Zacks Small-Cap Research

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TowerJazz

(TSEM-NASDAQ)

TSEM: Q4 Earnings a Beat, Bumping Up 2016 Revenues

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 ample capacity and is serving high growth markets such as RF High Position analog, CMOS image sensors, and power management. It is expected to grow despite tepid world markets for semiconductors due the to specific markets it addresses and acquisitions.

Current Recommendation	**Buy**
Prior Recommendation	Hold
Date of Last Change	02/23/2012
Current Price (02/29/16)	$13.61
Target Price	**$22**

SUMMARY DATA

52-Week High	**$17.95**
52-Week Low	**$11.23**
One-Year Return (%)	**-18.9**
Beta	**1.67**
Average Daily Volume (sh)	**359,461**
Shares Outstanding (mil)	**86**
Market Capitalization ($mil)	**$1,164**
Short Interest Ratio (days)	**4.3**
Institutional Ownership (%)	**33**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**11.2**
Earnings Per Share (%)	**4.6**
Dividend (%)	**N/A**
P/E using TTM EPS	**5.2**
P/E using 2015 Estimate	**4.5**
P/E using 2016 Estimate	**3.7**
Zacks Rank	**N/A**

Risk Level	**Average**
Type of Stock	**Mid-Blend**
Industry	**Elect. Comp-Semi.**

ZACKS ESTIMATES

Revenue
(in millions of $)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2014	133 A	234 A	226 A	235 A	828 A
2015	226 A	236 A	244 A	255 A	961 A
2016	276 E	286 E	308 E	324 E	1,185 E
2017					1,300 E

Earnings per Share
(Non-GAAP Fully Diluted)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2014	$0.30 A	$0.41 A	$0.39 A	$0.55 A	$1.65 A
2015	$0.55 A	$0.58 A	$0.62 A	$0.73 A	$2.64 A
2016	$0.68 E	$0.71 E	$0.78 E	$0.83 E	$3.00 E
2017					$3.71 E

Income Statement uses fully diluted shares outstanding and excludes D&A

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WHATS NEW

Q4 Revenues and Earnings

TowerJazz reported Q4 2015 revenues of $254.6 million versus last year's $235.3 million, up 8% and beating our estimate by $2.6 million. It reported its non-GAAP (meaning not including depreciation and amortization or stock-based compensation) gross margin of $104.3 million or 41% versus last years 35.8%, reaching a goal of over a 40% non-GAAP gross margin. On a GAAP basis, gross margin was $64.5 million or 25.3%.

Non-GAAP operating expenses were $28.7 million versus $28.3 million last year. Depreciation and amortization, which is taken out of non-GAAP numbers was $40.2 versus $36.7 million in Q4 2014. Operating income excluding depreciation was $75.5 million or 30% versus $55.5 million or 24% in 2014.

While TowerJazz has shown considerable improvement in operations by reducing debt and improving margins its complicated reporting has proven to be frustrating to investors. While the majority of companies consider non-GAAP to mean ex-stock based compensation and one-time events, TSEM has also taken out depreciation and amortization, for which it has been criticized. As it is a foundry, that is a very large number. As a result, its non-GAAP numbers cannot be used to compare the company with other foundry companies that do not do that, or when looking at the stock's PE ratio. Adding to the confusion is that the company has focused attention on primary EPS rather than fully diluted which is standard practice.

In Q4 2015, the company reported fully diluted GAAP EPS of $0.25 versus $0.01 last year. Diluted shares this year were 89 million in 2015 and 66 million in 2014, up 33.8%. **On a fully diluted non-GAAP basis, the company reported $0.73 per share versus $0.55 per share** in 2014, up 32%. This non-GAAP does not include depreciation and amortization. If we were to add that back in the results would be $0.31 in Q4 2015 versus $0.10 in Q4 2014. This explains why the PE ratio appears so low when investors look at non-GAAP EPS. To accurately and more easily judge TSEM, we suggest they look to EBITDA, which is provided every quarter. This quarter the company generated $76 in EBITDA versus $55 million a year ago, an improvement of 37% and an EBITDA margin of 30%.

