Zacks Small-Cap Research

February 13, 2017
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TowerJazz

(TSEM-NASDAQ)

TSEM: TowerJazz Plays Out the Year with a Strong Q4

We believe that the stock is worth $28.56 based on using an industry average PE ratio of 16.7xs its 2016 non-GAAP EPS earnings of $1.72.

Current Price (02/10/17)	$22.07
Valuation	**$28.56**

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 expected to grow because of the specific markets it addresses, by fab acquisitions, and by market share gains.

SUMMARY DATA

52-Week High	**$22.07**
52-Week Low	**$11.05**
One-Year Return (%)	**93.4**
Beta	**1.0**
Average Daily Volume (sh)	**756,976**
Shares Outstanding (mil)	**91**
Market Capitalization ($mil)	**$2,013**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**47**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**15.2**
Earnings Per Share (%)	**37.1**
Dividend (%)	**0.0**
P/E using TTM EPS	**12.9**
P/E using 2017 Estimate	**10.5**
P/E using 2018 Estimate	**9.2**
Zacks Rank	**N/A**

Risk Level	**Below 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)
2015	226 A	236 A	244 A	255 A	961 A
2016	278 A	305 A	326 A	340 A	1,250 A
2017	330 E	337 E	345 E	355 E	1,367 E
2018					1,520 E

Earnings per Share
(Adjusted Non-GAAP Fully Diluted)

	Q1 (Mar)	Q2 (Jun)	Q3 (Sep)	Q4 (Dec)	Year (Dec)
2015	-$0.03 A	$0.14 A	$0.22 A	$0.29 A	$0.58 A
2016	$0.31 A	$0.40 A	$0.49 A	$0.52 A	$1.71 A
2017	$0.48 E	$0.52 E	$0.57 E	$0.61 E	$2.10 E
2018					$2.40 E

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WHATS NEW

TowerJazz Closes Out Year With Record Revenues and Profits

TowerJazz reported Q4 2016 revenues of $340 million versus last year's $255 million, **up 34%** and $326 million in Q3 2016. This was in line with guidance and all growth was organic. The company gave midpoint guidance of $330 million in revenue for Q1 2017, pointing to revenue growth of 19%.

Gross margins continue to move up with capacity utilization and product mix. Gross margin for the quarter was 25.8% versus 25.3% last year and 24.9% in Q3 2016. While revenues grew 34%, operating income grew 61% to 16% of sales. Operating leverage from Tower's fixed cost structure should continue to propel earnings growth ahead of revenue growth going forward.

Fully diluted GAAP EPS was $0.52 versus $0.16 a year ago. **Non-GAAP EPS was $0.52 versus $0.29, up 77%.** Adjusted **EBITDA was $105 million** versus $76 million. At today's price, this is an enterprise value to EBITDA run rate of 5.3 times.

The company continues to accumulate cash and now has **$389 million in cash versus $344 in total debt.** Its quick ratio is high at 2.3xs and it has $451 million in working capital. The company is no doubt stockpiling cash for potential acquisitions of fabs or other ventures rather than paying down debt.

Full Year

2016 ended with revenue growth of 30%, operating income growth of 114% and adjusted non-GAAP fully diluted EPS up 195%. Of the 30% growth approximately half was organic and half through the acquisition of the Maxim fab. The company increased cash 89% and reduced debt 19%. Working capital increased 91% to $491 million. Tower is now has a solid balance sheet and should be able to capitalize on this through further acquisitions and capacity growth. It may even be able to attract more customers as its financial situation is much improved and partnering with the company is not the risk it once was. Looking ahead, progress may be less dramatic but should still deliver increasingly better margins until a new underutilized fab is added to the mix.

