
**UNITED STATES
SECURITIES AND EXCHANGE COMMISSION**
Washington, D.C. 20549

FORM 6-K

**REPORT OF FOREIGN PRIVATE ISSUER PURSUANT TO RULE 13a-16 OR 15d-16
OF THE SECURITIES EXCHANGE ACT OF 1934**

For the month of September 2026 No.1

Commission File Number 0-24790

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 of Form 20-F or Form 40-F.

Form 20-F ☒

Form 40-F ☐

**On September 15, 2026, the Registrant to Highlight its High-Volume
Silicon Photonics and SiGe Solutions for AI Infrastructure, Telecom and
Emerging Applications at ECOC 2026**

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: September 15, 2026

By: /s/ Nati Somekh

Name: Nati Somekh

Title: Corporate Secretary



Tower Semiconductor to Highlight its High-Volume Silicon Photonics and SiGe Solutions for AI Infrastructure, Telecom and Emerging Applications at ECOC 2026

MIGDAL HAEMEK, Israel, September 15, 2026 – Tower Semiconductor (NASDAQ/TASE: TSEM), the leading foundry for high-value analog semiconductor solutions, today announced its participation in upcoming ECOC 2026, taking place September 21–23, 2026 at FYCMA, Malaga, Spain, **booth #C1014**. During the event days, company representatives will be available for meetings to discuss current and future silicon photonics roadmap.

Tower will showcase its high-volume and high-performance Silicon Photonics platform, widely utilized across the industry for datacenter and telecom optical transceivers, as well as for high-growth applications, including near- and co-packaged optics (NPO/CPO) for next-generation AI cluster architectures, DWDM lasers, optical circuit switching, FMCW LiDAR for Physical AI, and quantum computing. The company will also feature its Silicon Germanium (SiGe) BiCMOS solutions, which complement its SiPho platform to address the higher-bandwidth, lower-latency and lower-power demands of next-generation AI infrastructure.

To learn more about Tower's advanced silicon photonics (SiPho) platform and RF & HPA technology offerings, visit [here](#).

About Tower Semiconductor

Tower Semiconductor Ltd. (NASDAQ/TASE: TSEM), the leading foundry of high-value analog semiconductor solutions, provides technology, development, and process platforms for its customers in growing markets such as consumer, industrial, automotive, mobile, infrastructure, medical and aerospace and defense. Tower Semiconductor focuses on creating a positive and sustainable impact on the world through long-term partnerships and its advanced and innovative analog technology offering, comprised of a broad range of customizable process platforms such as SiPho, SiGe, BiCMOS, mixed-signal/CMOS, RF CMOS, CMOS image sensor, non-imaging sensors, displays, and integrated power management (BCD and 700V). Tower Semiconductor also provides world-class design enablement for a quick and accurate design cycle as well as process transfer services including development, transfer, and optimization, to IDMs and fabless companies. To provide multi-fab sourcing and extended capacity for its customers, Tower Semiconductor currently owns one operating facility in Israel (200mm), two in the U.S. (200mm), and two in Japan (200mm and 300mm) which it owns through its 51% holdings in TPSCo and shares a 300mm facility in Agrate, Italy with STMicroelectronics. For more information, please visit: www.towersemi.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 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. Tower does not intend to update, and expressly disclaim any obligation to update, the information contained in this release.

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