2015

For the year ending December 31, 2015, TowerJazz reported revenues of $961 million versus $820 in 2014, growth of 16%. By far the fastest growing segment was RF, which includes both infrastructure and wireless with wireless being the biggest portion or 20% of total sales.

Revenue Breakdown

		2014		2015	
	% of sales	Sales	% of sales	Sales	Growth Rate
RF	24%	$199	31%	$298	50%
Power Management	27%	224	28%	269	20%
Image Sensor	15%	124	17%	163	31%
Mixed-signal Other	33%	273	24%	231	-16%
Total		828		961	16%

Maxim Transaction Adds a Minimum of $90 in Annual Revenues

TowerJazz announced it closed the purchase of Maxim's 8-inch fab in San Antonio, Texas in Q1 2016. This increased its production capacity by 28,000 wafers per month and is expected to generate a guaranteed minimum of $90 million in annual revenues from Maxim. The fab was acquired for 3.3 million shares of TSEM common stock. This acquisition will give the company an additional $200 million of capacity (including what is sells Maxim). The fab produces advanced analog platforms with geometries down to 130nm. It will also be able to use TSEM's specialty process technologies and the company plans to produce RF-ROI product there very quickly. We do not expect the transaction to be significantly dilutive or accretive in 2016. In the latter half of this year we do believe the company may be able to bring on some outside revenues to this fab by Q4, but numbers will be small to start.

2016 Forecast

In addition to $90 million per year in guaranteed sales from Maxim, TSEM will also be adding 500 new employees to the payroll. The company should be adding another $2 million in expenses per quarter due to Maxim. TowerJazz is still in the process of getting a valuation on the Maxim fab which we believe could be somewhere in the $100 million range. If that is correct, depreciation on the fab could be approximately $6 million per year, not a big increase on the $156 million currently expected. The company expects that it will take until the fourth quarter at earliest before any revenues outside of Maxim will be added to that fab.

We are upping our revenues numbers slightly due to the better than expected sales in Q4. Revenues are being increased to $1,194 million from $1,185 million. After taking account of lower gross margins from Maxim business, and adding some to taxes as TPSCo and the US begin to pay taxes, we are adjusting our fully diluted non-GAAP EPS to $3.00.

New 2017 Estimate

In 2017 we are expecting 8% revenue growth with expanding margins due to capacity utilization. For the 2017 year, we are looking for revenues of $1.3 billion and non-GAAP EPS of $3.70 per share.

INVESTMENT THESIS

- The current fab capacity will allow the company to grow revenues and improve margins through capacity utilization.

	Utilization
Fab1 Migdal Haemek, Israel 6"	65%
Fab2 Migdal Haemek, Israel 8"	91%
Fab3 Newport Beach, California 8"	91%
Three TPSCo factories	41%
San Antonio, 8"	NA

- 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.
- Its largest market segment, RF, comprising 20% of revenues, sells into the smartphone market and will grow faster than that market as multiple chips are now being sold per device.

- The company has a strong market position in high quality imaging and 3D, which is increasing being used for gesturing controls 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.
- While its competitors are showing slowing or declining revenues, Tower is positioned to grow in 2016.
- We believe that the stock could move to $22 based on blend of enterprise value to sales and multiple of EBITDA ratios and PE ratios versus peer values by next year and rate the stock a buy.

VALUATION

TSEM's public foundry competitors have shown lackluster results of late. SMI grew 7.1% year-over-year in the fourth quarter. A bright spot for SMI is fingerprint sensors due to accelerating adoption in smartphones as well as diversification of its customer base to U.S. and Eurasia. Q4 revenues at TSMC declined 8.5% and UMC saw a 9.1% decline. Given its product mix however, TowerJazz has down somewhat better; TSEM grew 8.2% in Q4 and we expect 22% in Q1 2016, with 70% of that coming from revenues from Maxim.

