

TOWER SEMICONDUCTOR LTD

Form 6-K

May 28, 2013

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FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of May 2013 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  S    Form 40-F  E

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  E    No  S

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On May 28, 2013, the registrant announces New 700V Technology, Cuts Die Size in Half for Drivers in Fast Growth LED Lighting Market.

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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: May 28, 2013

By: /s/ Nati Somekh  
Name: Nati Somekh  
Title: Corporate  
Secretary

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TowerJazz Announces New 700V Technology, Cuts Die Size in Half for Drivers in Fast Growth LED Lighting Market

New device with on-resistance of 17 ohm-mm<sup>2</sup> at 750V is being announced at ISPSD in Japan, helps lower IC costs in the \$13.3B LED lighting market

NISHIWAKI, Japan, May 28, 2013 – TowerJazz, the global specialty foundry leader, today announced the release of a 17 ohm mm<sup>2</sup> 750V device which will help customers reduce die size for AC to DC converters, required in fast growing applications such as LED lighting, by a factor of two relative to its prior technology. TowerJazz is presenting this innovation along with its entire power management platform at the 25th International Symposium on Power Semiconductor Devices (ISPSD) in Kanazawa, Japan on May 26-30, 2013 (booth #16).

The market for power management ICs in AC to DC applications is expected to grow 6.3% over the next five years while LED applications is the fastest growing market segment with an estimated 56% growth expected over the next five years. TowerJazz's new technology enables a cost advantage for customers building next-generation ICs for AC to DC converters in applications such as power supplies and LED lights. The technology integrates on the production 700V process which is today the most streamlined in the industry, requiring only 16 masking layers for a two layer metal process. The new technology does not add masking layers, preserving this significant advantage over other solutions while reducing on-resistance and shrinking die size significantly.

In addition to AC to DC conversion, TowerJazz's 700V technology includes a level-shifting device that makes the technology ideal for gate drivers of IGBTs and discrete power MOSFETs used for example in electrical motors. The quick adoption of electrical motors in white good appliances is providing another fast path for this technology.

“This innovation will provide a significant advantage to our customers in the fast-growth but cost-sensitive LED lighting market,” said Dr. Marco Racanelli SVP of Power, RF and HPA Business Units at TowerJazz. “This innovation and 700V platform complements our broad power management offering that includes an industry leading 0.18um, 60V BCD technology with embedded NVM now available in two 8-inch factories. We continue to partner closely with our customers and strive to benefit them in the marketplace both through innovative process technology and efficient and cost conscious supply chain.”

For more information on ISPSD, please visit: <http://www.ispsd2013.com/index.html>.

#### About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM), its fully owned U.S. subsidiary Jazz Semiconductor Ltd., 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, offering a broad range of customizable process technologies including: SiGe, BiCMOS, Mixed-Signal/CMOS, RFCMOS, CMOS Image Sensor, Power Management (BCD), and MEMS capabilities. TowerJazz also provides a world-class design enablement platform that enables a quick and accurate design cycle. In addition, TowerJazz provides (TOPS) Technology Optimization and development Process Services to IDMs and fabless companies that need to expand capacity. TowerJazz offers multi-fab sourcing with two manufacturing facilities in Israel, one in the U.S., and one in Japan. For more information, please visit [www.towerjazz.com](http://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

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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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