Zacks Small-Cap Research

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TowerJazz

(TSEM-NASDAQ)

TSEM: Accelerating Growth and Improved Reporting Should Attract Investors

We believe that the stock is worth $23.40 based on using an industry average PE ratio of 14.9xs and a 2016 non-GAAP EPS estimate of $1.57.

Current Price (08/05/16)	$15.19
Valuation	**$23.40**

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 to growth in the specific markets it addresses and via acquisitions.

SUMMARY DATA

52-Week High	**$16.26**
52-Week Low	**$11.05**
One-Year Return (%)	**6.9**
Beta	**1.5**
Average Daily Volume (sh)	**414,051**
Shares Outstanding (mil)	**86.3**
Market Capitalization ($mil)	**$1,299**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**32**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**12.2**
Earnings Per Share (%)	**16.0**
Dividend (%)	**0.0**
P/E using TTM EPS	**12.5**
P/E using 2016 Estimate	**9.6**
P/E using 2017 Estimate	**8.4**
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	278 A	305 A	325 E	336 E	1,244 E
2017					1,370 E

Earnings per Share
(Adjusted Non-GAAP Fully Diluted)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2014	-$0.17 A	-$0.03 A	-$0.03 A	$0.07 A	-$0.14 A
2015	-$0.03 A	$0.14 A	$0.22 A	$0.29 A	$0.58 A
2016	$0.31 A	$0.40 A	$0.42 E	$0.45 E	$1.57 E
2017					$1.80 E

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WHATS NEW

Simplified Reporting Highlights Another Beat And Raise Quarter

TowerJazz reported Q2 2016 revenues of $305 million versus last year's $236 million, up 29% and $278 million in Q1 2016. This was $5 million higher than the midpoint of last quarter's guidance. It gave positive **guidance for Q3 revenues with a mid-point of $325 million**. In Q2 2016 there were a full three months of Maxim revenues versus only two months in Q1.

The company continues to flourish because of the growth in the end markets it serves. In contrast to less specialized semiconductor foundries, TowerJazz sells to makers of mobile phones, high-end cameras, gesture controls, the Internet of Things, battery operated devices and automotive electronics. All of these are rapid growing and not cyclical. The company believes not only are the end markets growing, but its customers are gaining market share and it is gaining market share with its customers.

First Half Revenue Breakdown

RF	31%	22% Mobile 9% RF Infrastructure
Power Management	28%	
CMOS Sensor Camera	15%	
Mixed Signal and Other	26%	

Of special note this quarter, the company announced achieving volume production of its latest power amplifier silicon germanium platform for Skyworks Solutions (SKWS.) According to the company, this platform is capable of integrating all components of front-end module on a single die including the switch low-noise amplifier or power amplifier and RF control. TowerJazz did not previously serve the power amplifiers business. The TowerJazz solution results lower total build in materials costs for the customer and increased margins for TowerJazz.

The company continues to expand incremental capacity in the fabs it owns and cross certify among fabs to provide more flexibility. Most importantly the company says it has the current capacity to produce at a revenue run rate of $1.6 billion per year. In San Antonio is strategizing on how to increase capacity there by 20% - 30% with minor investments by moving walls and turning some grey areas and making them into white areas. In its other fabs there are also efforts to increase capacity by investments with good ROIs. In Q2 some of the capacity utilization was reduced, not by losing sales, which are growing, but by increasing capacity. Longer term the company will look at adding capacity without building new fabs using the methods they have already used: buying a used fab or joint ventures. It also is working on a China strategy where TowerJazz's contribution would be expertise in return for manufacturing capabilities.

