

TOWER SEMICONDUCTOR LTD  
Form 6-K  
January 31, 2013

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FORM 6-K

SECURITIES AND EXCHANGE COMMISSION

Washington, D.C. 20549

For the month of January 2013 No. 3

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  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  F

No  S

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On January 31, 2013, the registrant announces that FleX Silicon-on-Polymer Available with TowerJazz CMOS Process.

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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: January 31, 2013

By:

/s/ Nati Somekh

Name: Nati Somekh

Title: Corporate Secretary

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FleX Silicon-on-Polymer Available with TowerJazz CMOS Process

Advanced Foundry Processes Transform Standard Silicon Wafers to Create Physically Flexible ICs

BOISE, Idaho and NEWPORT BEACH, Calif., Thursday, January 31, 2013 – American Semiconductor, Inc. announces TowerJazz, the global specialty foundry leader, is the first foundry with a CMOS process (CS18) available for physically flexible wafers and integrated circuits (ICs) utilizing FleX™ Silicon-on-Polymer.™ This announcement was made at the 12th annual Flexible & Printed Electronics Conference presented by the FlexTech Alliance being held in Phoenix, Arizona on January 29 – February 1, 2013.

FleX Silicon-on-Polymer is American Semiconductor's process for transforming standard silicon wafers into flexible wafers that can be bent, conformally mounted to non-flat surfaces, and integrated with printed electronics to create flexible hybrid systems. "FleX has been successfully demonstrated in various prototype processes," said Rich Chaney, General Manager of American Semiconductor. "Partnering with TowerJazz to release FleX with their foundry CS18 process will greatly expand the availability of flexible ICs and is a benefit to the flexible electronics community."

"FleX is a post-fabrication process that can be applied to our production SOI technology making it possible to turn any product into a flexible die helping our customers create new, differentiated solutions," said Dr. Marco Racanelli, Sr. Vice President of TowerJazz. "We are excited to partner with ASI and look forward to jointly participating in the growth of this new market."

American Semiconductor offers full support for FleX IC and flexible hybrid system development. This includes IC design support for all TowerJazz CMOS processes, including CS18-FleX. Design support is available for full custom IC design, IP development or integration, or any part of the design flow which a customer might want assistance with. Engineering support for flexible hybrid systems includes printed electronics design and fabrication, FleX integration, and prototype development.

FleX is compatible with printed electronics to create flexible hybrid systems that enable new innovation in many applications including conformal and structurally integrated antennas, structural health monitoring for automotive and aerospace, and flexible consumer electronics.

#### About American Semiconductor

American Semiconductor, Inc. is the industry leader in flexible integrated circuits and flexible hybrid systems development as well as a services provider to create flexible ICs. As an on-shore, ITAR compliant, flexible products and services provider, American Semiconductor supports all aspects of flexible design and processing. Services include FleX™ Silicon-on-Polymer™ technology and design engineering including design, verification, layout, and test. Visit us at [www.americansemi.com](http://www.americansemi.com).

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#### 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 with geometries ranging from 1.0 to 0.13-micron, offering a broad range of customizable process technologies including: SiGe, BiCMOS, Mixed-Signal and RFCMOS, CMOS Image Sensor, Power Management (BCD), and Non-Volatile Memory (NVM) as well as CMOS and MEMS capabilities. TowerJazz also offers a world-class design enablement platform that complements its sophisticated technology and enables a quick and accurate design cycle. In addition, TowerJazz

provides (TOPS) Technology Optimization Process Services to IDMs as well as fabless companies that need to expand capacity, or progress from an R&D line to a production line. To provide multi-fab sourcing, TowerJazz maintains two manufacturing facilities in Israel, one in the U.S., and one in Japan with additional capacity available in China through manufacturing partnerships. 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 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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