

TOWER SEMICONDUCTOR LTD

Form 6-K

March 21, 2011

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March 2011 No. 6

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 S

Form 40-F 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 F

No S

On March 21, 2011, the registrant announces Aerospace and Defense Division Expands MPW Services to include CMOS Image Sensors, High Speed SiGe and SOI RF CMOS

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: March 21, 2011

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

NEWS ANNOUNCEMENT

FOR IMMEDIATE RELEASE

TowerJazz Aerospace and Defense Division Expands MPW Services to include
CMOS Image Sensors, High Speed SiGe and SOI RF CMOS

NEWPORT BEACH, Calif., March 21, 2011 – TowerJazz, the global specialty foundry leader, announced its Aerospace and Defense Business Unit has expanded its multi-project wafer (MPW) services to include CMOS image sensors (CIS) in addition to high-speed SiGe and SOI RF CMOS. These offerings will be available for on-shore or ITAR controlled prototype and manufacturing services of advanced semiconductors for the US Department of Defense (DoD) and the broader aerospace and defense community.

TowerJazz's CIS process has already been running in high volume in its Israeli plants, and is now being added to the MPW program in its Newport Beach, CA facility for customers that require on-shore manufacturing. The CIS process enables the customization of pixels per project needs and its superior performance (dark current, low noise and dynamic range) enables a rich offering for various digital imaging applications. 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.

TowerJazz's presence in the industrial sensor market has significantly grown with new applications such as finger print detection for homeland security, traffic monitoring cameras and others. CIS process design kits (PDKs) are scheduled for release in the first half of 2011 and the MPW is scheduled for availability in Q4.

Also part of TowerJazz's on-shore MPW program is industry-leading, advanced SiGe BiCMOS and 0.18um RF SOI CMOS. TowerJazz has pushed SiGe performance to speeds in excess of 200GHz and this process is offered on a monthly MPW program for fast and cost-effective prototyping of high speed designs in areas such as optical networks, land and air vehicle collision avoidance radar, phased array radar and other millimeter-wave applications. The RF SOI CMOS MPW program supports 1.8V, 3.3V and 5V CMOS with bulk-like design flow and advanced low-loss substrates for state of the art RF CMOS performance in mobile communication and base-station wireless links.

“TowerJazz's aerospace and defense business is experiencing very solid growth in 2011 given our technology leadership and strong focus on this community. The further expansion of our monthly MPW program will provide an even broader range of advanced technology to our customer base enabling world class designs and applications through a cost-effective business model,” said Mike Scott, TowerJazz Director of Sales and Marketing, USA Aerospace and Defense Division.

TowerJazz is exhibiting at the Government Microcircuit Applications & Critical Technology Conference (GOMAC Tech) at booth 204, March 22 - 23, 2011 in Orlando, FL as well as the Hardened Electronics and Radiation Therapy (HEART) conference, booth 601 on March 30, 2011, also in Orlando, FL. For more information, please contact Mike Scott, TowerJazz Director of Sales and Marketing, USA Aerospace and Defense Division, at (949) 435-8741 or mike.scott@jazzsemi.com.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), the global specialty foundry leader and its fully owned U.S. subsidiary Jazz Semiconductor, 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 world-class customer service, TowerJazz maintains two manufacturing facilities in Israel and one in the U.S. 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.

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