	Q4 2015	Q1 2016	Q2 2016
Fab1 Migdal Haemek, Israel 6"	65%	71%	70%
Fab2 Migdal Haemek, Israel 8"	91%	91%	91%
Fab3 Newport Beach, California 8"	91%	91%	88%
Three TPSCo factories	41%	41%	42%
San Antonio, 8"	NA	NA	NA

The company has simplified it reporting and now reports fully diluted shares without investors having to search footnotes and add numbers together. It has added back depreciation to the numbers and provided historical numbers. This should give investors confidence they are comparing apples to apples when looking at other investments and companies and provide impetus to multiple expansion.

GAAP gross margins in the quarter were $73 million or 23.8% versus $53 million or 22.3%. Sequentially this was up from $61 million or 22.1% in Q1 2016. We expect overall gross margins to continue to improve as new incremental revenues should be at margins at 50% or higher and bring up the average over time.

Operating income almost doubled going to $40.2 million from $21.5 million in Q2 2015. Operating expenses only increased 5% year over year exemplifying the business's high operating leverage.

Interest expense was down $600,000 as the company restructured its debt. We expect a further reduction going forward.

Minority interest showed that TPSCo was profitable this quarter. Making $3.8 million after tax of which TowerJazz subtracted off the 49% it does not own.

Fully diluted GAAP and non-GAAP EPS were the same at $0.40 per share, two cents higher than our estimate. This is compared to GAAP EPS in Q2 2015 of a loss of $1.15 and a non-GAAP loss of $0.03. In Q1 2016, the company reported non-GAAP EPS of $0.31.

EBITDA was $87 million versus $59 million, up 48%, yielding a $348 run rate. This is an EV/ EBITDA of 4.2 times.

Recap of Maxim Acquisition

TowerJazz closed the purchase of Maxim's 8-inch fab in San Antonio, Texas one month into Q1 2016, which is now called *TowerJazz Texas*. This fab increases production capacity by 28,000 wafers per month and we expect it 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 gives 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. We believe the company may be able to bring on some outside revenues to this fab by Q4. It already has two TOPS clients for this fab. The two together should generate $75 million in revenue. One is a one-year contract and the other over three years.

2016 Forecast

We are upping our revenue and earnings numbers again due to the better than expected sales in Q2 and the company's Q3 guidance and belief that revenues will continue sequentially up this year based on it current book of business. Revenues are being increased to $1,244 million from $1,185 million. Non-GAAP diluted EPS has been raised to $1.57. Business continues strong across the board and the company is benefitting from a diverse customer base. The company has good visibility and capacity and should experience solid margin improvement. Growth in RF high precision analog should continue as the company's SiGe technology takes market share as it provides an advantage in performance and cost versus the competition. The company's customers are also showing the ability to increase their market share. The company also expects to capture market share in RF SOI as it qualifies additional capacity in San Antonio. And of course CMOS image sensor remains strong as it targets high growth markets including high-end cinematography, machine vision, industrial sensors, extra-oral and medical x-rays, and gesture control sensors. Even the power management business is showing steep ramps.

INVESTMENT THESIS

- The current fab capacity will allow the company to grow revenues and improve margins through capacity utilization. Without improvements the capacity of TowerJazz is currently $1.6B.
- 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, was 31% of H1 2016 revenues. Part of its success is selling into the smartphone market and it will grow faster than that market as multiple chips are now being sold per device. In contrast to other companies serving the smartphone market, TowerJazz has an extremely diverse customer base and no one customer can cause great effect.
- 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 continue grow in 2016 and beyond.
- We believe the stock is undervalued on a PE basis versus its peers, as well as by PE to growth rate.

