Zacks Small-Cap Research

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Tower Semiconductor (NASDAQ: TSEM)

Demand Has Weakened But Intel Deal to Acquire Tower in Still On Schedule

We believe that the stock will appreciate to the acquisition price as the risk discount and time value of money versus the acquisition price dissipates. The deal is expected to close in approximately four months.

Current Price (11/11/2022)	$41.07
Valuation	**$53.00**

OUTLOOK

Tower Semiconductor has accepted an offer to be acquired by Intel in an all-cash deal at $53 per share. Tower is a pure-play analog semiconductor wafer foundry that manufactures SiGe, MEMS, RF, embedded flash-based memory, analog/mixed-signal, and CMOS image-sensor devices in the US, Israel, and Japan. It is serving high-growth markets in mobile such as RF High Position analog, as well as in CMOS image sensors, and power management. This year it expanded its capacity to fulfill the high demand for both 200mm and 300mm products. It will be also adding a new fab in Italy in partnership with STMicro.

SUMMARY DATA

52-Week High	**49.12**
52-Week Low	**31.83**
One-Year Return (%)	**12.2**
Beta	**1.0**
Average Daily Volume (sh)	**549,879**
Shares Outstanding (mil)	**109.1**
Market Capitalization ($mil)	**$4,488**
Short Interest Ratio (days)	**3.2**
Institutional Ownership (%)	**72**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**2.4**
Earnings Per Share (%)	**-11.5**
Dividend (%)	**N/A**
P/E using TTM EPS	**17.2**
P/E using 2022 Estimate	**17.3**
P/E using 2023 Estimate	**N/A**

Risk Level	**Low**
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)
2020	$300 A	$310 A	$310 A	$345 A	$1,266 A
2021	$347 A	$362 A	$387 A	$393 A	$1,508 A
2022	$421 A	$426 A	$427 A	$392 E	$1,667 E
2023					

Earnings per Share
(non-GAAP)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2020	$0.20 A	$0.22 A	$0.18 A	$0.34 A	$0.94 A
2021	$0.31 A	$0.34 A	$0.41 A	$0.55 A	$1.61 A
2022	$0.55 A	$0.58 A	$0.72 A	$0.52 E	$2.37 E
2023					

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WHAT'S NEW

Q3 2022 Results Reflect Effects of the Aral Fab Shutdown

Tower Semiconductor reported revenues in Q3 2022 of $427.1 million versus $386.7 million in Q3 2021. The company is no longer providing guidance or hosting earnings calls. This reflects was year-over-year growth of 10%. Revenues were also up again sequentially as they have been since Q1 2020, however, we expect that trend to stop in Q4 due to the softness in demand from customers across the board. Organic revenue for the third quarter of 2022, (defined as total revenue excluding revenues from Nuvoton in the Japanese fabs and from Maxim in the San Antonio fab,) grew by 22% year over year. The company no longer has any capacity constraints in the short term.

Revenues in the second half are impacted by the shutdown of the Aral manufacturing factory in Japan as of July 1. That fab serviced Nuvoton exclusively and were low-margin revenues. The fab will not be reopened and most of the one-time $4 million restructuring charges in Q3 were due to a write-down of that fab and its equipment and assets.

Q3 2022 gross margin increased to 29.2% from 22.1% a year ago and 26.4% in Q2 2022. Primarily from the elimination of low-margin revenues from the closure of the Japanese fab. Gross margin dollars increased by $39 million, or 46%. Operating expenses increased to $45.3 million year over year but included a one-time restructuring charge of $4.0 million. Without that total operating expenses would have been $41.3 million compared to $41.2 million. The operating margin improved to 18.5% from 11.4% last year. On a dollar basis, it increased by $35 million or 79%. Other income was an expense of $9.4 million compared to $2.7 million a year ago.

Pretax profit was $69.9 million versus $41.5 million a year ago. Taxes were $3.2 million in the quarter compared to $1.1 million last year.

GAAP net income was $69.1 million versus $31.9 million last year, while non-GAAP net income was $80.2 million versus $45.0 million, up 78%.

Diluted GAAP EPS was $0.62 per share versus $0.36 last year. Adjusted non-GAAP diluted EPS increased to $0.72 versus $0.41 a year ago (up 76%). Average diluted shares for the quarter were 110.8 million, up from 109.8 million last year. EBITDA for the third quarter of 2022 was $157.6 million compared to $113.1 million a year ago and up sequentially from $137.2 million in Q2 2022.

