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Zacks Small-Cap Research

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Lisa Thompson
312-265-9154
lthompson@zacks.com

scr.zacks.com
10 S. Riverside Plaza, Chicago, IL 60606

TowerJazz (TSEM-NASDAQ)

TSEM: Reducing Estimates Due to Panasonic Renegotiation

We believe that the stock could be worth $21.80 using industry average PE ratios given current earnings estimates.

Current Price (01/22/19)	$13.85
Valuation	**$21.80**

OUTLOOK

TowerJazz 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 has capacity to $1.6B in sales and is serving high growth markets such as RF High Position analog, CMOS image sensors, and power management. It is reaching the end of its contract with Panasonic and is expected to receive lower revenues from them after March. Its goal it to reach $3.5B in revenues organically combined with targeted acquisitions providing horizontal diversification.

SUMMARY DATA

52-Week High	**$35.02**
52-Week Low	**$13.59**
One-Year Return (%)	**-59.8**
Beta	**1.3**
Average Daily Volume (sh)	**497,028**
Shares Outstanding (mil)	**98.5**
Market Capitalization ($mil)	**$1,364**
Short Interest Ratio (days)	**1.0**
Institutional Ownership (%)	**47**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**25.1**
Earnings Per Share (%)	**8.9**
Dividend (%)	**N/A**
P/E using TTM EPS	**8.2**
P/E using 2018 Estimate	**9.4**
P/E using 2019 Estimate	**10.3**
Zacks Rank	**N/A**

Risk Level	**Above Average**
Type of Stock	**Mid-Value**
Industry	**Elec Comp-Semis**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2016	278 A	305 A	326 A	340 A	1,250 A
2017	330 A	345 A	355 A	358 A	1,387 A
2018	313 A	335 A	323 A	330 E	1,300 E
2019					1,278 E

Earnings Per Share
(Adjusted non-GAAP Diluted)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2016	$0.34 A	$0.42 A	$0.51 A	$0.54 A	$1.80 A
2017	$0.50 A	$0.54 A	$0.60 A	$0.58 A	$2.21 A
2018	$0.31 A	$0.42 A	$0.37 A	$0.39 E	$1.48 E
2019					$1.33 E

Zacks Projected EPS Growth Rate - Next 5 Years % **8**

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WHAT'S NEW

We are lowering estimates due to new terms in TowerJazz's agreement with Panasonic that are expected to go into effect after March 31, 2019. These terms will reduce the amount of revenues paid by Panasonic to the joint venture and we expect that to amount to be approximately $20 million dollars per quarter starting in Q2 2019. We have adjusted our model accordingly and now are looking for revenues of $1,278 million in 2019 and a non-GAAP EPS of $1.33 per share down from $1,300 million and $1.48 per share estimates for 2018. As a result the price target has been dropped to $21.80 per share. The industry also continues to see weakness in smartphone sales that may affect 20% of TowerJazz's sales and this is a reason for cautious forecasts.

We expect to get further information when the company reports its Q4 2018 on February 19, 2019.

KEY POINTS

- Although the semiconductor market is typically considered cyclical, we believe that based on the end-user markets for which TowerJazz's products used, it should be less so.
- As a foundry, the company has natural operating leverage given its high fixed costs. Every dollar in revenue tends to add over $0.50 to gross margin. When the company adds 12" revenues that blended percentage will trend higher as 12" can sell at 60+ gross margins.
- The company has a strong market position in high quality imaging and 3D, which is increasing being used for gesturing controls, machine vision, security anti-crash systems and self driving cars, as well as smartphones with high megapixel cameras. In this area its primary competition is Sony, which makes it a preferable source for many companies that compete with Sony.
- Having Panasonic as a partner gives the company increased stature in the industry and has attracted new customers who have a favorable disposition to working with a trusted and known company with high quality product and leading edge expertise in imaging. However TowerJazz expects to receive less revenue from Panasonic going forward and this has effected earnings expectations.
- The major long-term risk to the stock is the need to add capacity, which is currently $1.6 billion in revenue. The company can do this by increasing current fab capacities, buying a new fab either outright or in a joint venture. It has recently partnered with Tacoma to create capacity in China.
- We believe the stock is currently undervalued on a PE basis versus its peers, as well as by PE to long-term growth rate. Peer companies trade at an average PE of 16.4 times 2019 estimates. At an industry average PE, TSEM's stock could trade at $21.80 per share. However investors may be waiting to see the company return to revenue growth, which could happen in the second half of 2019.