VALUATION

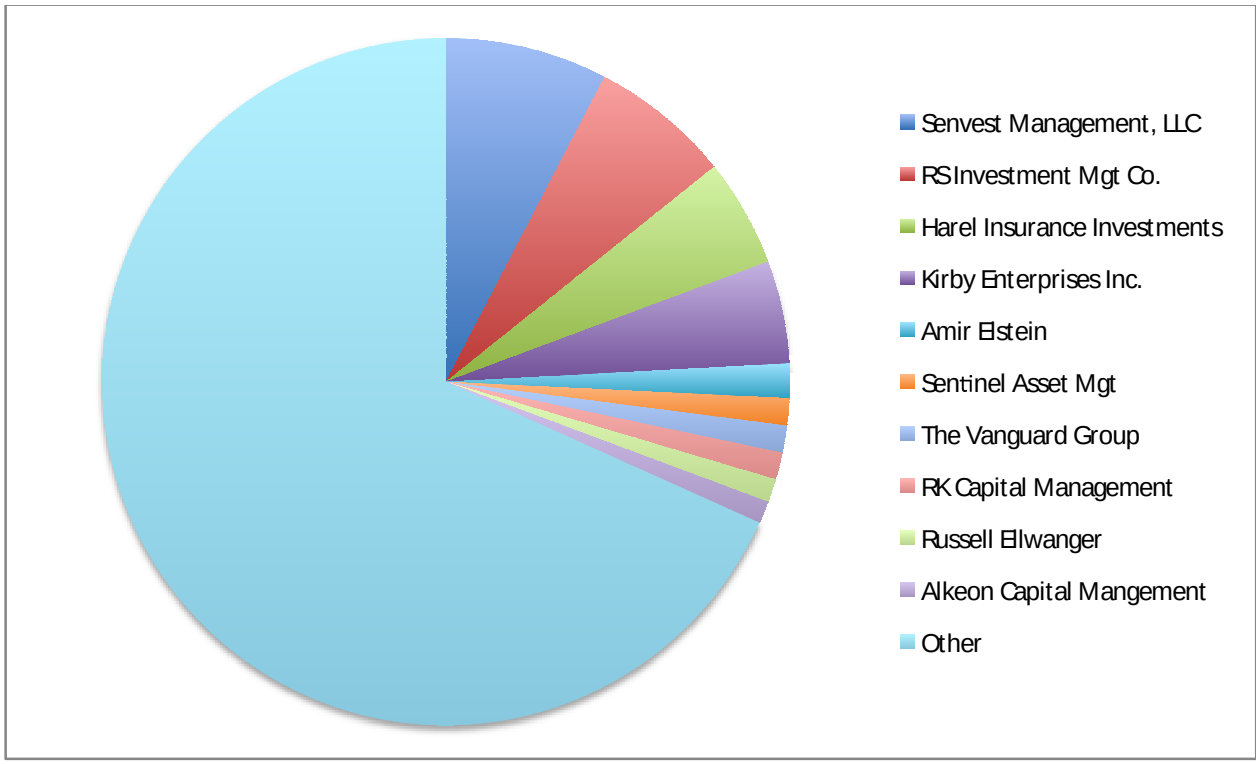
TSEM's public foundry competitors have shown lackluster results of late. SMI grew 4% year-over-year in the first quarter of 2016. A bright spot for SMI is fingerprint sensors due to accelerating adoption in smartphones as well as diversification of its customer base to U.S. and Eurasia. Q2 2016 revenues at TSMC grew 8%, reversing a decline in Q1 and UMC saw 7.5% growth also reversing a Q1 decline.

Given its product mix however, TowerJazz has done much better; TSEM grew 28% in Q2 2016 with most growth coming from the Maxim acquisition, which occurred one month into Q1. The PE ratio of the other foundry companies we see a range of 13.8 to 15.9 times 2016 estimated EPS. Our fully diluted non-GAAP EPS estimate for TSEM is $1.57. **Using the average PE of 14.9 times for the group that give us a stock price of $23.40 per share**.

