

**FORM 6-K**

**SECURITIES AND EXCHANGE COMMISSION**

Washington, D.C. 20549

For the month of August 2009 No. 6

**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 13, 2009, the registrant announces Intersil Signs MOU with Tower Semiconductor for Co-Development and Manufacturing of Next-Generation Power Management Platform.

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 13, 2009

By: /s/ Nati Somekh Gilboa

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Nati Somekh Gilboa  
Corporate Secretary

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**Intersil Signs MOU with Tower Semiconductor for Co-Development and Manufacturing of Next-Generation Power Management Platform**

*Intersil will utilize platform to manufacture leading-edge power ICs in Tower's Fab; largest potential engagement in Tower's history, providing substantial and continuous revenue growth*

*Power management devices continue to be fastest growth segment of any analog IC category; estimated growth from \$10.3B in 2009 to \$14.6B in 2013, CAGR of 9.1%*

**MILPITAS, Calif. and MIGDAL HA'EMEK, Israel, August 13, 2009** – Intersil Corporation (NASDAQ Global Select: ISIL), a world leader in the design and manufacture of high-performance analog and mixed-signal semiconductors, and Tower Semiconductor, Ltd. (Nasdaq: TSEM, TASE: TSEM), a leading global specialty foundry, today announced they will work together to develop a new high-performance power management specialty process technology platform. A Memorandum of Understanding (MOU) has been signed by the companies which shall be followed by a formal agreement.

The multi-year agreement will combine Tower's technology expertise with Intersil's design and process technology capabilities to provide Intersil with a powerful and innovative platform, accelerating its power management product growth to address next-generation requirements. Intersil will utilize the platform to manufacture its leading-edge power ICs in Tower's state-of-the-art 200mm facility in Migdal Ha'emek, Israel.

According to Gartner's Forecast for Power Management ICs Worldwide, 2007 – 2012, power management devices will continue to be the fastest growth segment of any analog IC category. iSuppli reports the power management IC market is expected to grow from \$10.3 Billion in 2009 to \$14.6 Billion in 2013, a CAGR of 9.1%.

Intersil already has an established relationship with Jazz Semiconductor, Tower's wholly owned subsidiary, utilizing previous generation power management platforms. This new collaboration will enable further engineering relationships across a wide set of process technologies that could bring additional business to

both companies.

Tower's Bipolar-CMOS-DMOS (BCD) power process offering is highly modular and includes a unique Y-Flash zero mask adder non-volatile memory (NVM) solution. Combined with Intersil's power management design and process capabilities, this new process will go beyond its base platform to specifically address the requirements of multiple Intersil product families including digital power, PWM controllers and PMICs for a broad set of end user markets such as consumer, computing, communications, industrial and automotive.

"We are very pleased to extend our long-standing partnership to jointly develop a robust and innovative power management platform to address the next-generation needs of power products," said Sagar Pushpala, Senior Vice President Worldwide Operations and Technology, at Intersil. "Tower provides best-in-class BCD process technology which enables Intersil to offer highly-differentiated power management and non-volatile memory solutions."

Commenting on the signing of the MOU, Russell Ellwanger, Tower CEO said, "Intersil offers quality, high-performance analog ICs and we are excited that a proven leader in power management has chosen us as their partner and placed their trust in our technology and roadmap to co-develop and manufacture their next-generation power platform. Together, we will enable faster design cycles and cost-effective designs which will be very advantageous for Intersil's customers. We look forward to a fruitful and long-term relationship."

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### **About Intersil**

Intersil Corporation is a leader in the design and manufacture of high-performance analog and mixed signal semiconductors. The Company's products address some of the industry's fastest growing markets, such as flat panel displays, cell phones, other handheld systems, and notebooks. Intersil's product families address power management functions and analog signal processing functions. Intersil products include ICs for battery management, and hot-plug controllers, linear regulators, power sequencers, supervisory ICs, bridge drivers, PWM controllers, switching DC/DC regulators, Zilker Labs Digital Power ICs and power MOSFET drivers; optical storage laser diode drivers; DSL line drivers; D2Audio products; video and high-performance operational amplifiers; high-speed data converters; interface ICs; analog switches and multiplexers; crosspoint switches; voice-over-IP devices; and ICs for military, space and radiation-hardened applications. For more information about Intersil or to find out how to become a member of our winning team, visit the Company's web site and career page at [www.intersil.com](http://www.intersil.com).

### **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.

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