VALUATION

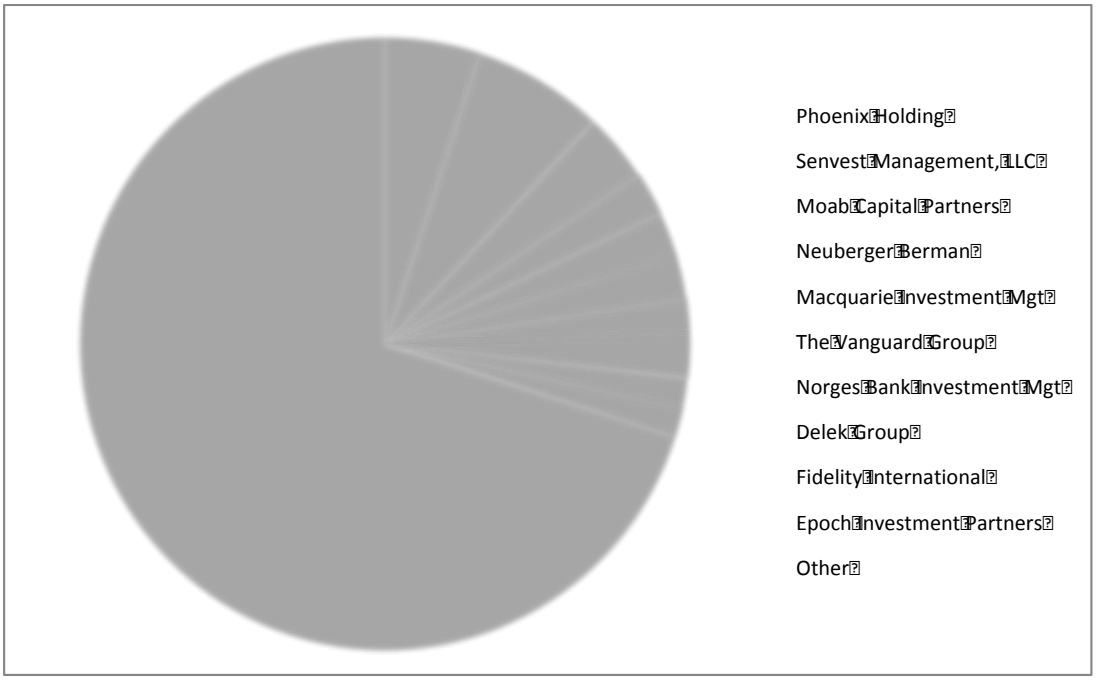
Our Fully diluted non-GAAP EPS estimate for 2018 for TSEM is $1.48 and our 2019 EPS estimate is $1.33. Using 2019 estimates, TSEM could be worth 16.4 times $1.33 or $21.80 per share. The biggest risks to the stock is that the mobile market continues its weakness beyond the expected time frame, the ramp to 300 mm technology is impeded or constrained, customer components continue to be in short

supply, or that an acquisition of a fab or a joint venture could incur short-term earnings dilution. We also need to see the effect of Panasonic agreement changes on the income statement starting in Q2 2019.

Foundry Companies

Company	Ticker	EPS 18E	EPS 19E	Price	PE 2018	PE 2019E
Semiconductor Manufacturing	SMI	0.02	0.01	4.39	219.5	439.0
Taiwan Semiconductor	TSM	2.23	2.30	36.50	16.4	15.9
United Microelectronics	UMC	0.00	0.00	1.85	NM	NM