Foundry Companies

Company	Ticker	EPS 16E	EPS 17E	Price	PE 2016	PE 2017	Growth Rate
Advanced Semiconductor	ASX	$0.44	$0.53	$6.09	13.8	11.5	20%
Semiconductor Manufacturing	SMI	0.26	0.43	4.13	15.9	9.6	65%
Taiwan Semiconductor	TSM	1.88	2.01	28.16	15.0	14.0	7%
United Microelectronics	UMC	NA	NA	1.89	NA	NA	NA
Average					14.9	11.8	36.1%

OWNERSHIP



Source: E*TRADE and SEC filings

BALANCE SHEET

$ in thousands	June 30, 2016	Mar. 31, 2016	
CURRENT ASSETS			
Cash and cash equivalents	**$311,062**	**$244,577**	27.2%
Trade accounts receivable	126,839	122,918	3.2%
Other receivables	13,993	9,363	49.4%
Inventories	136,125	128,031	6.3%
Other current assets	21,581	16,666	29.5%
Total current assets	**609,600**	**521,555**	16.9%
LONG-TERM INVESTMENTS	11,861	11,816	0.4%
PROPERTY AND EQUIPMENT, NET	625,163	582,250	7.4%
INTANGIBLE ASSETS, NET	34,807	35,601	-2.2%
GOODWILL	7,000	7,000	0.0%
OTHER ASSETS, NET	4,586	5,688	-19.4%
TOTAL ASSETS	1,293,017	1,163,910	11.1%
CURRENT LIABILITIES			
Current maturities of loans and debentures	**38,174**	**49,150**	-22.3%
Trade accounts payable	98,829	104,617	-5.5%
Deferred revenue	18,802	31,061	-39.5%
Other current liabilities	87,386	73,929	18.2%
Total current liabilities	**243,191**	**258,757**	-6.0%
LONG-TERM DEBT	**320,444**	**260,201**	23.2%
LONG-TERM CUSTOMERS' ADVANCES	48,999	28,444	72.3%
EMPLOYEE RELATED LIABILITIES	14,029	14,387	-2.5%
DEFERRED TAX LIABILITY	107,585	95,638	12.5%
OTHER LONG-TERM LIABILITIES	0	2,116	-100.0%
Total liabilities	734,248	659,543	11.3%
SHAREHOLDERS' EQUITY	558,769	504,367	10.8%
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$1,293,017	$1,163,910	11.1%
Current Ratio	2.5	2.0	24.4%
Quick Ratio	1.9	1.5	28.0%
Debt Percent of Assets	28%	27%	4.4%
Debt to Equity	0.6	0.6	4.6%