In the next twelve months, TowerJazz will have to make a decision as to its next move to increase capacity. It needs to either buy or build a fab. If it were to build a fab, we believe it is having discussions with a municipality in China that would fund the project while Tower provides the equipment and expertise. Alternatively it could seek out a fab for sale from an owner that would still guarantee to use some production capacity much like Panasonic or Maxim. There is some hope that industry consolidation in the client base could create some opportunity. Panasonic continues to represent between $90-105 million in revenues per quarter and third party revenues at TPSCo. ended Q4 2016 at a $100 million run rate. So Panasonic plus Maxim total approximately $500 million of the company's estimated $1.4 billion in 2017 revenues. TPSCo generated $400 million in revenue; Panasonic owns 49% of that business.

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.

	Q4 2015	Q1 2016	Q2 2016	Q3 2016	Q4 2016
Fab1 Migdal Haemek, Israel 6"	65%	71%	70%	70%	78%
Fab2 Migdal Haemek, Israel 8"	91%	91%	91%	91%	87%
Fab3 Newport Beach, California 8"	91%	91%	88%	88%	84%
Three TPSCo factories	41%	41%	42%	42%	50%
San Antonio, 8"	NA	NA	NA	NA	NA

INVESTMENT THESIS

- Although the semiconductor market is typically considered cyclical, we believe that based on the end-user market that TowerJazz's products are built in to, revenues should continue to steadily grow.
- As a foundry, the company has natural operating leverage given its high fixed costs. Every dollar in revenue tends to add at least $0.50 to gross margin.
- Its largest market segment, RF, was 30% of 2016 revenues. While this segment grew 23% in 2016, the company expects that to increase only 5% in 2017 based on its customers expectations. The remaining 70% of the business ex-Panasonic and Maxim is expected to have double-digit growth between 10-30%.
- 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.
- We believe the stock is currently undervalued on a PE basis versus its peers, as well as by PE to growth rate. Peer companies trade at an average of 16.7 x 2016 EPS versus TSEM's 12.9 xs. Looking forward to 2017 earnings, the stock could reach $35 per share.
- The current fab capacity will allow the company to grow revenues and improve margins through capacity utilization. The following table shows the **operating leverage** the company has. It shows that without improvements, the capacity of TowerJazz is currently $1.6B. Based on its experience, that revenue is projected to yield gross margin of $489 million, EBITDA of $547 million and net profit to TSEM (after subtracting Panasonic's minority interest) of $261 million.

Present Capacity Financial Model

$M	Q3'16 Annualized	Incremental Model	Total
Revenue	1,305	295	1,600
Gross Profit	324	165	489
R&D	62	5	67
SG&A	67	0	67
EBITDA	387	160	547
Net Profit	160	101	261
Cash from operations	344	121	465
Cap-Ex	168	0	168
FCF	176	121	297

