

TOWER SEMICONDUCTOR LTD

Form 6-K

July 27, 2010

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of July 2010 No. 3

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 July 27, 2010, the registrant announces TowerJazz's CMOS Sensor Process Powers Cypress' New Global Shutter Image Sensor with Industry-Leading Throughput.

This Form 6-K is being incorporated by reference into all effective registration statements filed by us 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: July 27, 2010

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

TowerJazz's CMOS Sensor Process Powers Cypress' New Global
Shutter Image Sensor with Industry-Leading Throughput

Industrial image sensor market expected to reach nearly \$840M by 2014

MIGDAL HAEMEK, Israel and SAN JOSE, Calif., July 27, 2010 – TowerJazz (NASDAQ: TSEM, TASE: TSEM), the global specialty foundry leader, and Cypress Semiconductor Corp. (NASDAQ: CY), today announced that TowerJazz's 0.18-micron CMOS image sensor (CIS) process is being used to power Cypress' new 25-megapixel industrial high-sensitivity, high-speed CMOS image sensor targeted for the high-end machine vision market. The VITA 25K sensor, sampling now, provides the market's highest throughput for a device with a unique pipelined and triggered global shutter architecture. According to a report by Roy Szweda, RNR Associates, the forecast for image sensors used in the industrial market is expected to reach close to \$840 million by 2014.

The VITA 25K sensor has 32 10-bit digital Low Voltage Differential Signaling (LVDS) outputs that enable transfer of image data over a standard industry protocol at low power and low noise. Each channel runs at a 620 Mbps, which results in a high frame rate of 53 frames-per-second (fps) at full resolution for undistorted images and fast readout. Manufactured using TowerJazz's CIS process, the sensor is ideal for high-end machine vision applications, such as inspection machines; biometric inspection, such as next-generation palm print readers; and intelligent traffic systems.

“This product joins a series of successful projects we have collaborated on with TowerJazz using their leading CIS process technology,” said Georges Hiltrop, General Manager, Image Sensor Business Unit, Cypress. “We are able to continue bringing to market faster and higher sensitivity CMOS image sensors due to our design expertise and patented IP in custom image sensors combined with TowerJazz's high performance CIS process capabilities.”

“TowerJazz and Cypress have collaborated on CIS projects for more than ten years, enabling a wide portfolio of products for industrial imaging, high-end cameras, barcode, medical and dental imaging,” said Dr. Avi Strum, Vice President and General Manager, Specialty Group, TowerJazz. “The long cooperation between our teams is becoming stronger as we continue to align on innovative and market changing projects and products with a clear advantage in the market.”

Availability and Photo

Samples of the VITA 25K image sensor are currently available, with production devices expected in the first half of 2011. A photo of a VITA 25K image sensor is available at www.cypress.com/go/pr/VITA25Kphoto.

About Cypress

Cypress delivers high-performance, mixed-signal, programmable solutions that provide customers with rapid time-to-market and exceptional system value. Cypress offerings include the flagship PSoC® programmable system-on-chip families and derivatives such as PowerPSoC® solutions for high-voltage and LED lighting applications, CapSense® touch sensing and TrueTouch™ solutions for touchscreens. Cypress is the world leader in USB controllers, including the high-performance West Bridge® solution that enhances connectivity and performance in multimedia handsets. Cypress is also a leader in high-performance memories and programmable timing devices. Cypress serves numerous markets including consumer, mobile handsets, computation, data communications, automotive, industrial and military. Cypress trades on the Nasdaq Global Select Market under the ticker symbol CY. Visit Cypress online at www.cypress.com.

Cypress, the Cypress logo, CapSense, PSoC, PowerPSoC and West Bridge are registered trademarks and TrueTouch is a trademark of Cypress Semiconductor Corp. All other trademarks are property of their owners.

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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For TowerJazz

For Cypress

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