Q4 is showing demand weakness from Tower's customer base across the board and we now expect down sequential revenues. We have adjusted our model and our 2022 earnings estimate to a non-GAAP EPS estimate of $2.37 due to weaker demand and the loss of low-margin Aral revenues.

Balance Sheet

On September 30th the company had cash, short-term deposits, and marketable securities of $871 million compared to $856 million last quarter while decreasing debt by $17 million to $263 million. Its quick ratio is high at 3.7xs and it has $983 million in working capital. Operating cash flow was $150 million and free cash flow was $105 million after spending $45 million on cap ex in the quarter.

Recap of Tower Acquisition by Intel

On February 15th Intel announced it plans to buy Tower Semiconductor for $53 per share in cash. Using its fully diluted share count this equals an enterprise value of $5.4 billion. This is 3.6 times Tower's revenues for

2021 and 3.1 times its current run rate. The deal is expected to be accretive to Intel upon close. This acquisition will aid Intel's foundry strategy and give it the capacity and expertise to pursue its expansion plans, particularly in the US where Tower already has fabs in California and Texas. With Intel's cash, it can expand its fabs with far greater ease and speed and provide the demand to fill them. Incremental revenues carry margins over 50%. Licensing arrangements with the Japanese fabs were structured to reduce taxes and increase overall profitability at the expense of gross margins. The deal is expected to take a year (four months left or less) to close as the companies get regulatory approvals from various countries.

Congress passed the "Creating Helpful Incentives for the Production of Semiconductors for America Act" more commonly known as the CHIPS Act, and it awaits a Presidential signature. The bill allocates $54 billion in subsidies to the American semiconductor industry. We expect Intel to be a beneficiary of these subsidies and in the past Tower expressed hope that it could receive funds to expand its San Antonio campus capacity where it has ample space.

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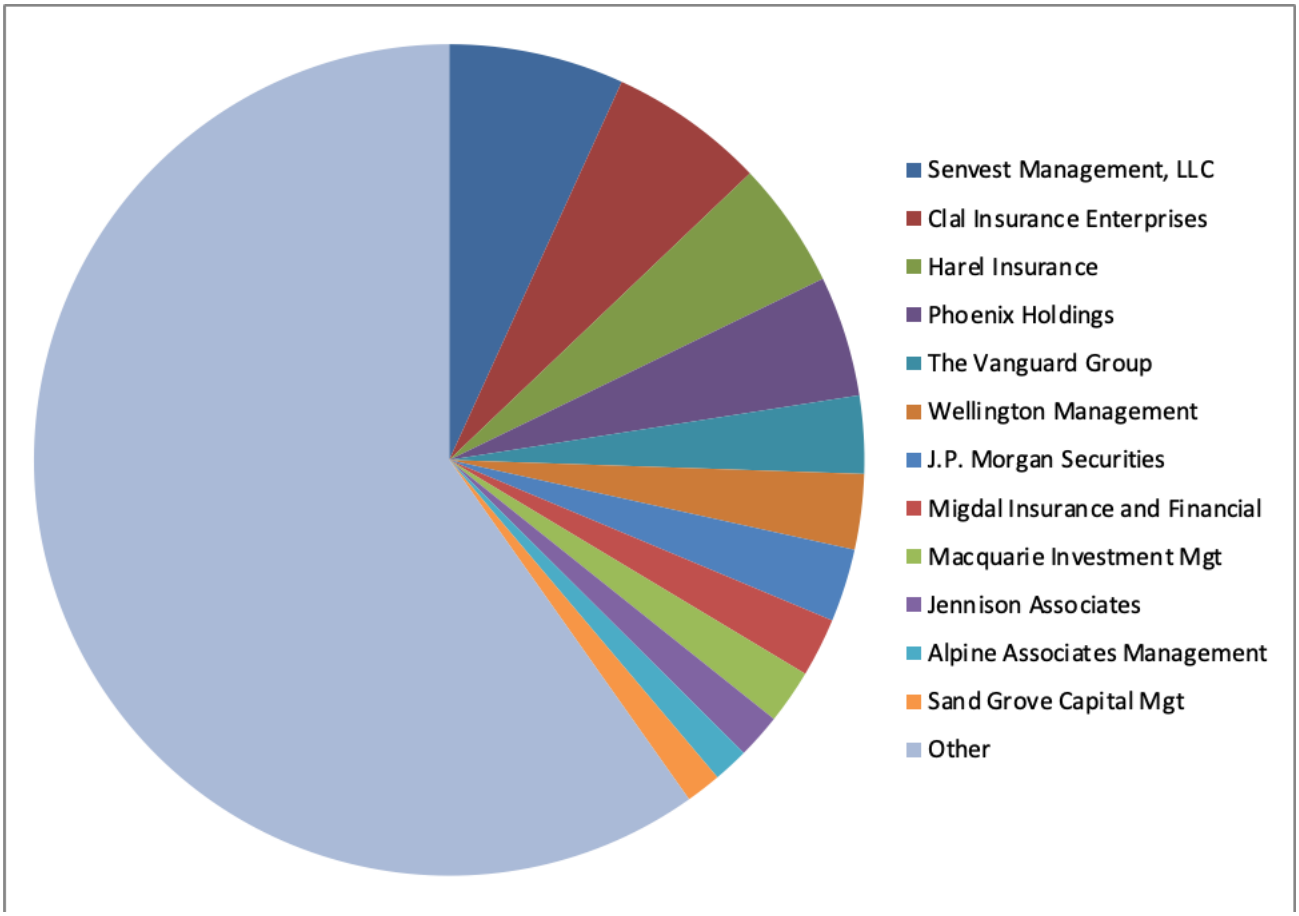