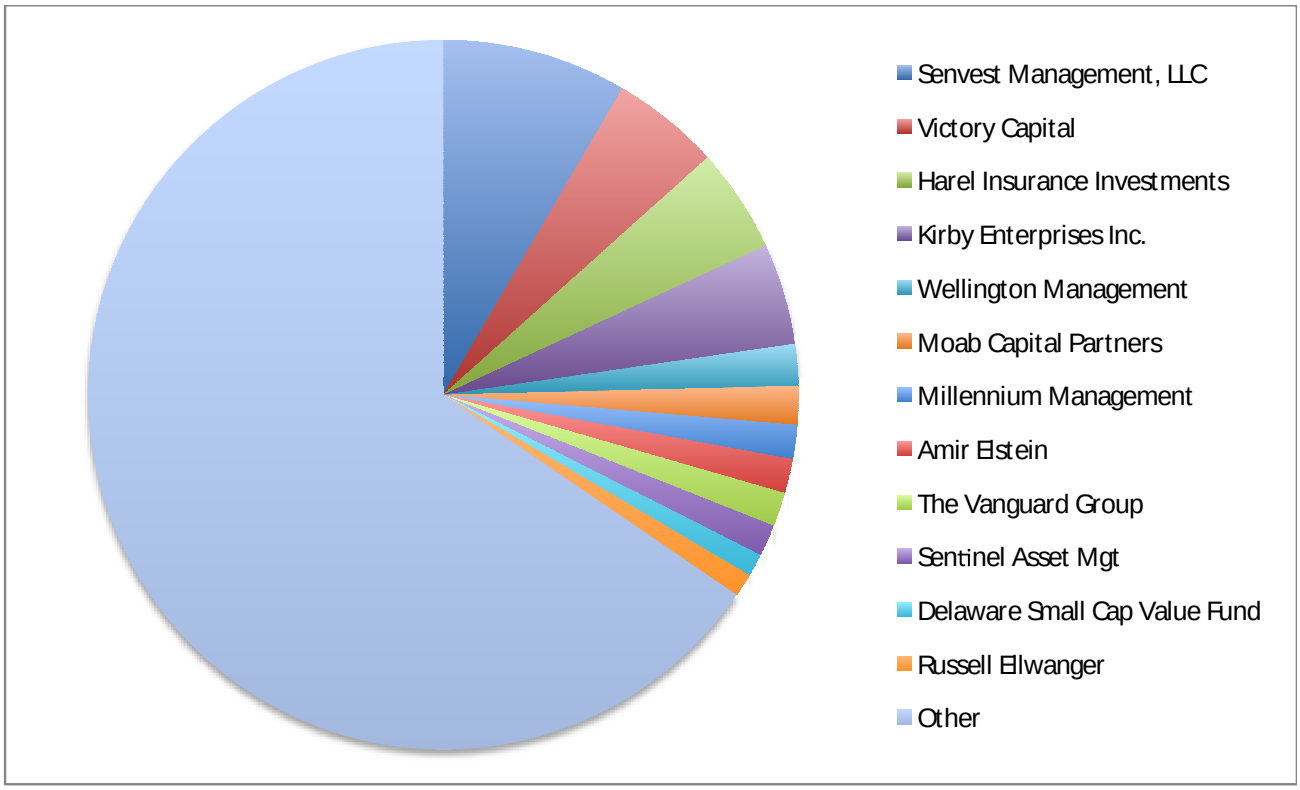
VALUATION

TSEM's public foundry comparables have a PE range of 14.7 to 18.4 times 2016 estimated EPS. Our Fully diluted non-GAAP EPS results for TSEM were $1.71. **Using the average PE of 16.7 times for the group that give us a stock price of $28.56 per share**. Based on estimated 2017 EPS that price could reach $35.00.

Foundry Companies

Company	Ticker	EPS 16E	EPS 17E	Price	PE 2016	PE 2017	Growth Rate
Advanced Semiconductor	ASX	$0.41	$0.47	$6.03	14.7	12.8	15%
Semiconductor Manufacturing	SMI	0.41	0.48	7.28	17.8	15.2	17%
Taiwan Semiconductor	TSM	1.95	2.16	30.78	15.8	14.3	11%
United Microelectronics	UMC	0.10	0.12	1.84	18.4	15.3	20%
Average					16.7	14.9	15.9%

