

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March 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 March 21, 2005, the Registrant announced that it was honored by ON Semiconductor for outstanding support. 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: March 21, 2005

By: /S/ Tamar Cohen

Tamar Cohen
Corporate Secretary

TOWER SEMICONDUCTOR HONORED BY ON SEMICONDUCTOR FOR OUTSTANDING SUPPORT

1,100 DEVICES RELEASED IN 12-MONTH PERIOD THROUGH TOWER'S FAB1

MIGDAL HAEMEK, ISRAEL, MARCH. 21, 2005 - Tower Semiconductor Ltd. (NASDAQ: TSEM; TASE: TSEM), a pure-play independent wafer foundry, today announced it has received an Award of Excellence from ON Semiconductor for outstanding service to its Analog Products Group.

"With Tower's outstanding support, our global team successfully released more than 1,100 devices to production in less than 12 months," said Dan Huettl, director of logic and analog switch products, ON Semiconductor. "All products were delivered on or ahead of schedule within a very short cycle time. Tower also provided excellent engineering design and integration support."

ON Semiconductor's Award of Excellence formally recognizes those business partners that provide best-in-class service and support. It rewards suppliers for excellence in such areas as engineering support, customer service, cost leadership, communication and problem resolution, as well as execution to project timelines.

"We are pleased to receive this recognition of Tower's quality of engineering support and manufacturing excellence from a leading IDM such as ON Semiconductor," said Doron Simon, president, Tower Semiconductor USA, Inc. "The products are well accepted in a variety of market segments, including automotive and wireless hand held applications, where ON Semiconductor has a strong presence."

ABOUT ON SEMICONDUCTOR

With its global logistics network and strong portfolio of power semiconductor devices, ON Semiconductor (Nasdaq: ONNN) is a preferred supplier of power solutions to engineers, purchasing professionals, distributors and contract manufacturers in the computer, cell phone, portable devices, automotive and industrial markets. For more information, please visit ON Semiconductor's website at <http://www.onsemi.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. When complete, Fab 2 is expected to offer full production capacity of 33,000 200mm wafers per month. The Tower Web site is located at 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.

#

CORPORATE CONTACT

Michael Axelrod
Tower Semiconductor USA
+1 (408) 330-6871
pr@towersemi.com

ISRAEL CONTACT

Ilanit Vudinsky
Tower Semiconductor Ltd.
+972 (4) 650-6434
ilanitvu@towersemi.com

AGENCY CONTACT

Mary Curtis
Pacifico Inc.
+1 (408) 293-8600
mcurtis@pacifico.com

INVESTOR RELATIONS CONTACT

Sheldon Lutch
Fusion IR & Communications
+1 (212) 268-1816
sheldon@fusionir.com