INCOME STATEMENT

	March Q1 21	June Q2 21	Sept Q3 21	Dec Q4 21	March Q1 22	June Q2 22	Sept Q3 22	Dec Q4 22E	2020	2021	2022E
REVENUE	347.2	362.1	386.7	412.1	421.1	426.2	427.1	392.9	1,265.7	1,508.2	1,667.3
Yr-to-yr Gr.	16%	17%	25%	19%	21%	18%	10%	-5%	3%	19%	32%
OPERATING EXPENSES											
Cost of goods sold	277.4	288.4	301.3	311.9	316.5	313.7	302.6	287.2	1,032.4	1,179.0	1,220.0
Gross Margin	69.8	73.8	85.4	100.2	104.6	112.4	124.5	105.7	233.3	329.1	447.3
% of Sales	20.1%	20.4%	22.1%	24.3%	24.8%	26.4%	29.2%	26.9%	18.4%	21.8%	26.8%
R&D	20.3	21.1	21.6	22.4	20.3	20.5	22.4	22.5	78.3	85.4	85.7
M, G&A	17.0	18.7	19.6	21.9	21.3	21.3	18.9	18.0	64.0	77.2	79.4
One-time charges	0.0	0.0	0.0	0.0	0.0	0.0	4.0	0.0	0.0	0.0	4.0
Tot Operating Exp.	37.3	39.8	41.2	44.3	41.6	41.8	45.3	40.5	142.3	162.6	165.1
Operating Income	32.5	34.0	44.2	55.9	63.1	70.7	79.2	65.2	91.0	166.5	282.2
Operating Margin	9.4%	9.4%	11.4%	14%	15.0%	16.6%	18.5%	16.6%	7%	11%	17%
Yr-to-yr Gr.	98%	54%	131%	67%	94%	108%	79%	17%	5%	54%	135%
Interest & other non-cash financing	(7.8)	(0.5)	(2.7)	(0.4)	(2.1)	(8.2)	(9.4)	(10.0)	(2.3)	(11.4)	(29.6)
Other income	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
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	24.6	33.5	41.5	55.5	60.9	62.5	69.9	55.2	88.7	155.1	252.5
Profit margin	7.1%	9.3%	10.7%	13.5%	14.5%	14.7%	16.4%	14.1%	7.0%	10.3%	15.1%
Taxes	5.9	(2.2)	(1.1)	(3.6)	(5.2)	(4.3)	(3.2)	(3.2)	(5.3)	(1.0)	(15.8)
Tax Rate	-23.8%	6.6%	2.6%	6.5%	8.5%	6.9%	4.5%	8.5%	6.0%	0.7%	6.0%
Profit before non-controlling	30.5	31.3	40.4	51.9	55.8	58.2	66.7	52.0	83.4	154.1	236.7
Minority Income	(2.2)	(0.5)	(1.3)	(0.1)	(1.7)	(0.1)	2.5	(1.0)	(1.0)	(4.1)	(0.4)
GAAP Net income	28.3	30.9	39.1	51.7	54.0	58.1	69.1	51.0	82.4	150.0	236.3
Yr-to-yr Gr.	66%	61%	157%	67%	91%	88%	77%	-1%	-9%	82%	162%
Non-GAAP Net Income	33.7	37.3	45.0	61.1	60.3	64.1	80.2	58.1	101.01	177.15	262.66
GAAP primary EPS	$0.26	$0.29	$0.36	$0.48	$0.50	$0.53	$0.63	$0.47	$0.77	$1.39	$2.16
Fully diluted GAAP	$0.26	$0.28	$0.36	$0.47	$0.49	$0.53	$0.62	$0.46	$0.76	$1.37	$2.13
Adj Non-GAAP EPS-Fully dil.	**$0.31**	**$0.34**	**$0.41**	**$0.55**	**$0.55**	**$0.58**	**$0.72**	**$0.52**	**$0.94**	**$1.61**	**$2.37**
Yr-to-yr Gr.	52%	58%	132%	65%	78%	70%	76%	-5%	-7%	72%	154%
Primary Share Out	108.0	108.0	108.4	108.8	108.9	109.1	109.4	109.5	106.7	108.3	109.2
Fully Diluted GAAP	110.0	109.6	109.8	110.3	110.5	110.6	110.8	110.9	108.0	109.8	110.7
EBITDA	**94.5**	**98.9**	**113.1**	**129.9**	**133.6**	**137.6**	**157.6**	**140.3**	**329.4**	**436.5**	**532.9**
EBITDA Margin	27%	27%	29%	32%	32%	32%	37%	36%	26%	29%	32%
Yr-to-yr Gr.	30%	21%	43%	35%	41%	39%	39%	8%	10%	11%	62%
	32.48	34.00	44.17	55.86	63.06	70.67	79.21	65.22	91.03	166.51	282.19