As shown on the chart below, the average company is trading at a valuation of 1.9 times 2016 estimated revenues. In using these companies as comparables, we have taken out the 49% of revenues we estimate are afforded to the Panasonic joint venture, as TowerJazz only owns 51%. That reduces the 2016 revenue number to $1.0 billion. **Using these comparables, TSEM common stock is worth $16.55 today.**

Valuation Based on Enterprise Value to Sales

Foundry Companies

Company	Ticker	Revenue 2016E	Revenue LTM	EBIDTA Margin	Enterprise Value / Sales 2016E	Enterprise Value / Sales LTM	Included in Average?	Ent. Value
Advanced Semiconductor	ASX	$9,310	$8,310	18%	1.1x	1.2x	y	10,370
Semiconductor Manufacturing	SMI	$2,560	$2,110	35%	1.4x	1.7x	y	3,627
Taiwan Semiconductor	TSM	$27,960	$24,730	65%	4.1x	4.6x	y	113,440
United Microelectronics	UMC	$4,500	$4,250	39%	1.2x	1.2x	y	5,250
Average				**39%**	**1.9x**	**2.2x**		

	Revenue* 2016E	Revenue* LTM	EBITDA* Margin	Enterprise Value / Sales 2016E	Enterprise Value / Sales LTM	Valuation Range Low	Valuation Range High
Tower Jazz	**$1,007**	**$774**	**32.0%**	**1.9x**	**2.2x**	**$1,702**	**$1,953**
YoY growth							

Conclusion of Enterprise Value	**$1,827,154,153**
Market Value	**$1,742,554,153**
Shares Outstanding	105,278,000
Price per Share	**$16.55**

Valuation Based on EBITDA

The same peer group as above trades at 5.6x enterprise value to EBITDA. TSEM generated $248 million in EBITDA this year and we expect it to generate $355 million next year. Using the 5.6 multiple, the company should have an enterprise value of $2.0 billion by next year. **This equates to $17.90 per share** with similar debt and cash and an increase in the share count to 105.3 million.

Foundry Companies			**LTM 12-Mo**	
	Ticker	**Ent. Value**	**EBITDA**	**EV/EBITDA**
Company				
Advanced Semiconductor	ASX	10,370	$1,590	6.5
Semiconductor Manufacturing	SMI	3,627	$672	5.4
Taiwan Semiconductor	TSM	113,440	$15,910	7.1
United Microelectronics	UMC	5,250	$1,650	3.2
Average				**5.6x**

Valuing Based on PE

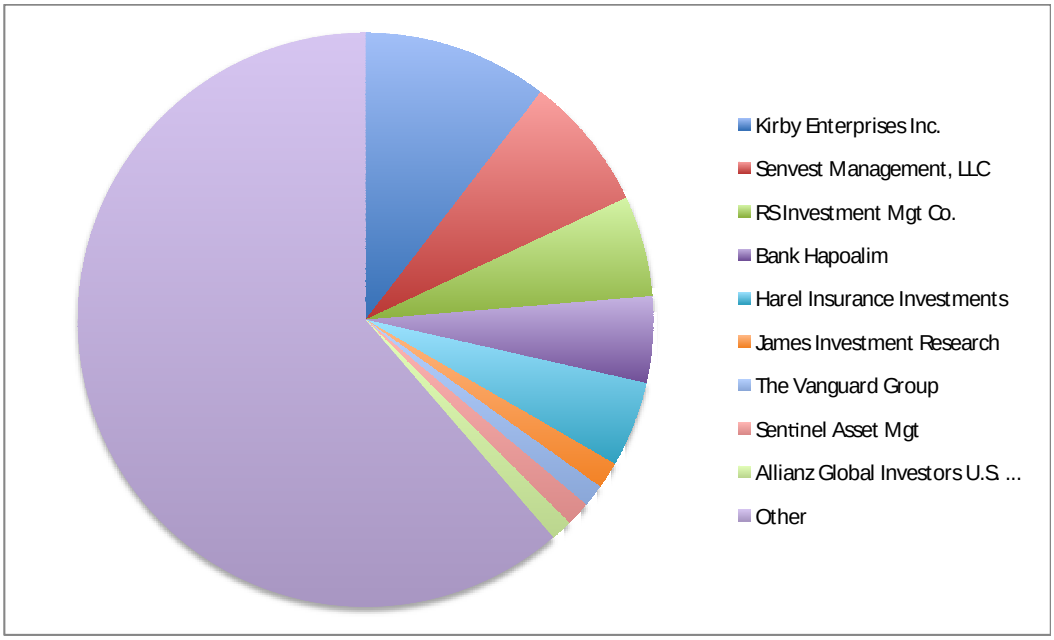
The PE ratio of the other foundry companies we see a range of 11.9 to 18.6 times 2016 estimated EPS. Our fully diluted non-GAAP EPS estimate for TSEM is $3.18. To compare, we need to add back the depreciation and amortization, which the company takes out of its non-GAAP numbers, to TSEM's EPS number to get an equivalent PE to these companies. If we assume TSEM has $156 million in depreciation and amortization in 2016 (a bit more with the Maxim plant) and subtract that from the non-GAAP net income and divide by fully diluted shares we get $1.73 per share. **Using the average PE of 15.6 times for the group that give us a stock price of $27 per share**. Of course as the fastest grower of the group, TSEM deserves a slightly higher multiple than that.