OWNERSHIP updated 2/10/17



Source: E*TRADE and SEC filings

BALANCE SHEET

$ in thousands	Dec. 31, 2016	Sept. 30, 2016	% Change	Dec. 31, 2015	% Change
CURRENT ASSETS					
Cash and cash equivalents	**$389,377**	**$362,833**	7.3%	**$205,575**	89.4%
Trade accounts receivable	141,048	128,979	9.4%	110,065	28.1%
Inventories	137,532	143,090	-3.9%	105,681	30.1%
Other current assets	30,041	32,851	-8.6%	25,406	18.2%
Total current assets	**697,998**	**667,753**	4.5%	**446,727**	56.2%
LONG-TERM INVESTMENTS	25,624	24,616	4.1%	11,737	118.3%
PROPERTY AND EQUIPMENT, NET	616,686	643,046	-4.1%	459,533	34.2%
INTANGIBLE ASSETS, NET	28,129	32,687	-13.9%	34,468	-18.4%
GOODWILL	7,000	7,000	0.0%	7,000	0.0%
OTHER ASSETS, NET	4,447	4,535	-1.9%	6,759	-34.2%
TOTAL ASSETS	1,379,884	1,379,637	0.0%	966,224	42.8%
CURRENT LIABILITIES					
Short term debt	**48,084**	**41,646**	15.5%	**33,259**	44.6%
Trade accounts payable	99,262	105,745	-6.1%	91,773	8.2%
Deferred revenue	26,169	25,878	1.1%	23,373	12.0%
Other current liabilities	73,600	81,248	-9.4%	62,714	17.4%
Total current liabilities	**247,115**	**254,517**	-2.9%	**211,119**	17.1%
LONG-TERM DEBT	**296,144**	**330,526**	-10.4%	**256,875**	15.3%
LONG-TERM CUSTOMERS' ADVANCES	41,874	36,547	14.6%	21,102	98.4%
EMPLOYEE RELATED LIABILITIES	14,176	14,169	0.0%	14,189	-0.1%
DEFERRED TAX LIABILITY	97,961	107,843	-9.2%	69,744	40.5%
Total liabilities	697,270	743,602	-6.2%	580,638	20.1%
SHAREHOLDERS' EQUITY	682,614	636,035	7.3%	385,586	77.0%
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$1,379,884	$1,379,637	0.0%	$966,224	42.8%
Current Ratio	2.8	2.6	7.7%	2.1	33.5%
Quick Ratio	2.3	2.1	10.0%	1.6	40.4%
Working Capital	450,883	413,236	9.1%	235,608	91.4%
Debt Percent of Assets	25%	27%	-7.5%	30%	-16.9%
Debt to Equity	0.5	0.6	-13.8%	0.8	-33.0%

