
FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month March 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 March 5, 2018, the Registrant Announces an Advanced 90V Low
RDSON and Drain Isolated 0.18um Power 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 5, 2018

By: /s/ Nati Somekh
Nati Somekh
Corporate Secretary



TowerJazz Announces an Advanced 90V Low R_{DS(on)} and Drain Isolated 0.18um Power Platform

Addressing the fast-growing demand for higher voltage power management ICs in the consumer, industrial, computer and automotive markets

The Company will present its latest power management offering at APEC 2018

MIGDAL HAEMEK, Israel, March 5, 2018 – [TowerJazz](#), the global specialty foundry leader, today announced the availability of its new advanced low-side and high-side 90V low R_{DS(on)} LDMOS and drain isolated (DrainISO) up to 65V LDMOS, both on the TS18PM power management 0.18um platform, supporting the fast-growing demand for higher voltage integrated power management solutions for the consumer, industrial, computer and automotive markets.

TowerJazz's power management 90V DrainISO technology offers higher efficiency, lower power consumption and smaller die size due to the low R_{DS(on)} at high voltages with high digital integration capability, providing significant advantages for motor drivers, DC-DC converters and battery management ICs used for consumer and industrial products such as drones, robots, power tools and garden tools. As well, it addresses the 48V DC-DC converters in data centers and high voltage power over Ethernet ICs for the computer market. For the automotive market, this new offering can support a wide range of applications, from motor controls and drivers to LED headlights and LiDAR (Light Detection and Ranging) to 48V power architecture in new vehicles, enabling maximized hybrid/EVs capabilities with increased operating voltages.

The new DrainISO technology is now added to TowerJazz's high voltage power management technology; the 200V SOI which enables up to 50% area reduction compared to junction isolation in a standard foundry offering, and the 140V floating process on Bulk, a unique process for automotive battery management systems. Both offerings include high digital integration capabilities using dense digital libraries with a large portfolio of memories saving the need for an additional control IC. Together, with the new drain isolation scheme, TowerJazz offers a wide range of isolation schemes all with very low R_{DS(on)}, and now the DrainISO with 50% R_{DS(on)} improvement from its previous generation. The Company has qualified all major power management flows in at least two geographically distinct production sites to ensure customer supply at all times.

TowerJazz will present its specialized foundry solutions for integrated power management trends at the 2018 APEC conference (booth #620), the premier global event in applied power electronics, in San Antonio, Texas, on March 4-8, 2018.

"We are proud to release today our new DrainISO technology with low R_{DS(on)}. This technology gives us a leading advantage for power management ICs up to 90V and with advanced drain isolation. Our strategic customers are targeting new designs with this technology during 2018," said Shimon Greenberg, Vice President of Power Management & Mixed-Signal/CMOS Business Unit, TowerJazz. "We look forward to collaborating closely with our existing and new partners to provide this exciting new technology for multiple growing markets."

For more information about TowerJazz's power management technology offering, 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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