Foundry Companies							
	Ticker	**EPS 15**	**EPS 16E**	**Price**	**PE 2015**	**PE 2016**	**Growth Rate**
Company							
Advanced Semiconductor	ASX	$0.38	$0.47	$5.61	14.8	11.9	24%
Semiconductor Manufacturing	SMI	0.32	0.28	4.24	13.3	15.1	-13%
Taiwan Semiconductor	TSM	1.82	1.82	23.77	13.1	13.1	0%
United Microelectronics	UMC	0.14	0.11	2.05	14.6	18.6	-21%
Average					13.9	15.6	-11.3%

By taking a blended valuation of these three methods, we arrive with an average expected price of $20 per share today. We expect the stock to appreciate in the next twelve months from that price to reach $22 per share once investors start to value it based on 2017 numbers.

OWNERSHIP

Chart 1: Largest Investors as of February 29, 2016



Source: E*TRADE and SEC filings

BALANCE SHEET

$ in thousands	Dec. 31, 2015	Sept. 30, 2015	
CURRENT ASSETS			
Cash and cash equivalents	**$205,575**	**$155,348**	32%
Trade accounts receivable	110,065	122,686	-10%
Other receivables	7,376	7,263	2%
Inventories	105,681	104,396	1%
Other current assets	18,030	23,731	-24%
Total current assets	**446,727**	**413,424**	8%
LONG-TERM INVESTMENTS	11,737	12,050	-3%
PROPERTY AND EQUIPMENT, NET	459,533	430,477	7%
INTANGIBLE ASSETS, NET	34,468	36,718	-6%
GOODWILL	7,000	7,000	0%
OTHER ASSETS, NET	6,759	7,220	-6%
TOTAL ASSETS	966,224	906,889	7%
CURRENT LIABILITIES			
Current maturities of loans and debentures	**33,259**	**49,224**	-32%
Trade accounts payable	91,773	111,917	-18%
Deferred revenue	23,373	14,752	58%
Other current liabilities	62,714	76,765	-18%
Total current liabilities	**211,119**	**252,658**	-16%
LONG-TERM DEBT	**256,875**	**206,801**	24%
LONG-TERM CUSTOMERS' ADVANCES	21,102	21,110	0%
EMPLOYEE RELATED LIABILITIES	14,189	15,786	-10%
DEFERRED TAX LIABILITY	69,744	76,197	-8%
OTHER LONG-TERM LIABILITIES	7,609	9,730	-22%
Total liabilities	580,638	582,282	0%
SHAREHOLDERS' EQUITY	385,586	324,607	19%
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$966,224	$906,889	7%
Current Ratio	2.1	1.6	29%
Quick Ratio	1.6	1.2	32%
Debt Percent of Assets	30%	28%	6%
Debt to Equity	0.8	0.8	-5%

INCOME STATEMENT

Non-GAAP (excludes depreciation and amortization and stock-based compensation)

