Zacks Small-Cap Research

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Tower Semiconductor (NASDAQ: TSEM)

TSEM: Tower Returns to Year-over-Year Revenue Growth in Q3 After Almost Two Years of Declines

Using 3.0 times EV to Sales, we believe TSEM stock is worth at least $50.00 per share using 2025 revenues as growth returns and margins expand. The company is flush with $1.2 billion in cash, with which it is expanding capacity.

Current Price (11/12/2024)	$43.10
Valuation	**$50.00**

OUTLOOK

Tower is a pure-play analog semiconductor wafer foundry that manufactures SiGe, Silicon Photonics, MEMS, RF, embedded flash-based memory, analog/mixed-signal, and CMOS image-sensor devices in the US, Israel, Japan and Italy. It is serving markets in mobile such as RF High Position analog, as well as in CMOS image sensors, and power management. Its new fab in Italy in partnership with STMicro just started shipping product and its capacity will continue to ramp over the next two years. The company's new Silicon Photonics products are seeing strong demand in optical transceivers used in AI data centers. The company is flush with $1.2 billion in cash (or $10.83 per share), is cash flow positive and is increasing capacity.

SUMMARY DATA

52-Week High	**46.64**
52-Week Low	**25.48**
One-Year Return (%)	**61.5**
Beta	**0.9**
Average Daily Volume (sh)	**489,685**
Shares Outstanding (mil)	**111**
Market Capitalization ($mil)	**$4,793**
Short Interest Ratio (days)	**2.9**
Institutional Ownership (%)	**71**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**5.1**
Earnings Per Share (%)	**27.2**
Dividend (%)	**N/A**
P/E using TTM EPS	**20.5**
P/E using 2024 Estimate	**21.0**
P/E using 2025 Estimate	**19.9**

Risk Level	**Below Average**
Type of Stock	**Large Blend**
Industry	**Elec Comp-Semis**

ZACKS ESTIMATES

Revenue
(In millions of US$)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2022	$421 A	$426 A	$427 A	$403 A	$1,678 A
2023	$356 A	$357 A	$358 A	$352 A	$1,423 A
2024	$327 A	$351 A	$371 A	$387 E	$1,436 E
2025					$1,522 E

Earnings per Share
(non-GAAP)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2022	$0.55 A	$0.58 A	$0.72 A	$0.69 A	$2.52 A
2023	$0.60 A	$0.52 A	$0.54 A	$0.55 A	$2.17 A
2024	$0.46 A	$0.53 A	$0.57 A	$0.49 E	$2.05 E
2025					$2.17 E

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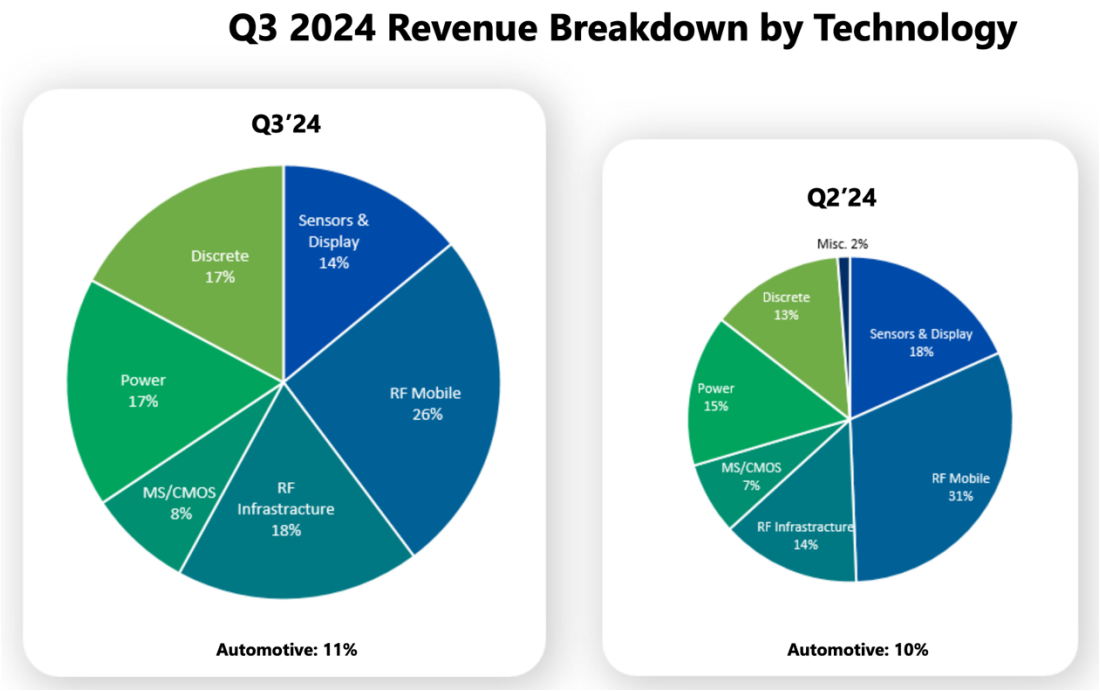
WHAT'S NEW

