

FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March 2007

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 March 15, 2007, Tower Semiconductor announces it Begins High Volume Production of Zoran ICs on 0.16 Micron Manufacturing Process, 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 15, 2007

By: /s/ Nati Somekh Gilboa

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Nati Somekh Gilboa  
Corporate Secretary

TOWER SEMICONDUCTOR BEGINS HIGH VOLUME PRODUCTION OF  
ZORAN ICS ON 0.16 MICRON MANUFACTURING PROCESS

MIGDAL HAEMEK, Israel - March 15 2007 - Tower Semiconductor, Ltd., a pure-play independent specialty wafer foundry (NASDAQ: TSEM; TASE: TSEM) today announced that it has begun manufacturing additional Zoran Corporation ICs at Tower's FAB2, using its cost-effective 0.16-micron geometry.

"We appreciate Tower's close collaboration, high level of customer support and the cost-effective technology Tower developed at Fab-2," said Tzach Hadas, vice president operations at Zoran. "This launch is a result of our long standing relationship with Tower, and we have high expectations for continued future cooperation while we further push the design and technology envelopes beyond their existing limitations."

"We are pleased to complement Zoran's expertise in digital solutions with our advanced 0.16-micron geometry offering that provides a cost-effective solution for intricate digital functionality such as that implemented in Zoran's advanced products," said Dani Ashkenazi, General Manager of Core-CMOS product line at Tower. "We take pride in supporting technology-savvy customers, such as Zoran, with very fast ramps to volume production".

ABOUT TOWER SEMICONDUCTOR LTD.

Tower Semiconductor Ltd. is a pure-play independent specialty 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 & RF-CMOS, and CMOS image-sensor technologies. To provide world-class customer service, the company maintains two manufacturing facilities, each with standard and specialized process technology processes: Fab 1 ranging from 1.0 to 0.35 and Fab 2 featuring 0.18 and 0.13-micron. Tower's web site is located at <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 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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