BALANCE SHEET

$ in thousands	Sept 30, 2022	June 30, 2022	Qtr-Qtr % Change	Sept 30, 2021	Yr-Yr % Change
CURRENT ASSETS					
Cash and cash equivalents	**$360,369**	**$211,177**	70.6%	**$211,503**	70.4%
Short term deposits	**338,811**	**468,298**	-27.7%	**315,964**	7.2%
Marketable securities	**171,951**	**176,487**	-2.6%	**190,523**	-9.7%
Trade accounts receivable	165,086	170,552	-3.2%	144,878	13.9%
Inventories	269,405	249,038	8.2%	220,668	22.1%
Other current assets	41,710	43,253	-3.6%	43,653	-4.5%
Total current assets	1,347,332	1,318,805	2.2%	1,127,189	19.5%
LONG-TERM INVESTMENTS	0	26,544	-100.0%	39,157	-100.0%
PROPERTY AND EQUIPMENT, NET	902,440	878,991	2.7%	879,323	2.6%
GOODWILL & INTANGIBLE ASSETS, NET	15,774	16,217	-2.7%	17,581	-10.3%
DEFERRED TAX & OTHER ASSETS, NET	88,864	83,866	6.0%	91,581	-3.0%
TOTAL ASSETS	2,354,410	2,324,423	1.3%	2,154,831	9.3%
CURRENT LIABILITIES					
Short term debt	**61,186**	**79,535**	-23.1%	**105,414**	-42.0%
Trade accounts payable	143,992	127,762	12.7%	92,989	54.8%
Deferred revenue	37,907	38,632	-1.9%	31,866	19.0%
Other current liabilities	121,487	100,246	21.2%	69,796	74.1%
Total current liabilities	364,572	346,175	5.3%	300,065	21.5%
LONG-TERM DEBT	**202,142**	**200,733**	0.7%	**212,271**	-4.8%
LONG-TERM CUSTOMERS' ADVANCES	44,414	60,600	-26.7%	39,074	13.7%
EMPLOYEE RELATED LIABILITIES	0	13,962	-100.0%	15,959	-100.0%
DEFERRED TAX LIABILITY	20,356	14,403	41.3%	28,211	-27.8%
Total liabilities	631,484	635,873	-0.7%	595,580	6.0%
SHAREHOLDERS' EQUITY	1,752,926	1,688,550	3.8%	1,559,456	12.4%
TOTAL LIABILITIES AND EQUITY	$2,384,410	$2,324,423	2.6%	$2,155,036	10.6%
Current Ratio	3.7	3.8	-3.0%	3.8	-1.6%
Quick Ratio	3.0	3.1	-4.3%	3.0	-2.1%
Working Capital	982,760	972,630	1.0%	827,124	18.8%
Debt Percent of Assets	11%	12%	-7.2%	15%	-24.1%
Debt to Equity	0.2	0.2	-9.5%	0.2	-26.3%
Cash and equivalents	871,131	855,962	1.8%	717,990	21.3%
Cash and equivalents per share	$8.00	$7.84	2.0%	$6.60	21.1%
Debt	263,328	280,268	-6.0%	317,685	-17.1%
Change in cash	15,169	65,066	-76.7%	(10,967)	-238.3%
Change in debt	(16,940)	11,720	-244.5%	(20,877)	-18.9%