Tower Returned to Year-over-Year Revenue Growth After Nearly Two Years of Declines

Tower returned to year-over-year revenue growth in Q3 2024, as expected after almost two years of declines. Earnings also improved both sequentially and year-over-year and grew faster than revenues as margins expanded. The company expects continued quarterly sequential improvement in Q4 as 300mm capacity comes online and demand increases. On the Q3 call, management said demand is picking up faster than expected this year for RF Infrastructure (consisting of SiPho for optical transceivers and SiGe for electrical amplifiers,) which almost doubled in the quarter. While management had originally forecasted that revenues from SiPho could reach $80 million in 2024, it now expects that number to be $100 million. It expects to leave the year at a $150 million run rate, which could allow it to surpass its original forecast of $160 million in revenues for 2025.

SiPho provides the highest gross margins for Tower, which offsets lower margins from the Agrate fab, which is expected to begin producing revenue in Q4. We have taken down our earnings expectation for Q4 as the Agrate start will add approximately $10 million to the cost of goods in the quarter. SiPho is being used for data center servers and active copper cable, replacing legacy technology. Tower believes it is the market leader for 800G and will be the first to go into production of 1.6T (using eight lanes of 200G.) For Q4, the company guided to revenues of $387 million plus or minus 5%, which would result in accelerating growth. As of last night's closing price, the company trades at an enterprise value of $3.8 billion, or 2.7 times EV to estimated sales for 2024, versus its peers, who trade at 5.3 times.

The biggest revenue contribution in the quarter again came from RF Mobile, but the second largest is now RF infrastructure, as that business continues to grow rapidly.



Source: Tower Semiconductor

Fab utilization is improving. There is a gap in our table below as the company did not report numbers right before and during the acquisition attempt by Intel. Starting in Q1 2024, the company began to move some production from its 40-year-old Fab 1 to Fab 2 to consolidate production and reduce expenses. It is also shutting down some lines that are no longer needed and selling off some equipment. Fab 1 itself is leased from the government and not owned. In addition, it expects to start producing revenues at its new Agate fab in Q4, which will continue to ramp up for the next two years. It has not reported utilization. All its capacity there is already spoken for 2024 and 2025. On January 1st, there was an earthquake in Japan that disrupted production and caused damage to some products and equipment it returned to fully loaded utilization of 85% in Q2.

Table 1. Fab Capacity Utilization

	Q1 2020	Q2 2020	Q3 2020	Q4 2020	Q1 2021	NA	Q2 2023	Q3 2023	Q4 2023	Q1 2024	Q2 2024	Q3 2024
Fab1 Migdal Haemek, Israel 6"	60%	60%	50%	64%	70%		70%	55%	60%	65%	75%	85%
Fab2 Migdal Haemek, Israel 8"	70%	70%	60%	76%	80%		75%	75%	75%	75%	67%	60%
Fab3 Newport Beach, CA 8"	55%	70%	70%	75%	75%		40%	40%	40%	45%	55%	65%
TPSCo factories												
8 inch	55%	60%	60%	65%	70%		70%	60%	40%	40%	45%	60%
12 inch	80%	85%	70%	90%	90%		75%	60%	70%	75%	85%	85%
San Antonio, 8"	65%	70%	60%	67%	70%		65%	65%	70%	60%	60%	60%
Quarterly Average Utilization	64%	69%	62%	73%	76%		66%	59%	59%	60%	65%	69%

Q3 2024 Results

Revenues in Q3 2024 were $371 million versus $358 million in Q3 2023 and were up 3.4% year over year. This is the first quarter of revenue growth since Q3 2022 and the second quarter of sequential growth. The company guided to a Q4 2024 of $387 million plus or minus 5%, which would be 10.0% growth.