INCOME STATEMENT

	March Q1 16	June Q2 16	Sept Q3 16	Dec Q4 16	March Q1 17E	June Q2 17E	Sept Q3 17E	Dec Q4 17E	2016	2017E	2018E
REVENUE											
Net Revenue	278.0	305.0	326.2	340.4	330.0	337.0	345.0	355.0	1,249.6	1,367.0	1,520.0
Yr-to-yr Gr.	23%	29%	34%	34%	19%	10%	6%	4%	30%	9%	10%
OPERATING EXPENSES											
Cost of goods sold	216.7	232.3	244.9	252.6	245.6	248.1	250.9	254.4	946.5	999.0	1,075.6
Gross Margin	61.3	72.7	81.3	87.7	84.4	88.9	94.1	100.6	303.1	368.0	444.5
% of Sales	22.1%	23.8%	24.9%	25.8%	25.6%	26.4%	27.3%	28.3%	24.3%	26.9%	29.2%
R&D	15.2	16.0	15.5	16.3	16.0	16.0	16.2	16.2	63.1	64.4	66.5
M, G&A	15.9	16.5	16.8	16.2	16.2	16.7	16.9	18.5	65.4	68.3	74.0
One-time charges	(0.6)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	(0.6)	0.0	0.0
Tot Operating Exp.	30.5	32.6	32.3	32.5	32.2	32.7	33.1	34.7	127.9	132.7	140.5
Operating Income	30.8	40.2	49.0	55.2	52.2	56.2	61.0	65.9	175.2	235.3	304.0
Operating Margin	11%	13%	15%	16%	16%	17%	18%	19%	14%	17%	20%
Yr-to-yr Gr.	1445%	87%	104%	61%	43%	27%	18%	14%	113.9%	34.3%	26.3%
Net Interest	(3.4)	(3.0)	(3.3)	(2.2)	(3.0)	(3.0)	(3.0)	(3.0)	(11.9)	(13.0)	(13.0)
Other non-cash financing expense	(4.0)	(7.5)	(2.2)	1.2	(1.0)	(1.0)	(1.0)	(1.0)	(12.5)	0.0	(4.0)
Other income	0.0	4.4	5.1	(0.9)	0.0	0.0	0.0	0.0	8.5	0.0	0.0
Gain from acqusiition	41.1	10.2	0.0	0.0	0.0	0.0	0.0	0.0	51.3	0.0	0.0
Profit before tax	64.6	44.2	48.6	53.2	48.2	52.2	57.0	61.9	210.6	222.3	287.0
	23.2%	14.5%	14.9%	15.6%	14.6%	15.5%	16.5%	17.4%	16.9%		18.9%
Taxes	(0.1)	(3.8)	3.5	(1.0)	(1.0)	(1.0)	(1.0)	(1.0)	(1.4)	(4.0)	(12.0)
Tax Rate	-0.1%	-8.7%	7.1%	-1.9%	-2.1%	-1.9%	-1.8%	-1.6%	0.7%	-1.8%	-4.2%
Profit before non-controlling	64.5	40.3	52.0	52.3	47.2	51.2	56.0	60.9	209.2	218.3	275.0
Minority Income	1.3	(1.9)	(0.8)	(4.0)	(2.5)	(2.5)	(2.5)	(2.5)	(5.3)	(10.0)	(36.0)
GAAP Net income	65.9	38.5	51.2	48.3	44.7	48.7	53.5	58.4	203.9	208.3	239.0
Yr-to-yr Gr.	-190%	394%	278%	119%	-32%	27%	4%	21%	NM		12%
Non-GAAP Net Income	31.6	39.8	49.4	53.4	49.8	53.9	58.7	63.6	174.2	217.78	248.97
GAAP primary EPS	$0.78	$0.45	$0.58	$0.53	$0.48	$0.52	$0.58	$0.63	$2.33	$2.24	$2.57
Fully diluted GAAP	$0.69	$0.40	$0.52	$0.49	$0.43	$0.47	$0.52	$0.56	$2.10	$2.01	$2.31
Adj Non-GAAP EPS-Fully dil.	**$0.32**	**$0.40**	**$0.49**	**$0.52**	**$0.48**	**$0.52**	**$0.57**	**$0.61**	**$1.71**	**$2.10**	**$2.40**
	-1198%	190%	125%	77%	35%	18%	6%	9%	195%		
Primary Share Out	84.5	86.3	87.8	91.2	93.0	93.0	93.0	93.0	87.5	93.0	93.0
Fully Diluted GAAP	98.8	100.2	101.8	103.6	103.6	103.6	103.6	103.6	101.3	103.6	103.6
All in shares	106.9	107.1	107.1	107.1	107.1	107.1	107.1	107.1	107.0	107.1	107.1

