

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of April 2005

TOWER SEMICONDUCTOR LTD.  
(Translation of registrant's name into English)

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 April 6, 2005, the Registrant announced that Tower's 0.18-micron technology platform enables QuickLogic to ramp production of power-optimized eclipse II products. Attached hereto is a copy of 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: April 6, 2005

By: /S/ Nati Somekh Gilboa

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Nati Somekh Gilboa  
Corporate Secretary

TOWER'S 0.18-MICRON TECHNOLOGY PLATFORM ENABLES QUICKLOGIC TO RAMP  
PRODUCTION OF POWER-OPTIMIZED ECLIPSE II PRODUCTS  
Joint Achievements Open up New Markets for Both Companies

MIGDAL HAMAEEK, Israel, and SUNNYVALE, CA, April 06, 2005 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM) and QuickLogic corporation (Nasdaq:QUIK) announced today that newly updated performance data on the QuickLogic Eclipse II family of uWatt FPGA products clearly establishes a new industry benchmark in low power performance. Manufactured in a 0.18-micron, six-layer metal CMOS process, the Eclipse II family features standby currents as low as 14 micro-Amps.

"Tower's advanced technology platform, supported by excellent customer service, combined to give our products a competitive edge for applications where every micro-Watt counts," said Tom Hart, QuickLogic's Chairman, President and CEO. "QuickLogic's uWatt FPGA and uWatt Programmable Bridging products are gaining significant traction in the portable application space. Additionally, the devices' support of the industrial temperature range makes them ideally suitable for rugged working environments, where active cooling systems or heat sinks are not feasible due to reliability or form factor requirements."

QuickLogic uWatt programmable technology provides designers of mobile embedded systems multiple solutions for applications that demand ultra-low power. Eclipse II devices are smaller and consume less power compared to SRAM and Flash-based FPGAs and offer higher system performance than CPLDs. They are enabling predominantly connectivity and bridging functions in a variety of handheld and wireless applications such as PDAs, tablet PCs, Smartphones and gaming.

"The move to Tower's 0.18-micron process, as well as the intense engineering collaboration between our companies enhanced the product's low leakage, low power characteristics," said Doron Simon, president of Tower Semiconductor USA, Inc. "Tower's 0.18-micron technology platform has enabled QuickLogic to ramp production of an optimized set of programmable products, opening up new high volume market opportunities for both companies".

## ABOUT QUICKLOGIC

QuickLogic Corporation (Nasdaq:QUIK) invented and has pioneered the Embedded Standard Product (ESP) architecture, with the introduction of first products in 1998. ESPs are semiconductor devices that deliver the guaranteed performance, lower cost and lower risk of standard products, coupled with the flexibility and time-to-market benefits of programmable logic. QuickLogic's proprietary ViaLink metal-to-metal interconnect technology offers significant benefits - including very low power at high performance levels - to our customers and is the foundation of our ESP product families, as well as our core FPGA products. Founded in 1988, the company is located at 1277 Orleans Drive, Sunnyvale, CA 94089-1138. For more information please visit the QuickLogic web site at [www.quicklogic.com](http://www.quicklogic.com).

## ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor LTD. is a pure-play independent wafer foundry established in 1993. The company manufactures integrated circuits with geometries ranging from 1.0 to 0.13 micron; it also provides complementary technical services and design support. In addition to digital CMOS process technology, Tower offers advanced non-volatile memory solutions, mixed-signal and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities: Fab 1 has process technologies from 1.0 to 0.35 micron and can produce up to 16,000 150mm wafers per month. Fab 2 features 0.18-micron and below process technologies, including foundry-standard technology and can produce today up to 15,000 200mm wafers per month. The Tower web site is located at [www.towersemi.com](http://www.towersemi.com).

## 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 FORMS 20-F AND 6-K, AS WERE FILED WITH THE SECURITIES AND EXCHANGE COMMISSION AND THE ISRAEL SECURITIES AUTHORITY.

## CONTACTS

Pacifico Inc.  
PR Agency Contact  
Mary Curtis, +1 408 293 8600  
mcurtis@pacifico.com

Tower Semiconductor USA:  
Michael Axelrod, +1 408 330 6871  
pr@towersemi.com

QuickLogic:  
Andrea Vedanayagam, +1 408 990 4000  
andrea@quicklogic.com