Q3 2024 gross margin decreased to 25.1% from 26.9% a year ago but was up compared to 24.8% in Q2 2024. Gross margin dollars increased by $6.2 million, or 7.1%. Operating expenses without one-time charges were down $914,000. The operating margin was 15.0%. Other income was $6.1 million compared to $10.0 million in last year's quarter. The company expects it to fluctuate between $4 million and $7 million per quarter.

Pretax profit was $61.9 million versus $58.6 million a year ago without the one-time gain. Taxes were $7.0 million in the quarter, or a tax rate of 11.4%. GAAP net income was $54 million versus $342 million last year, while non-GAAP net income was $63.7 million versus $60.5 million a year ago, up 5.4%.

Diluted GAAP EPS was $0.49 per share versus $3.07 last year. Adjusted non-GAAP diluted EPS increased to $0.57 versus $0.54 a year ago. Average diluted shares for the quarter were 112.5 million, up from 111.2 million last year. EBITDA for the third quarter of 2024 was $130 million compared to $147 million a year ago and up sequentially from $126 million in Q2 2024.

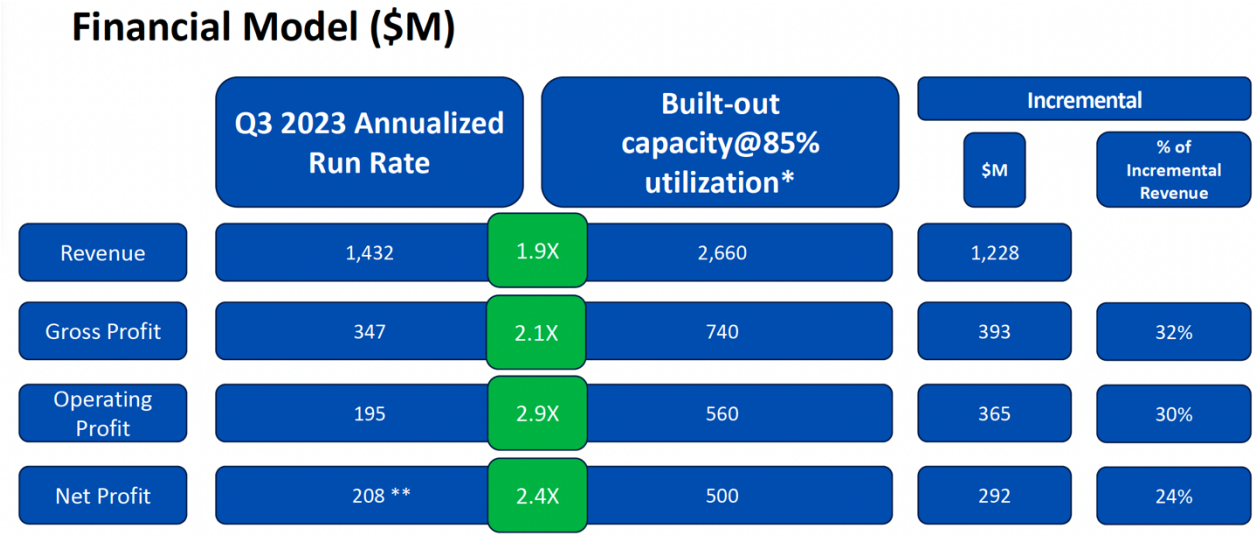
Balance Sheet

On September 30th, the company had cash, short-term deposits, and marketable securities of $1.21 billion or $10.83 in cash per share. We estimate it is earning between 4.5% and 5.0% on about $800 million of that amount. Total debt increased by $5 million to $193 million from the last quarter. Its quick ratio was again 4.9xs, and it still has $1.42 billion in working capital. Operating cash flow without changes in working capital was $126 million. Free cash flow was a negative $1.6 million after spending a net $128 million on cap ex in

the quarter. Cap ex expenditures are expected to increase. Maintenance Capex is $200-$240 million per year; Tower will spend another $100 million on Agrate in the next four quarters and $300 million in New Mexico spread in installments through 2026. In addition, the company just announced spending another $350 million to expand capacity for SiPho and SiGe spread until the end of 2026. This heavy spending could put the company in negative free cash flow territory for the next year or two.