	March Q1 15	June Q2 15	Sept Q3 15	Dec Q4 15	March Q1 16E	June Q2 16E	Sept Q3 16E	Dec Q4 16E	2014	2015	2016E	2017E
REVENUE												
Net Revenue	226.2	235.6	244.2	254.6	276.0	285.5	308.0	324.0	828.0	960.6	1,193.5	1,300.0
Yr-to-yr Gr.	71%	1%	8%	8%	22%	21%	26%	27%	64%	16%	24%	9%
OPERATING EXPENSES												
Cost of goods sold	145.5	148.2	150.6	150.3	168.6	173.2	186.4	195.9	569.1	594.6	724.1	754.0
Gross Margin	80.7	87.4	93.6	104.3	107.4	112.3	121.6	128.1	258.9	366.0	469.4	546.0
% of Sales	35.7%	37.1%	38.3%	41.0%	38.9%	39.3%	39.5%	39.5%	31.3%	38.1%	39.3%	42.0%
R&D	14.4	14.4	15.8	14.2	14.5	14.5	14.5	14.5	50.0	58.8	58.0	64.0
M, G&A	14.9	14.4	14.8	14.5	15.8	16.0	16.6	17.5	55.1	58.6	65.9	75.0
One-time charges	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Tot Operating Exp.	29.4	28.8	30.6	28.7	30.3	30.5	31.1	32.0	105.0	117.4	123.9	139.0
Operating Income	51.3	58.6	63.1	75.5	77.1	81.8	90.5	96.1	153.9	248.5	345.5	407.0
Operating Margin	23%	25%	26%	30%	28%	29%	29%	30%	19%	26%	29%	31%
Yr-to-yr Gr.	87%	77%	69%	35%	23%	15%	14%	0%	19%	25.9%	28.9%	31.3%
Net Interest	(3.6)	(3.6)	(3.6)	(2.4)	(2.0)	(2.0)	(2.0)	(2.0)	(33.4)	(13.2)	(8.0)	(5.0)
Other income	(0.0)	(0.0)	(0.2)	0.1	0.0	0.0	0.0	0.0	(0.1)	(0.2)	0.0	0.0
Minority Income	2.3	(0.4)	(0.5)	(2.0)	(2.0)	(2.0)	(3.0)	(4.0)	5.6	(0.5)	(11.0)	(20.0)
Pretax Income	50.0	54.6	58.8	71.3	73.1	77.8	85.5	90.1	126.0	234.7	326.5	382.0
	22.1%	23.2%	24.1%	28.0%	26.5%	27.3%	27.7%	27.8%	15.2%	24.4%	27.4%	29.4%
Taxes	0.5	0.7	1.2	1.1	2.0	2.1	2.4	2.5	(1.6)	3.5	9.0	3.8
Tax Rate	0.9%	1.3%	2.0%	1.6%	2.7%	2.7%	2.8%	2.8%	-1.2%	1.5%	2.8%	1.0%
Non-GAAP Net Income	49.5	53.9	57.6	70.1	71.1	75.7	83.1	87.6	127.5	231.2	317.5	378.2
Yr-to-yr Gr.	154%	74%	86%	53%	44%	40%	44%	25%	127%	81%	37%	19%
Depreciation	48.0	37.3	39.1	40.2	39.0	39.0	39.0	39.0	243.4	168.0	156.0	158.7
Net inc minus Dep	1.5	16.6	18.5	29.9	32.1	36.7	44.1	48.6	-115.8	63.2	161.5	219.5
Adj Non-GAAP EPS-Basic	$0.78	$0.70	$0.74	$0.88	$0.83	$0.87	$0.95	$1.01	$2.46	$3.11	$3.66	$4.20
Adj Non-GAAP EPS-Fully dil.	**$0.55**	**$0.58**	**$0.62**	**$0.73**	**$0.68**	**$0.71**	**$0.78**	**$0.83**	**NA**	**$2.48**	**$3.00**	**$3.71**
									74%	26%	18%	15%
Adj Non-GAAP With Dep.	$0.02	$0.17	$0.19	$0.31	$0.31	$0.35	$0.42	$0.46	($1.83)	$0.65	$1.53	$2.15
Yr-to-yr Gr.	75%	31%	47%	40%	26%	29%	32%	19%	65%	46%	36%	11%
Primary Share Out	63.6	76.7	77.4	80.0	86.0	87.1	87.1	87.1	51.8	74.4	86.8	90.0
Fully Diluted As Reported	NA	96.8	95.9	96.0	105.0	106.1	106.1	106.1	63.2	97.0	105.8	102.0
EBITDA	**50**	**59**	**63**	**76**	**79**	**86**	**90**	**100**	**154**	**248**	**355**	
EBITDA Margin	22%	25%	26%	30%	29%	30%	29%	31%	19%	26%	30%	

