
FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of March 2012

No. 02

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 x

Form 40-F o

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 o

No x

On March 14, 2012, the registrant announces that TowerJazz and DMB Technology Announce Volume Production of Thousands of Wafers per Month of Digital Audio Amplifier Circuits using 0.18-micron, Thin Epi, BCD Platform.

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 14, 2012

By: s/ Nati Somekh

Name: Nati Somekh

Title: Corporate Secretary

TowerJazz and DMB Technology Announce Volume Production of Thousands of Wafers per Month of Digital Audio Amplifier Circuits using 0.18-micron, Thin Epi, BCD Platform

Amp will be embedded in high volume digital TVs; total LCD TV shipments expected to increase steadily, reaching 270 million units by 2014

MIGDAL HAEMEK, Israel and BUNDANG, Korea, March 14, 2012 – TowerJazz, the global specialty foundry leader, and DMB Technology, a leader of total power management solutions based on innovative analog/mixed-signal power management integrated circuits, today announced volume production and shipping of DMBT's digital audio amplifier using TowerJazz's 0.18-micron based TS35PM Bipolar-CMOS-DMOS (BCD) process. This amp, developed by DMBT for a leading digital audio amplifier manufacturer will be embedded in high volume digital TV and mini/micro audio systems. According to a report by DisplaySearch, LCD TVs continue to be the primary TV type shipped worldwide, and were estimated to account for about 84 percent of all TV shipments in 2011. Total LCD TV shipments are expected to increase steadily, reaching 270 million units by 2014.

DMBT chose TowerJazz over other foundries for its technology benefits which allowed DMBT to hit key metrics, such as greatly lowering heat dissipation as well as significantly shrinking the die. DMBT is supported technically and logistically by TowerJazz's office in Korea. Other devices the companies are collaborating on include: LED drivers, LNBP ICs, and DC/DC converters.

"DMBT is very satisfied with the accomplishment of our digital audio amp product on TowerJazz's 0.18-micron technology platform. We were able to achieve this milestone with the support of the TowerJazz team and relying on the stability and performance of its TS35/18PM process. Especially, we are happy to be served by TowerJazz's Korea office for technical support and expect to use its Japan fab soon in order to manufacture our products at a near proximity to our headquarters," said Dong-Youl Jeong, DMB Technology's Chief Technology Officer.

"The close cooperation between the DMB design/application engineers and our device engineering teams was critical in the development of this leading edge product," said Todd Mahlen, Vice President of APAC Sales/Power Business Development. "It validated the vision that our superior TS18/35PM modular power platform combined with a strong technical fabless customer like DMBT can create industry leading solutions for today's marketplace."

About DMB Technology, Ltd.

DMB Technology is creative leader of total power management solutions based on innovative Analog-Mixed Signal Power Management Integrated circuit. DMB Technology is incorporated in February 2002 and is headquartered in Bundang, Korea. From its foundation, DMB has been dedicating its resources in research & development of display, audio, optical data storage and mobile related Power Management IC.

DMB Technology members are positioned in R&D sector with extensive knowledge in Power IC design and Application circuits design. Their sufficient experiences are not only our valuable property but also motive of customer satisfaction especially in Analog-Mixed Circuit Design Field which requires more experimental know-how than Digital Circuit Designing Field.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), its fully owned U.S. subsidiary Jazz Semiconductor, Inc. and its fully owned Japanese subsidiary TowerJazz Japan, Ltd., operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures integrated circuits with geometries ranging from 1.0 to 0.13-micron, offering 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 CMOS and MEMS capabilities. TowerJazz also offers a world-class design enablement platform that complements its sophisticated technology and enables a quick and accurate design cycle. In addition, TowerJazz provides (TOPS) Technology Optimization Process Services to IDMs as well as fabless companies that need to expand capacity, or progress from an R&D line to a production line. To provide multi-fab sourcing, TowerJazz maintains two manufacturing facilities in Israel, one in the U.S., and one in Japan 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 TowerJazz'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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