

TOWER SEMICONDUCTOR LTD.

3,877,819 Ordinary Shares

Pursuant to this prospectus supplement, the accompanying Prospectus Supplement No. 1 and the accompanying base prospectus, we are offering 3,877,819 ordinary shares to YA Global Master SPV Ltd., or YA Global, at a price of \$1.03 per share, pursuant to our previously announced Standby Equity Purchase Agreement, or SEPA, dated August 11, 2009 and amendment dated August 27, 2009, with YA Global. The shares are being issued as part of the commitment by YA Global to purchase from time to time, at our option, up to \$25,000,000 of our ordinary shares pursuant to the SEPA as described in Prospectus Supplement No. 1. We expect to issue the shares to YA Global against payment therefor on or about October 26, 2009.

In addition to our issuance of ordinary shares to YA Global pursuant to the SEPA, this prospectus supplement, the accompanying Prospectus Supplement No. 1 and the accompanying base prospectus also cover the resale of those shares by YA Global to the public. YA Global may be deemed to be an “underwriter” within the meaning of the Securities Act of 1933, as amended.

Our ordinary shares are quoted on the NASDAQ Global Market and the Tel-Aviv Stock Exchange under the symbol “TSEM.” On October 22, 2009, the last reported sales prices of our ordinary shares on the NASDAQ Global Market and the Tel-Aviv Stock Exchange were \$1.06 per share and NIS 3.98 per share, respectively. After giving effect to the issuance of the shares and payment therefor as described in this prospectus supplement, YA Global will have purchased an aggregate of 9,271,851 of our ordinary shares in consideration for advances in the aggregate amount of \$9,150,815 under the SEPA.

Investing in our securities involves a high degree of risk. See “Risk Factors” included and referred to beginning on page S-3 of the accompanying Prospectus Supplement No. 1.

Neither the Securities and Exchange Commission nor any state securities commission has approved or disapproved of these securities or passed upon the adequacy or accuracy of this prospectus supplement or the accompanying base prospectus. Any representation to the contrary is a criminal offense.

The date of this prospectus supplement is October 23, 2009.

THE OFFERING

Securities offered	3,877,819 ordinary shares of Tower Semiconductor Ltd.
Purchaser	YA Global Master SPV Ltd., pursuant to the Standby Equity Purchase Agreement dated August 11, 2009 and amendment dated August 27, 2009.
Purchase price	\$4,000,000
Settlement date	On or about October 26, 2009.
Use of proceeds	We intend to use the net proceeds from this offering for working capital and other general corporate purposes. See “Use of Proceeds” in the accompanying Prospectus Supplement No. 1.
Symbol for Ordinary Shares on TSEM Nasdaq Global Market and Tel-Aviv Stock Exchange	
Resale	This prospectus supplement, the accompanying Prospectus Supplement No. 1 and the accompanying base prospectus also cover the resale of shares by YA Global to the public. See “Plan of Distribution” in the accompanying Prospectus Supplement No. 1.