Target Business Model

During the Q3 2023 conference call, management showed a business model reflecting investments in new capacity, which it still deems valid. In the past, incremental revenues were coming in at above 50% gross margin, increased investment and current prices should result in incremental margins at 32%, as shown in the following chart. Through operating leverage, this incremental gross margin should translate into 24% net margins. So, as shown at 85% capacity utilization, revenues would increase by 86% to $2.66 billion and net income by 140% to $500 million.



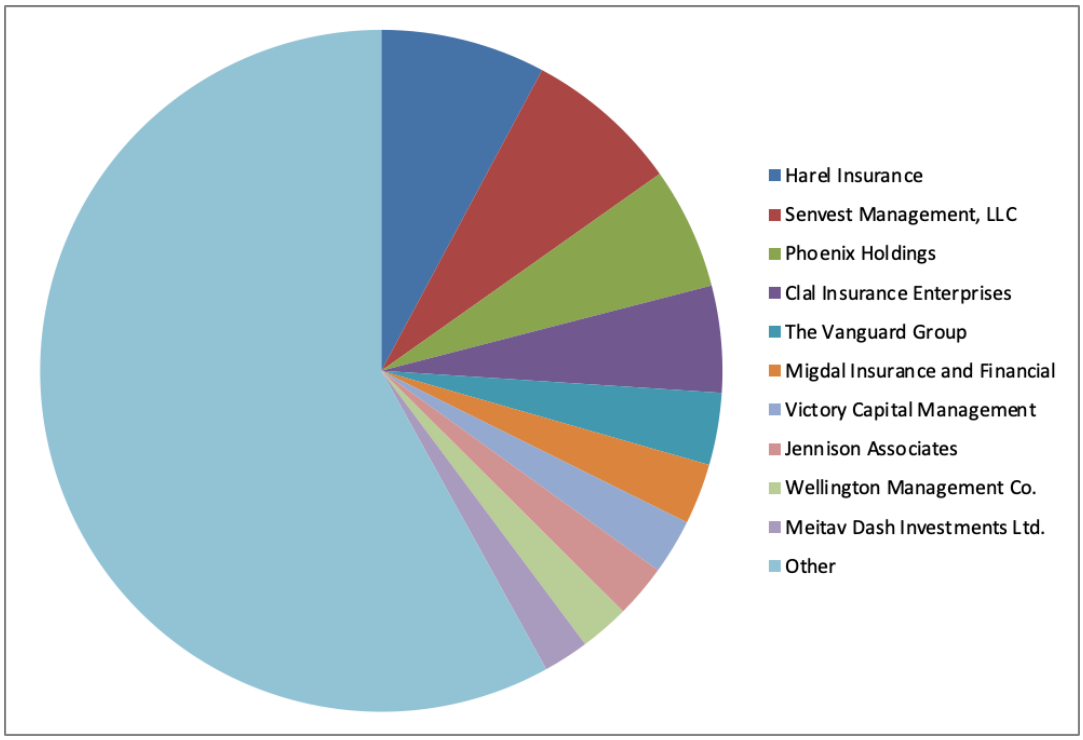
** Including New Mexico capacity corridor and Agrate capacity based on previously announced Cap-Ex investments*
*** Excluding Intel merger contract termination fees received in Q3'2023, net of associated cost and taxes*
Source: Tower Semiconductor

VALUATION

TSEM trades at an enterprise value of $3.8 billion, or 2.7 times EV to estimated sales for 2024, less than half its peers who trade at an average of 5.3 times. At even 3.0 times, TSEM stock would be worth approximately $50.00 per share by next year using 2025 revenues.

Foundry Companies	Ticker	EPS 24E	EPS 25E	Price	PE 2024E	PE 2025E	Growth Rate	PE/Growth	Sales 2024E	EV/Sales	EV
Company											
GLOBALFOUNDRIES	GFS	1.46	1.79	42.33	29.0	23.6	22.6%	1.3	6.7	3.4	23
Semiconductor Manufacturing	0981.HK	0.65	0.86	27.15	41.8	31.6	32.3%	1.3	61.5	6.6	409
Taiwan Semiconductor	TSM	6.33	8.08	188.04	29.7	23.3	27.6%	1.1	89.6	9.0	802
United Microelectronics	UMC	0.64	0.64	6.95	10.9	10.9	0.0%	NM	7.2	2.4	17
Average					27.8	22.3		1.2	41.2	5.3	313