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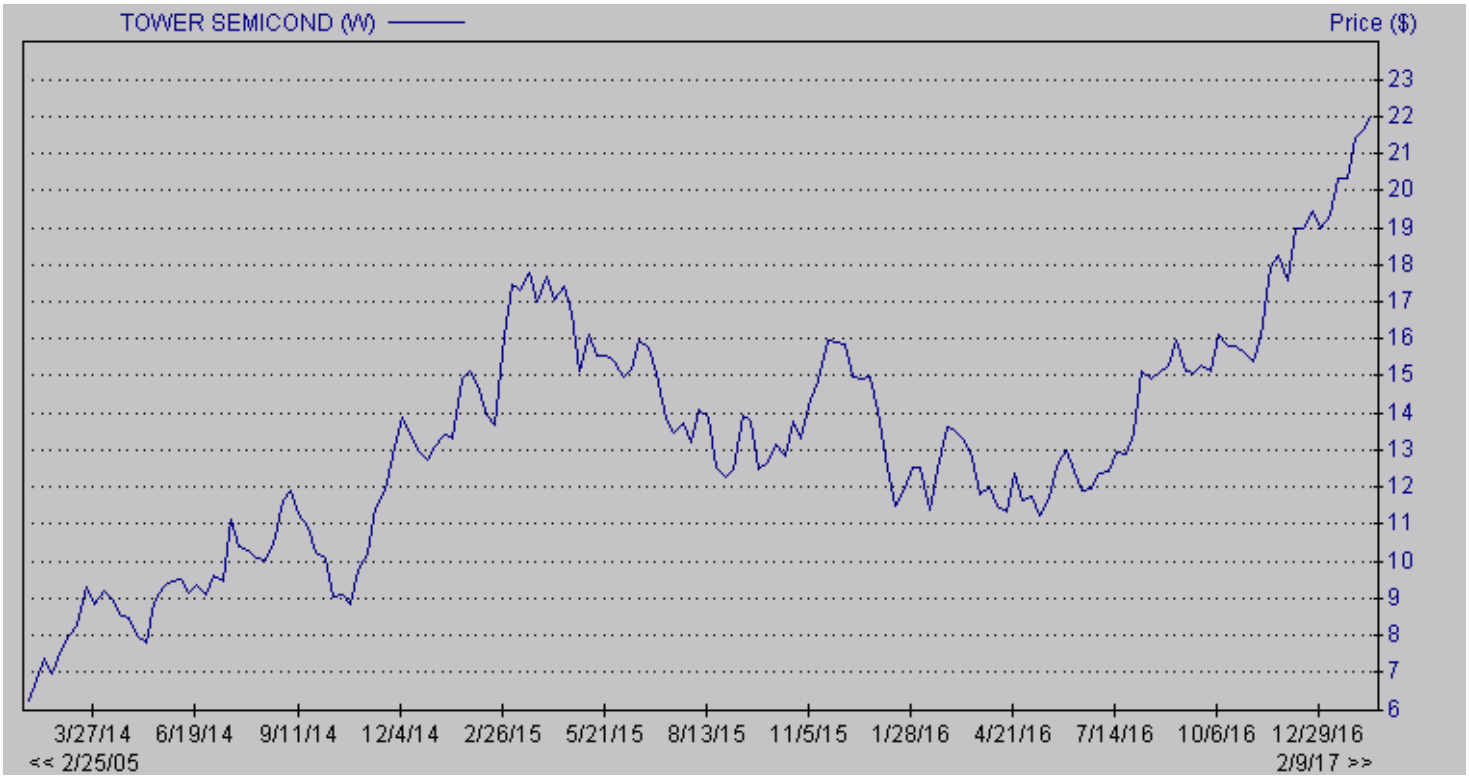
CASH FLOW