OWNERSHIP



Source: E*TRADE and SEC filings

INCOME STATEMENT

	March Q1 17	June Q2 17	Sept Q3 17	Dec Q4 17	March Q1 18	June Q2 18	Sept Q3 18	Dec Q4 18E	2016	2017	2018E	2019E
REVENUE	330.1	345.1	354.6	357.6	312.7	335.1	322.6	330.0	1,249.6	1,387.3	1,300.4	1,277.8
Yr-to-yr Gr.	19%	13%	9%	5%	-5%	-3%	-9%	-8%	30%	11%	-6%	-2%
OPERATING EXPENSES												
Cost of goods sold	245.3	254.0	265.4	268.3	246.5	256.6	250.0	254.4	946.5	1,033.0	1,007.5	992.3
Gross Margin	84.8	91.1	89.1	89.4	66.2	78.5	72.6	75.6	303.1	354.3	292.9	285.5
% of Sales	25.7%	26.4%	25.1%	25.0%	21.2%	23.4%	22.5%	22.9%	24.3%	25.5%	22.5%	22.3%
R&D	15.8	16.4	17.1	18.4	18.3	18.2	18.2	18.2	63.1	67.7	72.9	74.1
M, G&A	16.2	17.2	16.8	16.5	16.0	16.1	15.8	15.8	65.4	66.8	63.8	64.0
One-time charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.6)	0.0	0.0	0.0
Tot Operating Exp.	32.0	33.7	33.9	34.9	34.3	34.3	34.1	34.1	127.9	134.5	136.7	138.1
Operating Income	52.8	57.4	55.2	54.5	31.9	44.2	38.6	41.5	175.2	219.8	156.2	147.4
Operating Margin	16%	17%	16%	15%	10%	13%	12%	13%	14%	16%	12%	12%
Yr-to-yr Gr.	71%	43%	13%	-1%	-40%	-23%	-30%	-24%	113.9%	25.5%	-28.9%	-4%
Net Interest	(2.2)	(2.1)	(1.8)	(1.8)	(0.6)	0.0	0.0	0.0	(11.9)	(7.8)	(0.6)	0.0
Other non-cash financing expense	(2.0)	(1.1)	(2.3)	(2.3)	(3.2)	(7.0)	(2.5)	(2.5)	(12.5)	(7.6)	(15.2)	(8.0)
Other income	0.5	0.1	(0.3)	(3.0)	0.0	1.6	0.0	0.0	8.5	(2.6)	1.6	0.0
Gain from acqusiition	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	51.3	0.0	0.0	0.0
Profit before tax	49.0	54.4	50.9	47.4	28.1	38.8	36.1	39.0	210.6	201.8	142.0	139.4
Profit margin	14.9%	15.8%	14.4%	13.3%	9.0%	11.6%	11.2%	11.8%	16.9%	14.5%	10.9%	10.9%
Taxes	(2.0)	(2.7)	3.3	101.2	(1.0)	(2.8)	(2.4)	(2.8)	(1.4)	99.9	(8.9)	(7.5)
Tax Rate	4.1%	4.9%	-6.5%	213.6%	3.4%	7.2%	6.6%	7.2%	0.7%	-49.5%	6.3%	5.4%
Profit before non-controlling	47.0	51.7	54.2	148.6	27.2	36.0	33.7	36.2	209.2	301.7	133.1	131.9
Minority Income	(1.5)	(1.7)	1.0	(1.4)	(1.1)	1.7	(0.0)	0.0	(5.3)	(3.6)	0.6	(4.0)
GAAP Net income	45.5	50.0	55.2	147.2	26.1	37.7	33.6	36.2	203.9	298.0	133.7	127.9
Yr-to-yr Gr.	-31%	30%	8%	205%	-43%	-25%	-39%	-75%	NM	46%	-55%	-4%
Non-GAAP Net Income	52.1	54.6	61.2	59.9	31.1	42.1	38.0	40.6	174.4	227.76	151.8	143.88
GAAP primary EPS	$0.48	$0.52	$0.56	$1.50	$0.27	$0.38	$0.34	$0.34	$2.33	$3.08	1.33	$1.22
Fully diluted GAAP	$0.45	$0.49	$0.54	$1.40	$0.26	$0.37	$0.33	$0.34	$2.10	$2.90	1.31	$1.22
Adj Non-GAAP EPS-Fully dil.	**$0.50**	**$0.54**	**$0.60**	**$0.58**	**$0.31**	**$0.42**	**$0.37**	**$0.39**	**$1.80**	**$2.21**	**$1.48**	**$1.33**
Yr-to-yr Gr.	46%	28%	18%	9%	-48%	-31%	-45%	-41%	211%	23%	-33%	-10%
Primary Share Out	93.9	96.4	97.9	98.3	98.5	98.9	100.2	105.0	87.5	96.6	100.6	105.0
Fully Diluted GAAP	104.9	105.6	106.4	106.8	101.1	101.1	102.1	105.0	101.3	105.9	102.3	105.0
All in shares	107.2	107.4	107.7	107.7	107.7	107.9	108.1	108.1	107.0	107.7	108.0	108.1
EBITDA	**101.0**	**108.3**	**108.7**	**107.3**	**84.3**	**95.5**	**89.0**	**92.1**	**366.7**	**425.3**	**360.9**	**351.4**
EBITDA Margin	31%	31%	31%	30%	27%	29%	28%	28%	29%	31%	28%	27%
Yr-to-yr Gr.	30%	24%	12%	2%	-17%	-12%	-18%	-14%		16%	-15%	-1%