INCOME STATEMENT

	March Q1 15	June Q2 15	Sept Q3 15	Dec Q4 15	March Q1 16	June Q2 16	Sept Q3 16E	Dec Q4 16E	2014	2015	2016E	2017E
REVENUE												
Net Revenue	226.2	235.6	244.2	254.6	278.0	305.0	325.0	336.0	828.0	960.6	1,244.0	1,370.0
Yr-to-yr Gr.	71%	1%	8%	8%	23%	29%	33%	32%	64%	16%	30%	10%
OPERATING EXPENSES												
Cost of goods sold	193.2	183.1	188.8	190.1	216.7	232.3	242.0	250.0	764.2	755.2	941.0	993.9
Gross Margin	33.0	52.5	55.4	64.5	61.3	72.7	83.0	88.5	63.8	205.4	303.1	376.1
% of Sales	14.6%	22.3%	22.7%	25.3%	22.1%	23.8%	25.5%	26.3%	7.7%	21.4%	24.4%	27.5%
R&D	14.8	15.1	16.0	15.7	15.2	16.0	16.1	16.2	51.8	61.7	63.5	65.0
M, G&A	16.2	15.8	15.3	15.5	15.9	16.5	16.6	16.8	58.8	62.8	65.8	73.0
One-time charges	0.0	0.0	0.0	-1.0	(0.6)	0.0	0.0	0.0	56.7	56.7	(0.6)	0.0
Tot Operating Exp.	31.0	31.0	31.3	30.2	30.5	32.6	32.7	32.9	167.4	181.2	128.7	138.0
Operating Income	2.0	21.5	24.1	34.3	30.8	40.2	50.3	55.6	(103.6)	24.2	174.4	238.1
Operating Margin	1%	9%	10%	13%	11%	13%	15%	17%	-13%	3%	14%	17%
Yr-to-yr Gr.	-93%	-35%	-36%	-39%	1157%	44%	57%	23%	-13%	2.5%	14.0%	17.4%
Net Interest	(3.6)	(3.6)	(3.6)	(2.4)	(3.4)	(3.0)	(2.9)	(2.8)	(33.4)	(13.2)	(12.0)	(5.0)
Other non-cash financing expense	(84.6)	(7.3)	(5.3)	(12.8)	(4.0)	(7.5)	(3.0)	(3.0)	(55.4)	(109.9)	(17.5)	(8.0)
Other income	(0.0)	(0.0)	(0.2)	0.1	0.0	4.4	0.0	0.0	(0.1)	(0.2)	4.4	4.4
Gain from acqusiition	0.0	0.0	0.0	0.0	41.1	10.2	0.0	0.0	166.4	0.0	41.1	0.0
Profit before tax	(86.2)	10.6	14.9	19.3	64.6	44.2	44.4	49.9	(26.1)	(99.1)	190.4	229.5
	-38.1%	4.5%	6.1%	7.6%	23.2%	14.5%	13.7%	14.8%	-3.2%	-10.3%	15.3%	16.8%
Taxes	10.9	(2.5)	(0.9)	4.8	(0.1)	(3.8)	(3.8)	(4.0)	24.7	12.3	(11.7)	(30.0)
Tax Rate	-12.6%	-23.2%	-6.2%	24.8%	-0.1%	-8.7%	-8.6%	-7.9%	-94.7%	-12.4%	6.1%	13.1%
Profit before non-controlling	(75.4)	8.2	14.0	24.1	64.5	40.3	40.6	45.9	(1.4)	(86.8)	178.7	199.5
Minority Income	2.3	(0.4)	(0.5)	(2.0)	1.3	(1.9)	(3.0)	(6.0)	5.6	(0.5)	(9.5)	(23.8)
GAAP Net income	(73.1)	7.8	13.6	22.1	65.9	38.5	37.6	40.0	4.3	(87.4)	169.2	175.7
Yr-to-yr Gr.					-190%	394%	177%	81%	-92%	NM	NM	4%
Non-GAAP Net Income	(7.6)	12.0	18.7	26.0	30.6	39.8	42.3	44.7	(68.8)	49.2	157.4	194.82
GAAP primary EPS	($1.15)	$0.10	$0.18	$0.28	$0.78	$0.45	$0.44	$0.46	$0.08	($1.17)	$1.97	$1.95
Fully diluted GAAP	($1.15)	$0.09	$0.16	$0.24	$0.69	$0.40	$0.39	$0.42	$0.05	($1.10)	$1.90	$1.72
Adj Non-GAAP EPS-Fully dil.	**($0.03)**	**$0.14**	**$0.22**	**$0.29**	**$0.31**	**$0.40**	**$0.42**	**$0.45**	**-$1.33**	**$0.58**	**$1.57**	**$1.80**
					-1165%	190%	96%	54%		-2414%	171%	15%
Primary Share Out	63.6	76.7	77.4	79.6	84.5	86.3	86.4	86.4	51.8	74.4	85.9	90.0
Fully Diluted GAAP	96.2	87.6	86.8	91.1	98.8	100.2	101.0	101.0	89.9	84.9	100.2	102.0
All in shares	104.5	103.6	103.5	103.5	106.9	107.1	107.9	107.9	104.2	103.5	107.4	108.0
EBITDA	**51.3**	**58.6**	**63.1**	**75.5**	**77.7**	**87.0**	**94.6**	**99.9**	**154.0**	**248.5**	**359.2**	**457.6**
EBITDA Margin	23%	25%	26%	30%	28%	29%	29%	30%	19%	26%	29%	33%

