

TOWER SEMICONDUCTOR LTD  
Form 424B2  
May 23, 2011

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Filed Pursuant to Rule 424(b)(2)  
Registration No. 333-169491

Supplement No. 3  
(to Prospectus Supplement dated  
December 15, 2010 and  
Prospectus dated September 27,  
2010)

TOWER SEMICONDUCTOR LTD.

9,068,196 Ordinary Shares

Pursuant to this prospectus supplement, the accompanying Prospectus Supplement No. 4 and the accompanying base prospectus, we are offering 9,068,196 ordinary shares to YA Global Master SPV Ltd., or YA Global for a total consideration of \$11 million, pursuant to an advance made to us by YA Global under our previously announced Standby Equity Purchase Agreement, or SEPA, dated August 11, 2009 as amended to date. We expect to issue the shares to YA Global against payment therefor on or about May 24, 2011.

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 May 22, 2011, the last reported sales price of our ordinary shares on the Tel-Aviv Stock Exchange was NIS 4.375 per share. On May 20, 2011, the last reported sales price of our ordinary shares on the NASDAQ Global Market was \$1.28 per share.

The shares are being issued as part of the commitment by YA Global to purchase from time to time, at our option, our ordinary shares pursuant to the SEPA. After giving effect to the issuance of the shares and payment therefor as described in this prospectus supplement, a maximum of \$7 million is available for future advances under the SEPA.

Investing in our securities involves a high degree of risk. See “Risk Factors” referred to and included beginning on page S-2 of the accompanying Prospectus Supplement dated December 15, 2010.

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 May 23, 2011

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THE OFFERING

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| Securities offered   | 9,068,196 ordinary shares of Tower Semiconductor Ltd.  |
| Purchaser  | YA Global Master SPV Ltd., pursuant to the Standby Equity Purchase Agreement dated August 11, 2009, as amended to date.  |
| Purchase price   | \$11,000,000.  |
| Settlement date  | On or about May 24, 2011.  |
| 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 dated Decemember 15, 2010.  |
| Symbol for Ordinary Shares on Nasdaq Global Market and Tel-Aviv Stock Exchange | TSEM   |
| Resale   | This prospectus supplement and the accompanying Prospectus Supplement and the accompanying base prospectus referred to on the also cover the resale of the ordinary shares by YA Global to the public. See “Plan of Distribution” in the accompanying Prospectus Supplement dated December 15, 2010. |

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