

TOWER SEMICONDUCTOR LTD

Form 6-K

April 23, 2012

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FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of April 2012

No. 03

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  Form 40-F

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  No

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On April 23, 2012, the registrant announces Availability of its CMOS Image Sensor Platform in Multiple Fabs to Better Serve Needs of its Worldwide Customer Base.

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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: April 23, 2012

By: /s/ Nati Somekh  
Name: Nati Somekh  
Title: Corporate  
Secretary

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TowerJazz Announces Availability of its CMOS Image Sensor Platform in Multiple  
Fabs to Better Serve Needs of its Worldwide Customer Base

Provides US source for on-shore manufacturing of high performance image sensor  
designs for ITAR applications

Offering to be showcased at SPIE's Defense, Sensing and Security conference in  
Baltimore, Maryland on April 24-26, 2012

NEWPORT BEACH, Calif., April 23, 2012 – TowerJazz, the global specialty foundry leader, today announced the completion of the successful transfer of its CMOS image sensor (CIS) technology from its Migdal Haemek, Israel facility to its US fab in Newport Beach, California providing multi-sourcing to better address its customers' growing needs. TowerJazz's CIS process has already been running in high volume in its Israeli plants, and is now available in its Newport Beach, CA facility for customers that require on-shore manufacturing.

The CIS process enables the customization of pixels according to project needs and its superior performance (dark current, low noise and dynamic range) enables a rich offering for various digital imaging applications. For example, TowerJazz's presence in the industrial sensor market is growing significantly with new applications such as fingerprint detection for homeland security, traffic monitoring cameras and others. Integration of TowerJazz's NMOS pixel with its 0.18 analog CMOS provides a US-based solution for specialty image sensors for aerospace and defense applications as well. In addition, TowerJazz's patented stitching technology overcomes photolithography tool limitations to seamlessly tile 5.5-micron pixel sections into a large pixel array, resulting in ultra-high resolution, high-quality color image sensors. This technology enables manufacturing of die sizes up to a single die per 200-mm wafer.

"We are providing a high level of support to customize pixels in order to optimize performance for specialty applications, including non-ITAR aerospace and military applications. We are pleased with the transfer of our CIS process to our US fab to address customers' needs for on-shore manufacturing of ITAR applications and to provide a global sourcing solution with our advanced and proven CIS technology offering," said Dr. Avi Strum, Vice President and General Manager of Specialty Business Unit.

"Our aerospace and defense business is experiencing solid growth and the further expansion of our technology offerings will provide an even broader range of advanced technology to our customer base here in the US," said Corey Fukushima, TowerJazz Aerospace and Defense Sales.

TowerJazz is exhibiting at SPIE's Defense, Sensing and Security conference in Baltimore, Maryland on April 24-26, at booth #533. For more information, please contact Corey Fukushima, TowerJazz Director of Sales and Marketing, USA Aerospace and Defense Division, at (949) 435-8526 or corey.fukushima@jazzsemi.com.

#### About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), 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, the global specialty foundry leader. TowerJazz manufactures integrated circuits with geometries ranging from 1.0 to 0.13-micron, offering 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 CMOS and MEMS capabilities. TowerJazz also offers a world-class design enablement platform that complements its sophisticated technology and enables a quick and accurate design cycle. In addition, TowerJazz provides (TOPS) Technology Optimization Process Services to IDMs as well as fabless companies that need to expand capacity, or progress from an R&D line to a production line. 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](http://www.towerjazz.com).

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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 TowerJazz'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.

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