

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of July 2008 (No. 2)

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

On July 7, 2008, Cypress and Tower Semiconductor Announce Completion of Cypress's First 0.18-Micron Stitched Custom CMOS Image Sensor Device. Attached please find the press release.

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 7, 2008

By: /s/ Nati Somekh Gilboa

Nati Somekh Gilboa
Corporate Secretary

Cypress and Tower Semiconductor Announce Completion of Cypress's First 0.18-Micron Stitched Custom CMOS Image Sensor Device

Tower's Patented Small-Pixel Stitching Technology to Manufacture High End Application

SAN JOSE, Calif., USA and MIGDAL HA'EMEK, Israel, July 7, 2008 – Cypress Semiconductor Corp. (NYSE: CY), a leading developer and manufacturer of programmable mixed-signal solutions and CMOS Image Sensor (CIS) components, and Tower Semiconductor, Ltd. (Nasdaq: TSEM, TASE: TSEM), an independent specialty foundry, today announced the successful completion of Cypress's first 0.18-micron stitched large-format CIS device. The product is to be manufactured using Tower Semiconductor's latest generation of stitching technology at Tower's 200-mm Fab 2 in Migdal Ha'emek, Israel.

Cypress and Tower have collaborated on CIS products for more than five years, primarily using Tower's Fab 1 technology. Cypress is now also using Fab 2's advanced 0.18-micron technology, producing products serving a variety of applications, including industrial imaging, high-end cameras and dental imaging.

Cypress's stitched CIS product is the latest addition to Tower's Fab 2, 0.18-micron technology platform. Tower'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.

Cypress is the market leader in the custom CIS market, with a broad portfolio of products for high-speed imaging, machine vision, barcode, medical, and digital cinema applications.

Cypress's design expertise and patented IP in custom large-die sensors, combined with Tower's high-performance CIS process capabilities, result in innovative sensors benefiting from the high image quality and large die sizes that Tower's technology enables.

"We are very pleased with the results of our first 0.18 micron stitched design in the Tower process. Tower brings unique CIS technology and manufacturing capabilities to our portfolio," said Dr. Cliff Drowley, vice president and general manager of Cypress's image sensor business unit. "Custom products require best-

of-breed product capabilities, and we were able to achieve such a capability on this stitched large-die design through close interaction between our design team and Tower's foundry experts."

"We are pleased to partner with Cypress in the manufacturing of their custom CMOS image sensing designs," said Dr. Avi Strum, general manager of the specialty product line at Tower Semiconductor. "Custom products for high-end applications bring out the best that our technology has to offer, enabling high-profile business opportunities for both companies."

About Tower Semiconductor Ltd.

Tower Semiconductor Ltd. (Nasdaq: TSEM, TASE: TSEM) is an independent specialty foundry that delivers customized solutions in a variety of advanced CMOS technologies, including digital CMOS, mixed-signal and RF (radio frequency) CMOS, CMOS image sensors, power management devices, and embedded non-volatile memory solutions. Tower's customer orientation is complemented by its uncompromising attention to quality and service. Its specialized processes and engineering expertise provides highly flexible, customized manufacturing solutions to fulfill the increasing variety of customer needs worldwide. Boasting two world-class manufacturing facilities with standard and specialized process technologies ranging from 1.0- to 0.13-micron, Tower Semiconductor provides exceptional design support and technical services to help customers sustain long-term, reliable product performance, while delivering on-time and on-budget results. More information can be found at <http://www.towersemi.com>.

About Cypress Semiconductor Corp.

Cypress delivers high-performance, mixed-signal, programmable solutions that provide customers with rapid time-to-market and exceptional system value. Cypress offerings include the PSoC® Programmable System-on-Chip™, USB controllers, general-purpose programmable clocks and memories. Cypress also offers wired and wireless connectivity solutions ranging from its WirelessUSB™ radio system-on-chip, to West Bridge™ and EZ-USB® FX2LP controllers that enhance connectivity and performance in multimedia handsets. Cypress serves numerous markets including consumer, computation, data communications, automotive, industrial, and solar power. Cypress trades on the NYSE under the ticker symbol CY. Visit Cypress online at www.cypress.com.

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Safe Harbor

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 our business is included under the heading "Risk Factors" in our most recent Annual Report on Form 20-F, Forms F-1, F-3 and 6-K, as were filed with the Securities and Exchange Commission and the Israel Securities Authority. We do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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