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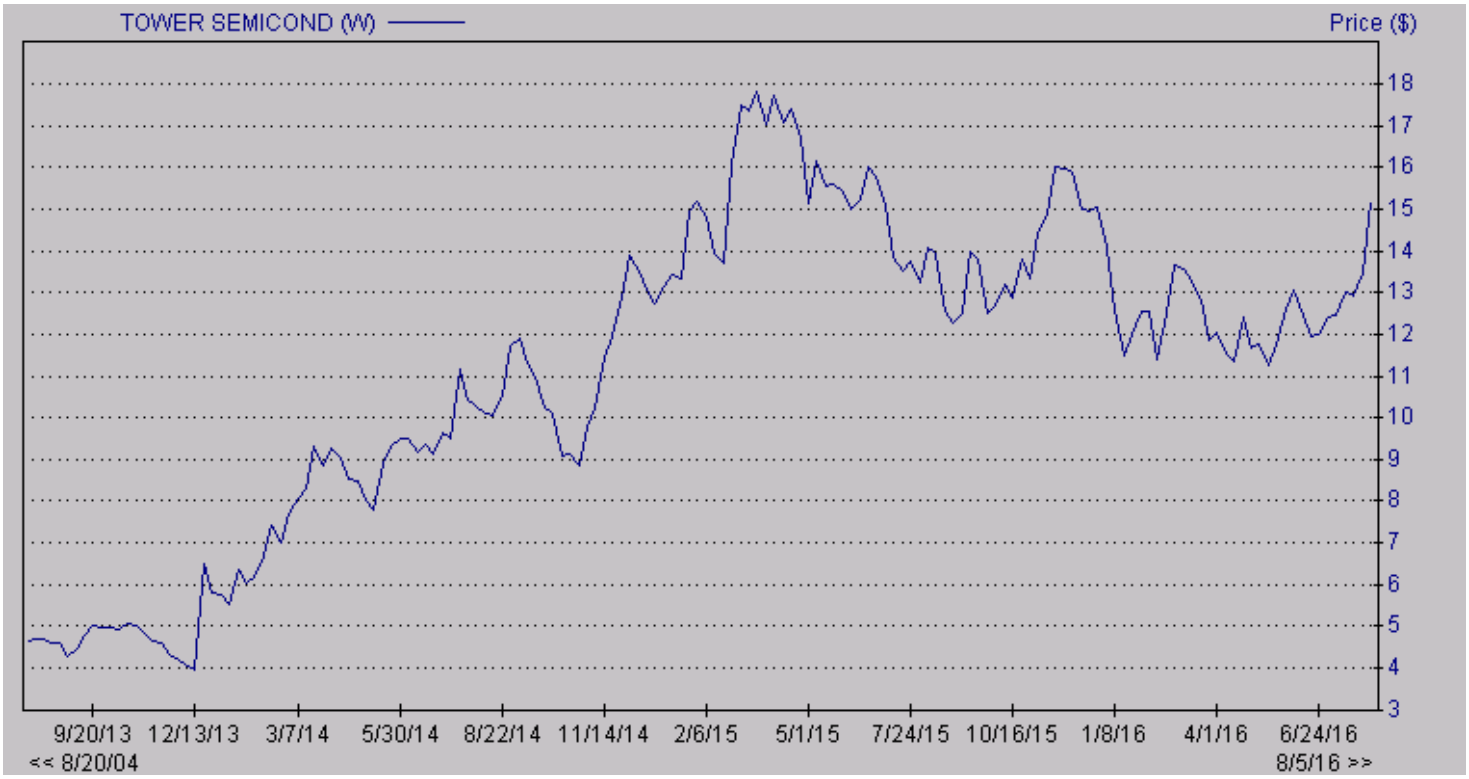
CASH FLOW

