

TOWER SEMICONDUCTOR LTD  
Form 424B2  
August 21, 2009

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Prospectus Supplement No. 2  
(to Prospectus Supplement No. 1  
dated August 12, 2009 and  
Prospectus dated February 15, 2008)

Filed pursuant to Rule 424(b)(2)  
Registration Statement No. 333-148747

## TOWER SEMICONDUCTOR LTD.

### 163,742 Ordinary Shares

Pursuant to this prospectus supplement, the accompanying Prospectus Supplement No. 1 and the accompanying base prospectus, we are offering 163,742 ordinary shares to YA Global Master SPV Ltd., or YA Global, at a price of \$1.22 per share, pursuant to our previously announced Standby Equity Purchase Agreement, or SEPA, dated August 11, 2009 with YA Global. The shares are being issued to pay the initial \$200,000 of the commitment fee due YA Global under the SEPA. We expect to issue the shares to YA Global against payment therefor on or about August 24, 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 August 20, 2009, the last reported sales prices of our ordinary shares on the NASDAQ Global Market and the Tel-Aviv Stock Exchange were \$1.34 per share and NIS 4.96 per share, respectively.

*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 August 21, 2009.

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### THE OFFERING

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| Securities offered   | 163,742 ordinary shares of Tower Semiconductor Ltd.   |
| Purchaser  | YA Global Master SPV Ltd., pursuant to the Standby Equity Purchase Agreement dated August 11, 2009.   |
| Purchase price   | \$200,000   |
| Settlement date  | On or about August 24, 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 Nasdaq Global Market and Tel-Aviv Stock Exchange | TSEM  |

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.

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