OWNERSHIP


Harel Insurance
Senvest Management, LLC
Phoenix Holdings
Clal Insurance Enterprises
The Vanguard Group
Migdal Insurance and Financial
Victory Capital Management
Jennison Associates
Wellington Management Co.
Meitav Dash Investments Ltd.
Other

INCOME STATEMENT

	March Q1 23	June Q2 23	Sept Q3 23	Dec Q4 23	March Q1 24	June Q2 24	Sept Q3 24	Dec Q4 24E	2023	2024E	2025E
REVENUE	355.6	357.2	358.2	351.7	327.2	351.2	370.5	387.0	1,422.7	1,435.9	1,522.0
Yr-to-yr Gr.	-16%	-16%	-16%	-13%	-8%	-2%	3%	10%	-15%	1%	6%
OPERATING EXPENSES											
Cost of goods sold	259.9	270.7	271.3	267.3	254.6	264.3	277.5	296.0	1,069.2	1,092.3	1,135.4
Gross Margin	95.7	86.5	86.9	84.4	72.6	86.9	93.1	91.0	353.5	343.6	386.6
% of Sales	26.9%	24.2%	24.3%	24.0%	22.2%	24.8%	25.1%	23.5%	24.8%	23.9%	25.4%
R&D	19.3	19.5	20.2	20.8	20.0	19.0	19.9	19.9	79.8	78.7	81.0
M, G&A	18.6	17.4	18.0	18.4	18.7	19.1	17.4	19.0	72.5	74.2	75.5
One-time charges	(31.7)	(0.9)	(313.5)	0.0	0.0	(6.3)	0.0	0.0	(346.0)	0.0	0.0
Tot Operating Exp.	6.3	36.0	(275.3)	39.3	38.6	31.8	37.3	38.9	(193.7)	152.8	156.5
Operating Income	89.4	50.5	362.2	45.2	34.0	55.1	55.8	52.1	547.3	190.8	230.1
Operating Margin	25.1%	14.1%	101.1%	12.8%	10.4%	15.7%	15.0%	13.5%	38%	13%	15%
Yr-to-yr Gr.	42%	-29%	357%	-54%	-59%	11%	-85%	5%	107%	-65%	14%
Interest & other non-cash financing	7.0	3.9	10.0	16.7	4.0	7.7	6.1	5.5	37.6	23.3	15.0
Gain from acqusiition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Profit before tax	96.4	54.5	372.1	61.8	38.0	62.9	61.9	57.6	584.8	214.1	245.1
Profit margin	27.1%	15.2%	103.9%	17.6%	11.6%	17.9%	16.7%	14.9%	41.1%	14.9%	14.0%
Taxes	(15.0)	(5.7)	(34.4)	(10.1)	5.1	(6.1)	(7.0)	(6.7)	(65.3)	(14.7)	(24.5)
Tax Rate	15.6%	10.6%	9.2%	16.4%	-13.4%	9.7%	11.4%	11.6%	11.2%	6.9%	10.0%
Profit before non-controlling	81.4	48.7	337.7	51.7	43.0	56.8	54.8	50.9	519.5	199.3	220.6
Minority Income	(10.0)	2.5	4.3	2.1	1.6	(3.3)	(0.2)	(3.0)	(1.0)	(4.9)	(8.0)
GAAP Net income	71.4	51.2	342.1	53.8	44.6	53.4	54.6	47.9	518.5	194.4	212.6
Yr-to-yr Gr.	32%	-12%	395%	-35%	-37%	4%	-84%	-11%	96%	-63%	9%
Non-GAAP Net Income	62.0	57.9	60.5	61.0	51.8	59.0	63.7	55.4	241.3	230.0	245.4
Yr-to-yr Gr.	3%	-10%	-25%	-21%	-16%	2%	5%	-9%	-14%	-5%	7%
GAAP primary EPS	$0.65	$0.47	$3.10	$0.49	$0.40	$0.48	$0.49	$0.43	$4.70	$1.75	$1.90
Fully diluted GAAP EPS	$0.64	$0.46	$3.07	$0.48	$0.40	$0.48	$0.49	$0.43	$4.66	$1.73	$1.88
Adj Non-GAAP EPS-Fully dil.	**$0.60**	**$0.52**	**$0.54**	**$0.55**	**$0.46**	**$0.53**	**$0.57**	**$0.49**	**$2.17**	**$2.05**	**$2.17**
Yr-to-yr Gr.	10%	-10%	-25%	-21%	-23%	1%	4%	-10%	-14%	-6%	6%
Primary Share Out	110.0	110.0	110.3	110.8	110.8	111.0	111.2	111.4	110.3	111.1	111.8
Fully Diluted GAAP	111.1	111.2	111.2	111.3	111.6	112.0	112.5	112.7	111.2	112.2	113.1
EBITDA	**120.7**	**124.1**	**146.9**	**117.0**	**100.7**	**126.3**	**130.2**	**125.6**	**508.7**	**447.1**	**487.3**
EBITDA Margin	34%	35%	41%	33%	31%	36%	35%	32%	36%	31%	32%
Yr-to-yr Gr.	-10%	-10%	-7%	-28%	-9%	4%	-14%	-2%	-14%	-12%	9%