CASH FLOW

	Year 2020	3-Mo 31-Mar-21	3-Mo 30-Jun-21	3-Mo 30-Sep-21	3-Mo 31-Dec-21	Year 2021	3-Mo 31-Mar-22	3-Mo 30-Jun-22	3-Mo 30-Sep-22
CASH FLOWS - OPERATING ACTIVITIES									
Net profit (loss)	$ 83,289	$ 30,514	$ 31,317	$ 40,367	$ 51,877	$ 154,075	$ 55,774	$ 58,173	$ 66,682
Income and non-cash expense items:									
Depreciation and amortization	240,531	62,053	65,482	69,482	73,693	270,710	70,780	67,007	74,958
Effect of fair value measurement on debt	6,645	(3,792)	1,798	779	2,353	1,138	(1,330)	2,276	104
Other expense (income), net	5,215	(4,985)	1,758	1,941	(175)	(1,461)	1,347	560	7,950
Changes in assets and liabilities:									
Trade accounts receivable	(33,087)	(6,274)	18,996	(678)	2,291	14,335	(35,181)	3,578	3,991
Other assets	(7,999)	7,082	(16,065)	(4,186)	(13,562)	(26,731)	13,874	(3,355)	527
Inventories	(2,891)	(3,407)	(12,077)	(12,553)	(16,155)	(44,192)	(18,328)	(10,630)	(25,510)
Trade accounts payable	(18,576)	(9,266)	(5,302)	(2,100)	(8,336)	(25,004)	30,595	22,415	(15,951)
Deferred revenue and customers' advances	(3,072)	19,340	(3,133)	19,288	39,029	74,524	3,385	(14,031)	(16,906)
Other current liabilities	347	7,084	12,612	(8,087)	5,241	16,850	15,103	10,974	20,725
Employee related liabilities	3,936	(107)	247	(43)	(2,778)	(2,681)	331	26	(220)
Deferred tax liability, net	2,223	(10,829)	(2,383)	2,764	178	(10,270)	221	1,104	6,052
Net cash provided by operating activities	**276,561**	**87,413**	**93,250**	**106,974**	**133,656**	**421,293**	**136,571**	**138,097**	**122,402**
CASH FLOWS - INVESTING ACTIVITIES									
Investments in property and equipment, net	**(256,539)**	**(49,415)**	**(56,184)**	**(87,714)**	**(85,947)**	**(279,260)**	**(80,840)**	**(49,377)**	**(45,134)**
Interest bearing deposits, including designated deposits	(107,070)	(1,611)	(17,055)	6,250	(47,268)	(59,684)	(29,611)	(65,134)	129,257
Net cash provided by (used in) investing activities	(363,609)	(51,026)	(73,239)	(81,464)	(133,215)	(338,944)	(110,451)	(114,511)	84,123
CASH FLOWS - FINANCING ACTIVITIES									
Exercise of warrants and options	2,512	364	0	46	48	458	44	0	5,469
Debt repayment	(63,699)	(29,375)	(19,769)	(29,211)	1,040	(77,315)	(30,539)	(8,211)	(28,164)
Net cash used in financing activities	(61,187)	(29,011)	(19,769)	(29,165)	1,088	(76,857)	(30,495)	(8,211)	(22,695)
Effect of foreign exchange rate change	4,357	(3,478)	(68)	(597)	(2,102)	(6,245)	(3,071)	(7,682)	(4,638)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(143,878)	3,898	174	(4,252)	(573)	(753)	(7,446)	7,693	179,192
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	355,561	211,683	215,581	215,755	211,503	211,683	210,930	203,484	211,177
CASH AND CASH EQUIVALENTS - END OF PERIOD	211,683	215,581	215,755	211,503	210,930	210,930	203,484	211,177	390,369
Operating Cash Flow	$ 335,680	$ 83,790	$ 100,355	$ 112,569	$ 127,748	$ 424,462	$ 126,571	$ 128,016	$ 149,694
Free cash flow	$ 79,141	$ 34,375	$ 44,171	$ 24,855	$ 41,801	$ 145,202	$ 45,731	$ 78,639	$ 104,560

