Executive Officer

Page 3 of 3