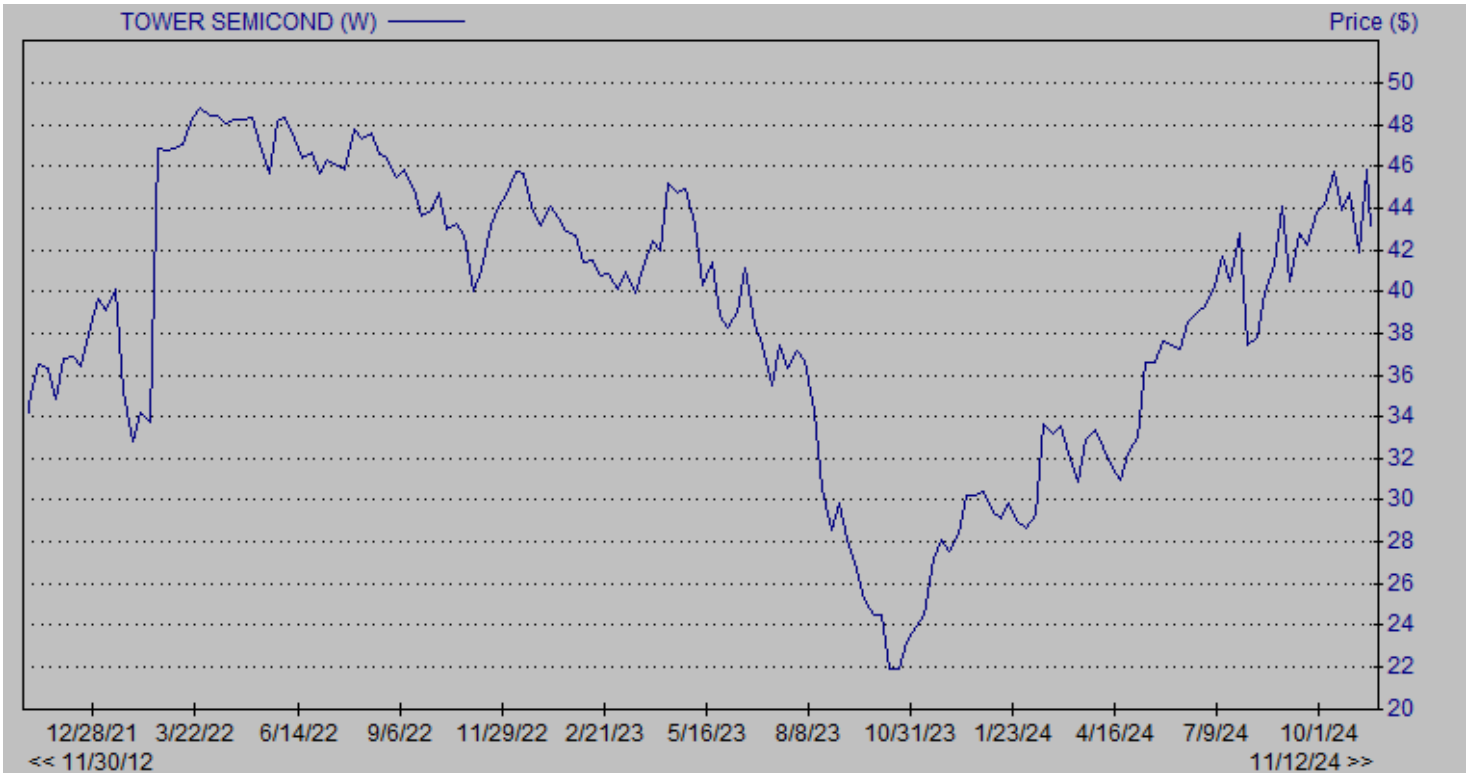
BALANCE SHEET

$ in thousands	Sept 30, 2024	June 30, 2024	Qtr-Qtr % Change	Sept 30, 2023	Yr-Yr % Change
CURRENT ASSETS					
Cash and cash equivalents	**$270,979**	**$265,313**	2.1%	**$314,816**	-13.9%
Short term deposits	**893,899**	**903,401**	-1.1%	**735,382**	21.6%
Marketable securities	**40,137**	**65,331**	-38.6%	**179,381**	-77.6%
Trade accounts receivable	195,794	165,161	18.5%	150,162	30.4%
Inventories	272,377	276,082	-1.3%	304,245	-10.5%
Other current assets	41,104	35,414	16.1%	33,453	22.9%
Total current assets	1,714,290	1,710,702	0.2%	1,717,439	-0.2%
PROPERTY AND EQUIPMENT, NET	1,295,243	1,199,191	8.0%	1,062,456	21.9%
GOODWILL & INTANGIBLE ASSETS, NET	10,770	11,218	-4.0%	12,557	-14.2%
DEFERRED TAX & OTHER ASSETS, NET	39,526	41,056	-3.7%	43,342	-8.8%
TOTAL ASSETS	3,059,829	2,962,167	3.3%	2,835,794	7.9%
CURRENT LIABILITIES					
Short term debt	**61,694**	**61,365**	0.5%	**47,671**	29.4%
Trade accounts payable	129,703	123,782	4.8%	106,362	21.9%