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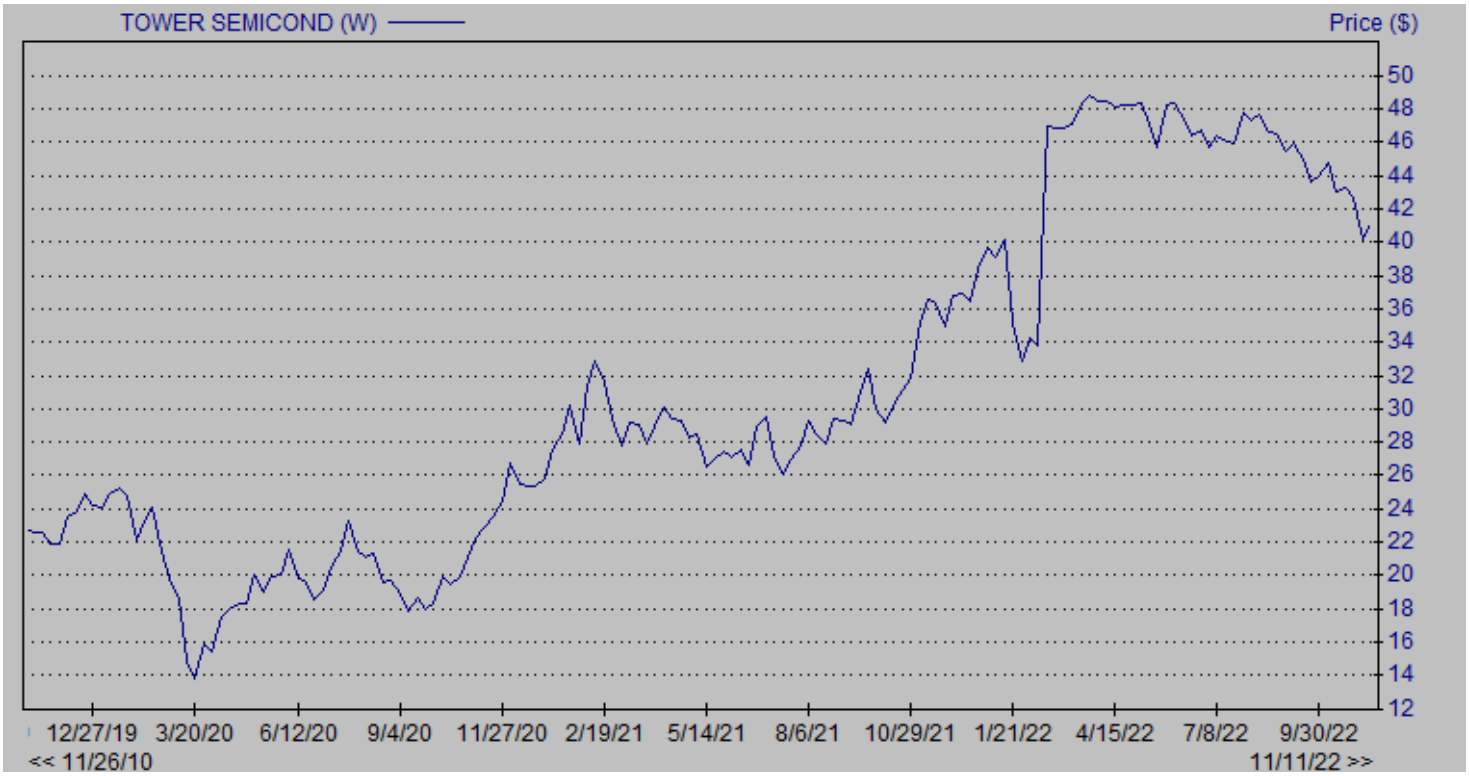

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