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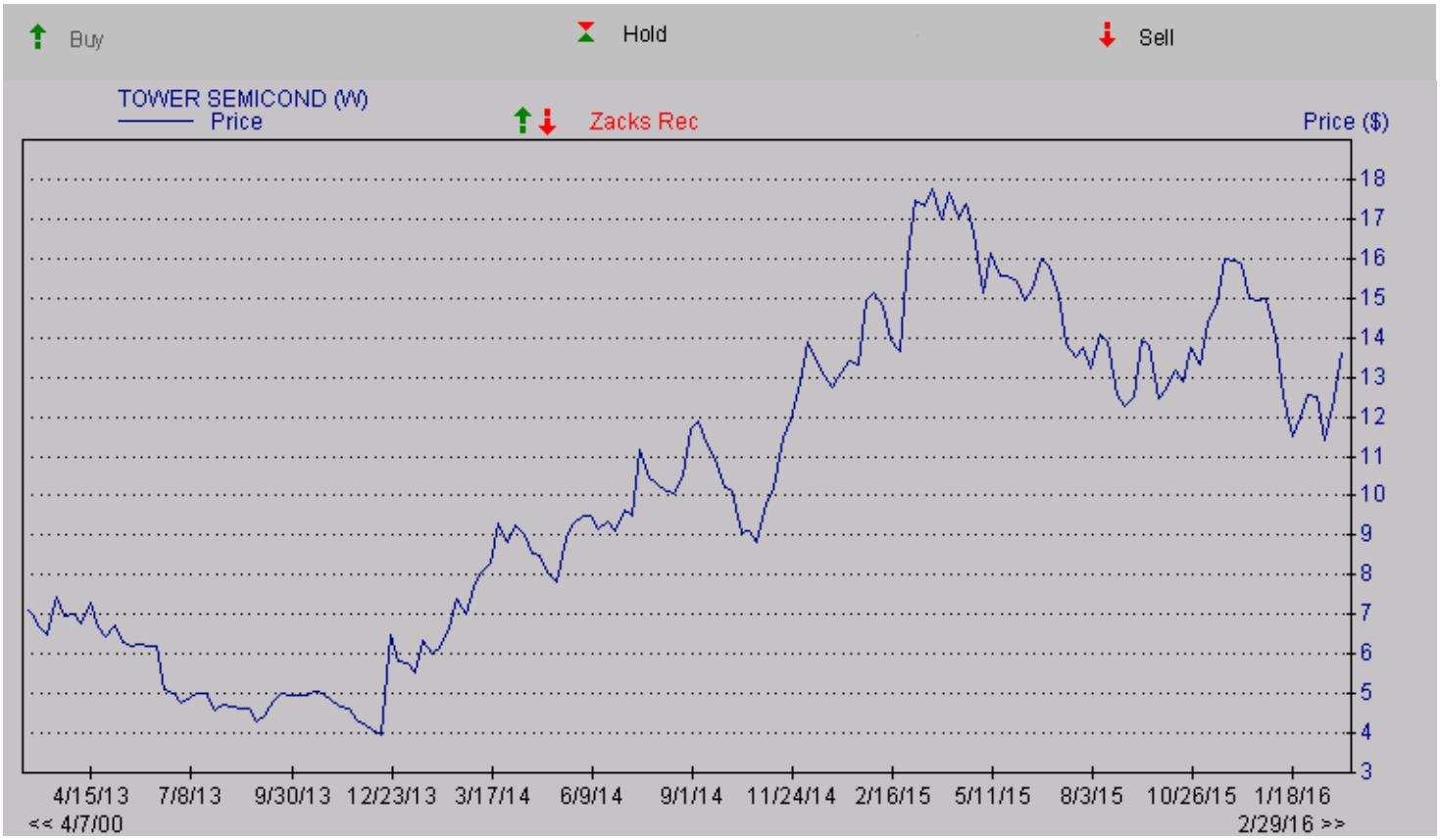
CASH FLOW