Deferred revenue	27,935	23,988	16.5%	23,745	17.6%
Other current liabilities	75,239	81,040	-7.2%	80,392	-6.4%
Total current liabilities	294,571	290,175	1.5%	258,170	14.1%
LONG-TERM DEBT	**131,614**	**126,715**	3.9%	**179,901**	-26.8%
LONG-TERM CUSTOMERS' ADVANCES	10,122	16,118	-37.2%	30,285	-66.6%
DEFERRED TAX LIABILITY	15,862	16,446	-3.6%	18,626	-14.8%
Total liabilities	452,169	449,454	0.6%	486,982	-7.1%
SHAREHOLDERS' EQUITY	2,607,660	2,512,713	3.8%	2,348,812	11.0%
TOTAL LIABILITIES AND EQUITY	$3,059,829	$2,962,167	3.3%	$2,835,794	7.9%
Current Ratio	5.8	5.9	-1.3%	6.7	-12.5%
Quick Ratio	4.9	4.9	-1.0%	5.5	-10.6%
Working Capital	1,419,719	1,420,527	-0.1%	1,459,269	-2.7%
Debt Percent of Assets	6.3%	6.3%	-0.5%	8.0%	-21.3%
Debt to Equity	0.1	0.1	-1.0%	0.1	-23.5%
Cash and equivalents	1,205,015	1,234,045	-2.4%	1,229,579	-2.0%
Cash and equivalents per share	$10.83	$11.11	-2.5%	$11.15	-2.8%
Debt	193,308	188,080	2.8%	227,572	-15.1%
Change in cash	(29,030)	(8,585)	238.1%	315,992	-109.2%
Change in debt	5,228	(21,319)	-124.5%	7,407	-29.4%