BALANCE SHEET

$ in thousands	Sept 30, 2018	June 30, 2018	Qtr-Qtr % Change	Sept 30, 2017	Yr-Yr % Change
CURRENT ASSETS					
Cash and cash equivalents	**$464,446**	**$486,880**	-4.6%	**$480,407**	-3.3%
Marketable securities	**$143,041**	**$140,140**	2.1%	49,738	187.6%
Trade accounts receivable	163,747	161,017	1.7%	150,039	9.1%
Inventories	159,507	153,413	4.0%	143,300	11.3%
Other current assets	20,967	19,089	9.8%	21,465	-2.3%
Total current assets	**951,708**	**960,539**	-0.9%	**795,211**	19.7%
LONG-TERM INVESTMENTS	31,179	28,978	7.6%	27,091	15.1%
PROPERTY AND EQUIPMENT, NET	639,042	648,413	-1.4%	633,107	0.9%
INTANGIBLE ASSETS, NET	15,006	16,671	-10.0%	21,627	-30.6%
GOODWILL	7,000	7,000	0.0%	7,000	0.0%
DEFERRED TAX & OTHER ASSETS, NET	96,722	101,022	-4.3%	18,484	423.3%
TOTAL ASSETS	1,740,657	1,762,623	-1.2%	1,502,520	15.8%
CURRENT LIABILITIES					
Short term debt	**45,697**	**100,242**	-54.4%	**45,664**	0.1%
Trade accounts payable	114,375	126,135	-9.3%	109,385	4.6%
Deferred revenue	10,059	10,297	-2.3%	26,454	-62.0%
Other current liabilities	72,160	75,867	-4.9%	64,259	12.3%
Total current liabilities	**242,291**	**312,541**	-22.5%	**245,762**	-1.4%
LONG-TERM DEBT	**247,757**	**248,685**	-0.4%	**295,485**	-16.2%
LONG-TERM CUSTOMERS' ADVANCES	29,978	29,771	0.7%	37,674	-20.4%
EMPLOYEE RELATED LIABILITIES	14,649	14,616	0.2%	14,170	3.4%
DEFERRED TAX LIABILITY	52,696	56,335	-6.5%	85,380	-38.3%
Total liabilities	587,371	661,948	-11.3%	678,471	-13.4%
SHAREHOLDERS' EQUITY	1,153,286	1,100,675	4.8%	873,787	32.0%
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$1,740,657	$1,762,623	-1.2%	$1,552,258	12.1%
Current Ratio	3.9	3.1	27.8%	3.2	21.4%
Quick Ratio	3.3	2.6	26.6%	2.7	23.3%
Working Capital	709,417	647,998	9.5%	549,449	29.1%
Debt Percent of Assets	17%	20%	-14.8%	23%	-25.7%
Debt to Equity	0.3	0.3	-19.7%	0.4	-34.8%