	3-months 31-Mar-15	3-months 30-Jun-15	3-months 30-Sep-15	3-months 31-Dec-15	3-months 31-Mar-16	3-months 30-Jun-16
CASH FLOWS - OPERATING ACTIVITIES						
Net profit (loss)	$ 24,071	$ 8,150	$ 14,002	$ 24,071	$ 64,548	$ 40,347
Income and expense items not involving cash flows:						
Depreciation and amortization	43,663	$ 37,343	39,058	43,663	48,544	48,117
Financing expense associated with debentures series F	7,998	$ 1,945	2,696	7,998	38	0
Effect of fair value measurement on debt	3,804	$ 3,547	918	3,804	1,401	6,700
Financing costs relating to Jazz notes exchange	0	$ 0	0	0	0	0
Other expense (income), net	(70)	$ 4	247	(70)	0	(4,362)
Gain from acquisition	0	$ 0	0	0	(41,140)	(10,158)
Changes in assets and liabilities:						
Trade accounts receivable	11,795	$ (9,258)	(7,325)	11,795	(8,519)	(1,916)
Other receivables and other current assets	(4,463)	$ 2,188	(5,549)	(4,464)	822	(5,476)
Inventories	(1,302)	$ (6,098)	(12,151)	(1,302)	(9,224)	(6,300)
Trade accounts payable	(18,979)	$ (5,072)	(508)	(18,978)	10,145	130
Deferred revenue and customers' advances	8,613	$ 3,264	18,144	8,613	15,030	8,294
Other current liabilities	(16,413)	$ 15,248	1,597	(16,413)	(1,953)	11,194
Deferred tax liability, net	(4,612)	$ (245)	133	(4,612)	(2,250)	(4,789)
Other long-term liabilities	(925)	$ (82)	(440)	(925)	0	0
Net cash provided by operating activities	**53,180**	**50,934**	**50,822**	**53,180**	**77,442**	**81,781**
CASH FLOWS - INVESTING ACTIVITIES						
Investments in property and equipment, net	**(58,291)**	**$ (38,641)**	**(40,626)**	**(58,172)**	**(57,533)**	**(54,323)**
Investments in other assets	0	$ 0	0	(119)	0	0
Acquisition of subsidiary consolidated for the first time (a)	0	$ 0	0	0	0	0
Interest bearing deposits, including designated deposits	(30,000)	$ 0	0	(30,000)	10,000	19,600
Net cash provided by (used in) investing activities	(88,291)	$ 21,719	(40,626)	(88,291)	(47,533)	(34,723)
CASH FLOWS - FINANCING ACTIVITIES						
Proceeds on account of shareholders' equity	4,168	$ (817)	4,602	4,168	5,881	360
Proceeds from long-term loans	70,592	$ 0	0	70,592	17,000	27,444
Short-term loan repayment to Panasonic	0	$ 0	0	0	0	0
Debt repayment	(18,006)	$ (2,000)	(3,000)	33,483	(10,254)	0
Debenture repayment	0	$ 0	0	(51,489)	0	0
TPSCo dividend to Panasonic	(1,570)	$ 0	0	(1,570)	(2,563)	0
Net cash used in financing activities	10,064	$ (2,817)	1,602	55,184	10,064	27,804
Effect of foreign exchange rate change	154	$ (1,189)	1,047	154	9,029	11,623
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	49,002	$ 8,287	12,845	20,227	49,002	86,485
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	20,227	$ 156,348	142,503	155,348	175,575	224,577
CASH AND CASH EQUIVALENTS - END OF PERIOD	156,348	$ 142,503	155,348	175,575	224,577	311,062
Cash Flow	$ 79,466	$ 50,989	$ 56,921	$ 79,466	$ 73,391	$ 80,644
Free cash flow	$ 21,175	$ 12,348	$ 16,295	$ 21,294	$ 15,858	$ 26,321

HISTORICAL STOCK PRICE



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