	6-months Jun. 30, 2015	3-months 30-Sep-15	3-months 31-Dec-15	Year 31-Dec-15
CASH FLOWS - OPERATING ACTIVITIES				
Net profit (loss)	$ (67,200)	$ 14,002	$ 24,071	$ (29,127)
Income and expense items not involving cash flows:				
Depreciation and amortization	85,311	39,058	43,663	168,032
Financing expense associated with debentures series F	77,279	2,696	7,998	87,973
Effect of fair value measurement on debt	11,356	918	3,804	16,078
Financing costs relating to Jazz notes exchange	0	0	0	0
Other expense (income), net	13	247	(70)	190
Gain from acquisition	0	0	0	0
Changes in assets and liabilities:				
Trade accounts receivable	(15,585)	(7,325)	11,795	(11,115)
Other receivables and other current assets	(4,966)	(5,549)	(4,464)	(14,979)
Inventories	(4,455)	(12,151)	(1,302)	(17,908)
Trade accounts payable	(6,676)	(508)	(18,978)	(26,162)
Deferred revenue and customers' advances	5,968	18,144	8,613	32,725
Other current liabilities	23,270	1,597	(16,413)	8,454
Deferred tax liability, net	306	133	(4,612)	(4,173)
Other long-term liabilities	(13,410)	(440)	(925)	(14,775)
Net cash provided by operating activities excluding Nishiwaki fab closure employee related retirement cost	**91,211**	**50,822**	**53,180**	**195,213**
Nishiwaki fab closure employee related retirement cost	(24,907)	0	0	(24,907)
Net cash provided by operating activities	66,304	50,822	53,180	170,306
CASH FLOWS - INVESTING ACTIVITIES				
Investments in property and equipment, net	**(66,572)**	**(40,626)**	**(58,172)**	**(165,370)**
Investments in other assets	0	0	(119)	(119)
Acquisition of subsidiary consolidated for the first time (a)	0	0	0	0
Interest bearing deposits, including designated deposits	0	0	(30,000)	(30,000)
Net cash provided by (used in) investing activities	(66,572)	(40,626)	(88,291)	(195,489)
CASH FLOWS - FINANCING ACTIVITIES				
Proceeds on account of shareholders' equity	5,654	4,602	4,168	14,424
Proceeds from long-term loans	0	0	70,592	70,592
Short-term loan repayment to Panasonic	0	0	0	0
Debt repayment	(48,683)	(3,000)	33,483	(18,200)
Debenture repayment	0	0	(51,489)	(51,489)
TPSCo dividend to Panasonic	0	0	(1,570)	(1,570)
Net cash used in financing activities	(43,029)	1,602	55,184	13,757
Effect of foreign exchange rate change	(1,367)	1,047	154	(166)
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	(44,664)	12,845	20,227	(11,592)
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	187,167	142,503	155,348	187,167
CASH AND CASH EQUIVALENTS - END OF PERIOD	142,503	155,348	175,575	175,575
NON-CASH ACTIVITIES				
Investments in property and equipment	17,350	NA	NA	18,657
Conversion of debentures to share capital	162,346	NA	NA	195,726
SUPPLEMENTAL DISCLOSURE OF CASH FLOW INFORMATION				
Cash paid during the period for interest	6,905	NA	NA	12,371
Cash paid during the period for income taxes	1,167	NA	NA	3,469
Cash Flow	$ 106,759	$ 56,921	$ 79,466	$ 243,146
Free cash flow	$ 40,187	$ 16,295	$ 21,294	$ 77,776

HISTORICAL ZACKS RECOMMENDATIONS



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