

# FORM 6-K

## SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of August 2009 No. 12

### 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

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On August 31, 2009, the registrant announces that TAEJIN Selects Tower Semiconductor's Power Management Process; Choice Helps TAEJIN Target Multi-Billion Dollar Voltage Regulators Market.

This Form 6-K is being incorporated by reference into all effective registration statements filed by us under the Securities Act of 1933.

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#### 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: August 31, 2009

By: /s/ Nati Somekh Gilboa

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Nati Somekh Gilboa  
Corporate Secretary

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#### **TAEJIN Selects Tower Semiconductor's Power Management Process; Choice Helps TAEJIN Target Multi-Billion Dollar Voltage Regulators Market**

*iSuppli estimates Regulators (Linear & Switching) Market will grow from \$5B in 2009 to approximately \$7B in 2013*

*LG, Sanyo, and Panasonic are among TAEJIN's key customers for consumer applications*

**DAEJEON, Korea and MIGDAL HA'EMEK, Israel, August 31, 2009** – TAEJIN Technology, Co., Ltd., a supplier of linear and switching regulators to a wide variety of consumer and mobile applications, today announced it has selected Tower Semiconductor, Ltd. (Nasdaq: TSEM, TASE: TSEM), a leading global specialty foundry, to manufacture its low power, high efficiency voltage regulator ICs. Tower was chosen for its advanced power management platform to enable TAEJIN to quickly address the needs of the multi-billion dollar voltage regulators market which, according to iSuppli is expected to grow from \$5 billion in 2009 to approximately \$7 billion in 2013.

TAEJIN offers an extensive line of power management products including linear and switching regulators, power supply controllers, and DC-DC converters. These devices are used in various consumer, computing, communication, and automotive products including xDSL, PCs, set-top boxes, LCD displays, GPS systems and many other applications. TAEJIN's voltage regulator ICs are integrated into products offered by many customers in Korea, Japan and China including LG, Sanyo, Panasonic, JVC, and VIZIO (AmTRAN), among others.

To provide the most advanced ICs to its customers, TAEJIN chose Tower's power management process for its 20V to 60V scalable LDMOS which provides design optimization and the smallest die size at any given breakdown voltage. Tower's differentiated power platform supports a family of three process nodes and offers unified design kits allowing customers to create cost-effective products at any desired level of integration while taking advantage of a consistent design environment for fast time-to-revenue.

“We selected Tower as our specialty foundry partner as they are known to have the best record for first time success. We have worked with other foundries, but they could not meet our requirements for performance, price, customer service, and modeling accuracy,” said Choi Tae Hyouk, CEO and President of TAEJIN Technology. “Tower’s enhanced power management platform and superior design enablement capabilities meet our own high standards for quality and have enabled our success in quickly addressing the growing needs of our customers and ramping to volume production. We look forward to continuing our strong and strategic relationship to deliver next-generation power management products.”

“TAEJIN is a leading multi-product power management IC provider and is well-known for its quality as well as its diversification strategy and R&D intensity to consistently and quickly meet their customers’ needs,” said Russell Ellwanger, CEO of Tower Semiconductor. “TAEJIN spends a great deal of time working closely with their customers to realize market trends, technical requirements and individual performance needs for various power management applications. We are honored to be their foundry of choice to help them in targeting the multi-billion dollar voltage regulator market and continuing to supply their valued customers with products offering the best value, performance and reliability.”

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#### **About TAEJIN Technology Co., Ltd.**

TAEJIN Technology Co., Ltd was incorporated in 2000 with the aim of becoming the world leader in the Power Management IC industry. The brand name “HTC Korea” was created by TAEJIN Technology to meet its customer’s goal by using highly diversified R&D technology. HTC Korea is well-known for its high-quality products in the Asian market and targets three major sectors: Communication, Consumer, and Computer. HTC Korea has been promoting its products in cooperation with world-wide sales partners in China, Japan, Hong Kong, Singapore, Taiwan, and India. HTC Korea operates through a quality policy which is authenticated by Korea’s ISO 9001, and observes corporate ethics and environmental responsibility. All HTC products are manufactured under the system authenticated by ISO14001, and comply with RoHS directives. For more information, please visit: <http://www.htckorea.co.kr/english/>.

#### **About Tower Semiconductor, Ltd. and Jazz Semiconductor, Inc.**

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) is a global specialty foundry leader and its fully owned subsidiary Jazz Semiconductor, a Tower Group Company is a leader in Analog-Intensive Mixed-Signal (AIMS) foundry solutions. Tower and Jazz manufacture integrated circuits with geometries ranging from 1.0 to 0.13-micron and provide industry leading design enablement tools to allow complex designs to be achieved quickly and more accurately. Tower and Jazz offer a broad range of process technologies including Digital, Mixed-Signal and RFCMOS, HV CMOS, BCD, Non-Volatile Memory (NVM), Embedded NVM, MEMS, and CMOS Image Sensors. To provide world-class customer service, Tower and Jazz maintain two manufacturing facilities in Israel and one in the U.S. with additional manufacturing capacity available in China through partnerships with ASMC and HHNEC. For more information, please visit [www.towersemi.com](http://www.towersemi.com) and [www.jazzsemi.com](http://www.jazzsemi.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 Tower’s and Jazz’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. Tower and Jazz do not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

#### **For Tower:**

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