
FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month May 2018 No. 1

TOWER SEMICONDUCTOR LTD.

(Translation of registrant's name into English)

Ramat Gavriel Industrial Park
P.O. Box 619, Migdal Haemek, Israel 2310502
(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 May 2, 2018, the Registrant Announce Release of Advanced 300mm
65nm BCD Power Management Platform Addressing the Massive Power
Products Market Operating up to 16V

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 2, 2018

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

TowerJazz Announces Release of Advanced 300mm 65nm BCD Power Management Platform Addressing the Massive Power Products Market Operating up to 16V

This absolute best-in-class platform creates breakthrough performance and cost advantages in the multi-billion dollar <16V application power management IC market

MIGDAL HAEMEK, Israel, May 2, 2018 – TowerJazz, the global specialty foundry leader, today announced the release of its 300mm 65nm BCD (Bipolar-CMOS-DMOS) process, the most advanced power management platform for up to 16V operation and 24V maximum voltage. This technology is manufactured in TowerJazz's Uozu, Japan facility, with best-in-class quality and cycle time, and is based on the Company's 300mm 65nm automotive qualified flows.

This platform provides significant material competitive advantages for any type of power management chip up to 16V regardless of application, including a wide variety of products such as: PMICs, load switches, DC-DC converters, LED drivers, motor drivers, battery management, analog and digital controllers, and more. IHS Markit Power IC Analyst, Kevin Anderson forecasts a \$9.4 billion available market, which this technology addresses, in 2018 with continual growth.

TowerJazz's 65nm BCD process is leading this low voltage market segment with the highest power efficiency, very small die size, best digital integration capability; and superior cost effectiveness through both the smallest aerial footprint and the lowest mask count.

The process includes four leading edge power LDMOS transistors: 5V, 7V, 12V and 16V operation, each with the best available R_{dson} and Q_{gd} parameters. In addition to the new aforementioned cost and figure of merit benchmarks, multiple chips can be integrated to a single monolithic IC solution replacing a multiple chip module for an improved system cost structure and system performance.

TowerJazz's power transistors are fully isolated to withstand high currents, all with an ultra-low R_{dson}, e.g. less than 1mΩ*mm² for the 5V LDMOS. For products which operate at the megahertz (MHz) switching frequencies, the 65nm BCD power transistors benefit from a very low Q_{gd} down to 2.6mΩ*nC. In addition, very low metal resistance is achieved using a single or dual 3.3um top thick copper. The 65nm BCD also offers aggressive 113Kgate/mm² 5V digital density and an 800Kgate/mm² 1.2V digital library.

"This new 65nm BCD platform establishes TowerJazz as a technology leader in the related growing markets for up to 16V power applications," said Shimon Greenberg, Vice President and General Manager of Power Management & Mixed-Signal/CMOS Business Unit, TowerJazz. "Best addressing the vast low voltage power management market segment, we are experiencing very high interest from early adopter customers and plan a mass production ramp by the fourth quarter of 2018."

TowerJazz will be exhibiting at ISPSD, the 30th IEEE International Symposium on Power Semiconductor Devices and ICs on May 13-17, 2018 in Chicago, USA.

For more information on TowerJazz's 65nm BCD technology, please visit <http://www.towerjazz.com/power-management.html>.

About TowerJazz

Tower Semiconductor Ltd. (NASDAQ: TSEM, TASE: TSEM) and its subsidiaries operate collectively under the brand name TowerJazz, the global specialty foundry leader. TowerJazz manufactures next-generation integrated circuits (ICs) in growing markets such as consumer, industrial, automotive, medical and aerospace and defense. TowerJazz's advanced technology is comprised of a broad range of customizable process platforms such as: SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, integrated power management (BCD and 700V), and MEMS. TowerJazz also provides world-class design enablement for a quick and accurate design cycle as well as Transfer Optimization and development Process Services (TOPS) to IDMs and fabless companies that need to expand capacity. To provide multi-fab sourcing and extended capacity for its customers, TowerJazz operates two manufacturing facilities in Israel (150mm and 200mm), two in the U.S. (200mm) and three facilities in Japan (two 200mm and one 300mm). 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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