CASH FLOW

	3-Mo 31-Mar-17	3-Mo 30-Jun-17	3-Mo 30-Sep-17	3-Mo 31-Dec-17	Year 2017	3-Mo 31-Mar-18	3-Mo 30-Jun-18	3-Mo 30-Sep-18
CASH FLOWS - OPERATING ACTIVITIES								
Net profit (loss)	$ 47,046	$ 51,727	$ 54,241	$ 148,642	$ 301,656	$ 27,181	$ 36,009	$ 33,674
Income and non-cash expense items:								
Depreciation and amortization	49,698	52,389	55,014	51,310	208,411	53,977	53,493	52,764
Financing expense associated with deb. series F	0	0	0	0	0	0	0	0
Effect of fair value measurement on debt	6,888	4,873	(1,177)	2,281	12,865	(1,740)	(4,797)	788
Other expense (income), net	(511)	(142)	253	3,027	2,627	(22)	(1,578)	0
Gain from acquisition	0	0	0	0	0	0	0	0
Changes in assets and liabilities:								
Trade accounts receivable	9,529	(17,242)	361	788	(6,564)	8,089	(18,351)	(3,767)
Other receivables and other current assets	(4,439)	(7,307)	2,980	445	(8,321)	3,370	5,713	(919)
Inventories	(1,421)	1,688	(4,636)	92	(4,277)	(2,692)	(6,713)	(7,237)
Trade accounts payable	(4,128)	(6,530)	4,795	(2,786)	(8,649)	(6,313)	10,222	(2,652)
Deferred revenue and customers' advances	(8,735)	(4,564)	9,378	(17,882)	(21,803)	(712)	(5,466)	35
Other current liabilities	(9,090)	12,866	(13,760)	1,765	(8,219)	(4,219)	13,355	(2,764)
Employee related liabilities	(257)	(234)	(274)	(2,482)	(3,247)	(387)	193	(240)
Deferred tax liability, net	(2,440)	(3,230)	(3,259)	(99,915)	(108,844)	(1,531)	(5,151)	(211)
Other long-term liabilities	0	0	0	0	0	0	0	0
Net cash provided by operating activities	**82,140**	**84,294**	**103,916**	**85,285**	**355,635**	**75,001**	**76,929**	**69,471**
CASH FLOWS - INVESTING ACTIVITIES								
Investments in property and equipment, net	**(40,348)**	**(41,312)**	**(41,708)**	**(41,349)**	**(164,717)**	**(40,047)**	**(40,148)**	**(40,892)**
Interest bearing deposits, including designated deposits	(5,118)	0	(49,869)	(64,867)	(114,736)	(14,963)	(15,488)	(4,899)
Net cash provided by (used in) investing activities	(45,466)	(41,312)	(91,577)	(106,216)	(279,453)	(55,010)	(55,636)	(45,791)
CASH FLOWS - FINANCING ACTIVITIES								
Exercise of warrants and options	12,756	14,254	1,027	3,278	31,315	658	26	21
Proceeds from long-term loans	0	0	0	0	0	0	0	0
Debt repayment	(11,805)	(5,655)	(15,932)	(16,863)	(50,255)	(6,656)	3,809	(43,078)
Debenture repayment	0	0	0	0	0	0	0	0
TPSCo dividend to Panasonic	(4,378)	0	0	0	(4,378)	0	0	0
Net cash used in financing activities	(3,427)	8,599	(14,905)	(13,585)	(23,318)	(5,998)	3,835	(43,057)
Effect of foreign exchange rate change	4,371	(91)	(630)	70	3,720	4,707	(2,909)	(3,057)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	37,618	51,490	51,771	(34,446)	56,584	18,700	22,219	(22,434)
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	355,284	432,113	311,062	480,407	389,377	445,961	464,661	486,880
CASH AND CASH EQUIVALENTS - END OF PERIOD	392,902	483,603	362,833	445,961	445,961	464,661	486,880	464,446
Operating Cash Flow	$ 103,121	$ 108,847	$ 108,331	$ 205,260	$ 525,559	$ 79,396	$ 83,127	$ 87,226
Free cash flow	$ 62,773	$ 67,535	$ 66,623	$ 163,911	$ 360,842	$ 39,349	$ 42,979	$ 46,334

HISTORICAL STOCK PRICE



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