CASH FLOW

	Year 2020	Year 2021	Year 2022	3-Mo 3/31/23	3-Mo 6/30/23	3-Mo 9/30/23	3-Mo 12/31/23	Year 2023	3-Mo 3/31/24	3-Mo 6/30/24	3-Mo 9/30/24
CASH FLOWS - OPERATING ACTIVITIES											
Net profit (loss)	$ 83,289	$ 154,075	$ 266,471	$ 81,368	$ 48,706	$ 337,737	$ 51,719	$ 519,530	$ 43,047	$ 56,750	$ 54,840
Income and non-cash expense items:											
Depreciation and amortization	240,531	270,710	292,638	62,387	63,579	66,877	65,178	258,021	59,544	65,567	65,348
Effect of fair value measurement on debt	6,645	1,138	10,362	(926)	3,102	3,044	(6,852)	(1,632)	227	625	(425)
Other expense (income), net	5,215	(1,461)	6,934	815	(149)	(21)	(7,692)	(7,047)	5,993	0	6,289
Changes in assets and liabilities:											
Trade accounts receivable	(33,087)	14,335	(15,232)	7,413	(21,241)	12,529	(1,861)	(3,160)	(6,716)	(7,227)	(27,486)
Other assets	(7,999)	(26,731)	20,427	(1,138)	2,114	(4,099)	(6,418)	(9,541)	(13,454)	3,141	12,785
Inventories	(2,891)	(44,192)	(77,891)	(57,420)	16,315	22,477	27,310	8,682	(23,703)	17,744	14,093
Trade accounts payable	(18,576)	(25,004)	(20,893)	44,542	(24,712)	(58,107)	30,023	(8,254)	32,559	(19,741)	4,646
Deferred revenue and customers' advances	(3,072)	74,524	(30,069)	(15,470)	(10,723)	419	(9,902)	(35,676)	(1,931)	(2,091)	(2,049)
Other current liabilities	347	16,850	61,033	(45,053)	(5,479)	(3,885)	(15,746)	(70,163)	16,868	274	(2,178)
Employee related liabilities	3,936	(2,681)	2,956	371	267	191	(2,039)	(1,210)	0	0	0
Deferred tax liability, net	2,223	(10,270)	13,084	(4,162)	3,715	25,080	2,378	27,011	0	0	0
Other long-term liabilities	0	0	0	0	0	0	0	0	(2,396)	(1,957)	(1,120)
Net cash provided by operating activities	**276,561**	**421,293**	**529,820**	**72,727**	**75,494**	**402,242**	**126,098**	**676,561**	**110,038**	**113,085**	**124,743**
CASH FLOWS - INVESTING ACTIVITIES											
Investments in property and equipment, net	**(256,539)**	**(279,260)**	**(213,537)**	**(105,245)**	**(89,433)**	**(101,080)**	**(136,426)**	**(432,184)**	**(98,018)**	**(112,615)**	**(127,624)**
Interest bearing deposits, including designated deposits	(107,070)	(59,684)	(115,911)	24,194	42,615	(318,497)	(36,975)	(288,663)	(1,113)	17,443	19,412
Net cash provided by (used in) investing activities	(363,609)	(338,944)	(329,448)	(81,051)	(46,818)	(419,577)	(173,401)	(720,847)	(99,131)	(95,172)	(108,212)
CASH FLOWS - FINANCING ACTIVITIES											
Exercise of warrants and options	2,512	458	44	0	0	0	0	0	0	0	0
Debt repayment	(63,699)	(77,315)	(78,379)	(28,796)	(10,093)	15,493	(8,950)	(32,346)	(8,409)	(10,439)	(16,402)
Proceeds from investment in subsidiary	0	0	11,685	1,932	0	0	0	1,932	0	0	0
Net cash used in financing activities	(61,187)	(76,857)	(66,650)	(26,864)	(10,093)	15,493	(8,950)	(30,414)	(8,409)	(10,439)	(16,402)
Effect of foreign exchange rate change	4,357	(6,245)	(3,893)	(637)	(5,322)	(1,537)	2,101	(5,395)	(2,665)	(2,658)	5,537
INCREASE (DECREASE) IN CASH & CASH EQUIVALENTS	(143,878)	(753)	129,829	(35,825)	13,261	(3,379)	(54,152)	(80,095)	(167)	4,816	5,666
CASH & CASH EQTS - BEGINNING OF PERIOD	355,561	211,683	210,930	340,759	304,934	318,195	314,816	340,759	260,664	260,497	265,313
CASH & CASH EQUIVALENTS - END OF PERIOD	211,683	210,930	340,759	304,934	318,195	314,816	260,664	260,664	260,497	265,313	270,979
Operating Cash Flow	$ 335,680	$ 424,462	$ 576,405	$ 143,644	$ 115,238	$ 407,637	$ 102,353	$ 768,872	$ 108,811	$ 122,942	$ 126,052
Free cash flow	$ 79,141	$ 145,202	$ 362,868	$ 38,399	$ 25,805	$ 306,557	$ (34,073)	$ 336,688	$ 10,793	$ 10,327	$ (1,572)

HISTORICAL STOCK PRICE



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