### FORM 6-K

### SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of February 2012 No. 9

### TOWER SEMICONDUCTOR LTD.

(Translation of registrant's name into English)

Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek, Israel 23105
(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 whether the registrant by furnishing the information contained in this Form 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

On February 23, 2012 the Registrant announced completion of its offering which was made in Israel to residents of Israel only pursuant to a prospectus supplement related to the offering as filed with the Tel-Aviv Stock Exchange and the Israel Securities Authority. Certain portions of the prospectus supplemented were included as Exhibit 99.1 to a Report on Form 6-K filed on February 21, 2012.

In the offering, Tower raised gross proceeds of approximately \$80 million through the sale of 265,768 units, each comprised of (i) NIS 1,250 aggregate principal amount of Series F Bonds, maturing in December 2015 and 2016, convertible into ordinary shares commencing September 2012 at an approximate premium of 20 percent over the average market price for the ordinary shares during a fifteen day period prior thereto described in the prospectus supplement; and (ii) 100 warrants to purchase ordinary shares, which may only be exercised between March 2014 and March 2016 at an approximate 20 percent premium over the average market price during a fifteen day period prior thereto described in the prospectus supplement, resulting in a total warrant coverage ratio of 8% of the total bond par value. "

A press release related to the completion of the offering is annexed hereto

The securities issued in the offering will be listed for trading on the TASE, were offered in Israel only and to residents of Israel only, are not registered under the U.S. Securities Act of 1933 and may not be offered or sold in the United States or to U.S. Persons (as defined in Regulation S promulgated under the Securities Act) without registration under the Securities Act or an exemption from the registration requirements of the Securities Act.

This Report shall not be deemed to be an offer to sell or a solicitation of an offer to buy any of the Company's securities.

This Form 6-K is being incorporated by reference into all effective Registration Statements filed by the Registrant under the Securities Act of 1933.

## **SIGNATURES**

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.

## TOWER SEMICONDUCTOR LTD.

Date: February 23, 2012 By: /s/ Nati Somekh Gilboa

Name: Nati Somekh Gilboa Title: Corporate Secretary

TowerJazz Completes its Previously Announced Bond Offering:

Expands its Series F Bonds, due 2015-2016, by \$80 Million, Demonstrating Excess Demand of 2X

Migdal-Haemek, Israel, February 23, 2012 – TowerJazz, the global specialty foundry leader, today announced that following a public tender earlier today, it completed its previously announced bond offering, resulting in excess demand of 2X.

TowerJazz raised \$64 million from the institutional tender completed on February 20 and an additional \$16 million in today's public tender, resulting in an aggregate of approximately \$80 million (approximately NIS 300 million) with the expansion of its existing Series F bonds issued in 2010, through the issuance of 265,768 units, with terms as previously announced.

Oren Shirazi, TowerJazz CFO, stated: "We are excited by the demonstrated trust of the financial capital market in our performance and long term strategy, evidenced by this \$80 million long-term bonds fundraising, maturing in 2015 and 2016. During 2011, we significantly reduced our debt by approximately \$140 million, most of it by redeeming short-term bonds, thereby achieving a net debt to EBITDA ratio of 1.7X, as of December 31, 2011. This fundraising will enable us to continue our growth plans, utilizing our global capacity, including our recently acquired fab in Japan, which we are currently focusing on migrating it from an IDM DRAM fab to an analog specialty facility. We thank our long term investors for their belief in the Company and its management."

The placement agents in this bonds offering were Leader Issuances (1993) Ltd., Clal Finance Underwriting Ltd, Apax Underwriting Management and Issuances Ltd., Poalim I.B.I – Underwriting and Issuances Ltd. and Barak Capital Underwriting Ltd.

TowerJazz thanks its counsel, David Schapiro, a partner of the law firm of Yigal Arnon & Co. and his team, Sheldon Krause, a partner of the law firm Eilenberg & Krause LLP, as well as Asher Mechlovich, a partner of the accounting firm of Brightman Almagor Zohar & Co. and his team.

The securities issued in this fundraising will be listed for trading on the TASE, were offered in Israel only, are not registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), and may not be offered or sold in the United States or to U.S. Persons (as defined in Regulation "S" promulgated under the Securities Act) without registration under the Securities Act or an exemption from the registration requirements of the Securities Act.

This press release shall not be deemed to be an offer to sell or a solicitation of an offer to buy any of the Company's securities.

#### About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the global specialty foundry leader, its fully owned U.S. subsidiary Jazz Semiconductor Ltd., and its fully owned Japanese subsidiary TowerJazz Japan, LTD, operate collectively under the brand name TowerJazz, manufacturing integrated circuits with geometries ranging from 1.0 to 0.13-micron. TowerJazz provides industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately and offers a broad range of customizable process technologies including SiGe, BiCMOS, Mixed-Signal and RFCMOS, CMOS Image Sensor, Power Management (BCD), and Non-Volatile Memory (NVM) as well as MEMS capabilities. To provide multi-fab sourcing, TowerJazz maintains two manufacturing facilities in Israel, one in the U.S., and one in Japan with additional capacity available in China through manufacturing partnerships. For more information, please visit www.towerjazz.com.

### Safe Harbor Regarding Forward-Looking Statements

This press release includes forward-looking statements, which are subject to risks and uncertainties. Actual results may vary from those projected or implied by such forward-looking statements. A complete discussion of risks and uncertainties that may affect the accuracy of forward-looking statements included in this press release or which may otherwise affect Tower and/or Jazz's business is included under the heading "Risk Factors" in Tower's most recent filings on Forms 20-F, F-3, F-4 and 6-K, as were filed with the Securities and Exchange Commission (the "SEC") and the Israel Securities Authority and Jazz's most recent filings on Forms 10-K and 10-Q, as were filed with the SEC, respectively. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

Contacts

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