	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	3-months 30-Sep-16	3-months 31-Dec-16	Year Ending 31-Dec-16
CASH FLOWS - OPERATING ACTIVITIES									
Net profit (loss)	$ 24,071	$ 8,150	$ 14,002	$ 24,071	$ 64,548	$ 40,347	$ 52,018	$ 52,253	$ 209,166
Income and expense items not involving cash flows:									
Depreciation and amortization	43,663	$ 37,343	39,058	43,663	48,544	48,117	49,194	$ 51,751	197,606
Financing expense associated with debentures series F	7,998	$ 1,945	2,696	7,998	38	0	0	$ 112	150
Effect of fair value measurement on debt	3,804	$ 3,547	918	3,804	1,401	6,700	2,808	$ (2,617)	8,292
Financing costs relating to Jazz notes exchange	0	$ 0	0	0	0	0	0	$ 0	0
Other expense (income), net	(70)	$ 4	247	(70)	0	(4,362)	(5,081)	$ 121	(9,322)
Gain from acquisition	0	$ 0	0	0	(41,140)	(10,158)	0	$ 827	(50,471)
Changes in assets and liabilities:									
Trade accounts receivable	11,795	$ (9,258)	(7,325)	11,795	(8,519)	(1,916)	(1,469)	$ (18,200)	(30,104)
Other receivables and other current assets	(4,463)	$ 2,188	(5,549)	(4,464)	822	(5,476)	4,328	$ 61	(265)
Inventories	(1,302)	$ (6,098)	(12,151)	(1,302)	(9,224)	(6,300)	(6,245)	$ (300)	(22,069)
Trade accounts payable	(18,979)	$ (5,072)	(508)	(18,978)	10,145	130	2,624	$ (7,349)	5,550
Deferred revenue and customers' advances	8,613	$ 3,264	18,144	8,613	15,030	8,294	(5,377)	$ 5,634	23,581
Other current liabilities	(16,413)	$ 15,248	1,597	(16,413)	(1,953)	11,194	(6,938)	$ (2,448)	(145)
Deferred tax liability, net	(4,612)	$ (245)	133	(4,612)	(2,250)	(4,789)	548	$ 2,788	(3,703)
Other long-term liabilities	(925)	$ (82)	(440)	(925)	0	0	0	$ (798)	(798)
Net cash provided by operating activities	**53,180**	**50,934**	**50,822**	**53,180**	**77,442**	**81,781**	**86,410**	**81,835**	**327,468**
CASH FLOWS - INVESTING ACTIVITIES									
Investments in property and equipment, net	**(58,291)**	**$ (38,641)**	**(40,626)**	**(58,172)**	**(57,533)**	**(54,323)**	**(54,947)**	**$ (42,821)**	**(209,624)**
Investments in other assets	0	$ 0	0	(119)	0	0	0	$ 0	0
Acquisition of subsidiary consolidated for the first time (a)	0	$ 0	0	0	0	0	0	$ 0	0
Interest bearing deposits, including designated deposits	(30,000)	$ 0	0	(30,000)	10,000	19,600	(12,500)	$ (34,201)	(17,101)
Net cash provided by (used in) investing activities	(88,291)	$ 21,719	(40,626)	(88,291)	(47,533)	(34,723)	(67,447)	(77,022)	(226,725)
CASH FLOWS - FINANCING ACTIVITIES									
Excersize of warrants and options	4,168	$ (817)	4,602	4,168	5,881	360	21,918	$ 10,644	38,803
Proceeds from long-term loans	70,592	$ 0	0	70,592	17,000	27,444	8,554	$ (52,998)	0
Short-term loan repayment to Panasonic	0	$ 0	0	0	0	0	0	$ 0	0
Debt repayment	(18,006)	$ (2,000)	(3,000)	33,483	(10,254)	0	0	$ 47,345	37,091
Debenture repayment	0	$ 0	0	(51,489)	0	0	0	$ 0	0
TPSCo dividend to Panasonic	(1,570)	$ 0	0	(1,570)	(2,563)	0	0	$ 0	(2,563)
Net cash used in financing activities	10,064	$ (2,817)	1,602	55,184	10,064	27,804	30,472	4,991	73,331
Effect of foreign exchange rate change	154	$ (1,189)	1,047	154	9,029	11,623	2,336	$ (17,353)	5,635
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	49,002	$ 8,287	12,845	20,227	49,002	86,485	51,771	$ (7,549)	179,709
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	20,227	$ 156,348	142,503	155,348	175,575	224,577	311,062	362,833	175,575
CASH AND CASH EQUIVALENTS - END OF PERIOD	156,348	$ 142,503	155,348	175,575	224,577	311,062	362,833	355,284	355,284
Cash Flow	$ 79,466	$ 50,989	$ 56,921	$ 79,466	$ 73,391	$ 80,644	$ 98,939	$ 102,447	$ 355,421
Free cash flow	$ 21,175	$ 12,348	$ 16,295	$ 21,294	$ 15,858	$ 26,321	$ 43,992	$ 59,626	$ 145,797

HISTORICAL STOCK PRICE



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