Zacks Small-Cap Research

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TowerJazz

(TSEM-NASDAQ)

TSEM: Hot Markets Continue to Fuel Growth

We believe that the stock is worth $26.70 based on using an industry average PE ratio of 15.9xs and a 2016 non-GAAP EPS estimate of $1.68.

Current Price (11/16/16)	$17.50
Valuation	**$26.70**

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 due to growth in the specific markets it addresses, fab acquisitions, and market share gains.

SUMMARY DATA

52-Week High	**$17.52**
52-Week Low	**$11.05**
One-Year Return (%)	**7.6**
Beta	**1.1**
Average Daily Volume (sh)	**600,108**
Shares Outstanding (mil)	**90**
Market Capitalization ($mil)	**$1,575**
Short Interest Ratio (days)	**N/A**
Institutional Ownership (%)	**42**
Insider Ownership (%)	**1**
Annual Cash Dividend	**$0.00**
Dividend Yield (%)	**0.00**
5-Yr. Historical Growth Rates	
Sales (%)	**13.4**
Earnings Per Share (%)	**24.7**
Dividend (%)	**0.0**
P/E using TTM EPS	**11.7**
P/E using 2016 Estimate	**10.4**
P/E using 2017 Estimate	**8.3**
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)
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	326 A	340 E	1,249 E
2017					1,380 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	$0.49 A	$0.48 E	$1.68 E
2017					$2.09 E

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WHATS NEW

TowerJazz Shows Better that Expected Earnings on One-Time Items

TowerJazz reported Q3 2016 revenues of $326 million versus last year's $244 million, **up 34%** and $305 million in Q2 2016. Most impressively this was **all organic growth** as Q3 has fully anniversaried the purchase of Maxim. It was also $1 million higher than the midpoint of last quarter's guidance showing the company has very good visibility one quarter ahead due to production plans. In Q4 the company is guiding to $340 million as its midpoint again pointing to revenue growth of 34%.

Expenses came in as expected but two one-time items resulted in larger than expected GAAP earnings. There was $5.1 million in other income because of the sale of some assets. Additionally, there was an unexpected tax benefit of $6.5 million from write-downs in Japan.

Fully diluted GAAP EPS was $0.52 versus $0.16 a year ago. More importantly, eliminating one-time items and stock based compensation the **non-GAAP EPS was $0.49 versus $0.22, up 127%.** Adjusted **EBITDA was $97 million** versus $63 million. At today's price, this is an enterprise value to EBITDA run rate of 4.8 times. If we use the revenue guidance the company gave, and assume no one-time items we expect Q4 to earn approximately $0.45 per share on a fully diluted GAAP basis versus $0.24 a year ago. **Non-GAAP should be $0.47 versus $0.29 in 2015, growth of 63%.**

The company continues to accumulate cash and now has **$363 million in cash, almost equal to its total debt**. It plans to keep the cash as dry powder for acquisitions and sees no benefit to paying debt down further especially since bondholders are reluctant to sell back their high coupon holdings.

On the **acquisition front, TowerJazz has targeted the MEMS area** as it is dependent on a unique process and needs its own facility. It is hoping to either buy or build a fab. Were it to greenfield this project, it has a potential partner that would fund it while Tower provides the expertise. Given its recent marketing effort for new customers in China, we are guessing that some of this activity could be there.

Revenue growth is coming across the board. The company is now in the top five largest pure-play foundries in the world. Panasonic continues to represent between $90-105 million in revenues per quarter and no other customer is more than 13% of sales. It a leader in RF, imaging and power management and is now starting to focus on sensors and the Internet of Things while expanding its total addressable market. At the analyst meeting the company pointed out it benefits for three major trends: Energy Efficiency (28% of sales), Wireless (31%), and Smart Everything/Embedded systems (16%.) Its end markets continue to grow rapidly. Its products are in mobile phones, high-end cameras, gesture controls, the Internet of Things, battery operated devices and automotive electronics including self-driving cars and electric vehicles. The company is **particularly excited to announce a relationship with a car manufacturer in the next few weeks** that it believes can open up a large new market.

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

After the quarter ended, TowerJazz announced that e2v's standard and custom CMOS image sensor solutions are now available with a newly developed generation of global shutter pixels. E2v has integrated this significantly smaller global shutter pixel into its industrial sensors, which now have highly optimized electro-optical performance with impressively low dark current noise characteristics. It is the world's smallest global shutter pixel, on a 110nm technology node with extremely high shutter efficiency. This technology will also serve next generation industrial and 3D gesture recognition market. The new platform will be transferred from TPSCo.'s Arai, Japan fab to Migdal Haemek, Israel, providing dual sourcing.



INVESTMENT THESIS

- Its largest market segment, RF, was 31% of nine-month 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, machine vision, 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 15.9 x 2016 EPS versus TSEM's 10.4 xs.
- The current fab capacity will allow the company to grow revenues and improve margins through capacity utilization. The following table was presented at yesterday's analyst meeting to show 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. At the company's current share count of 102 million shares, that is GAAP EPS of $2.56.
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Present Capacity Financial Model

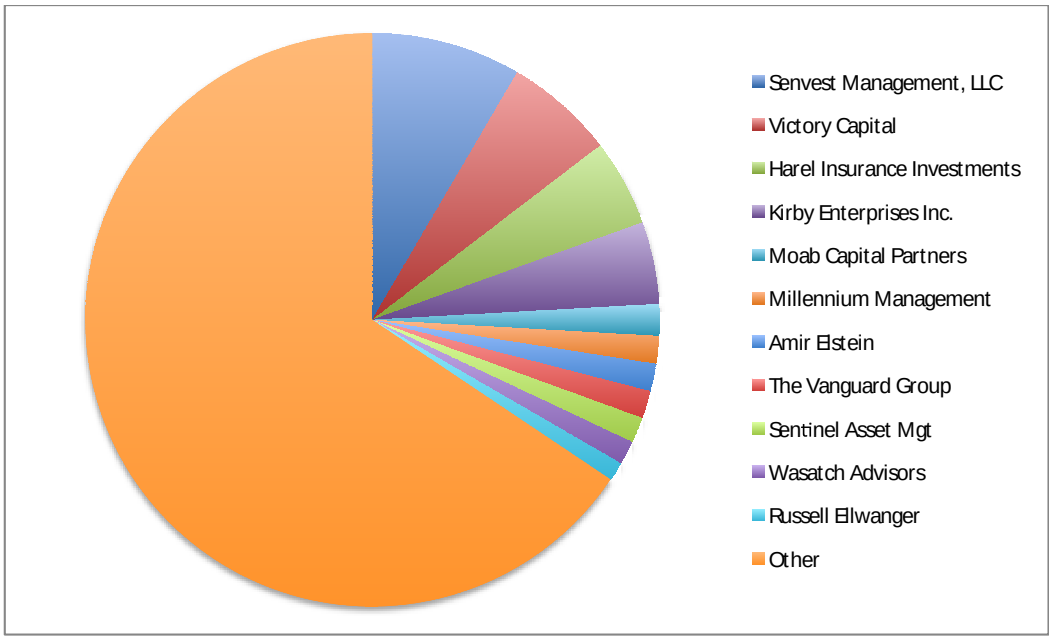
$M	Q3'16 Annualized	Incremental Model	Total
Revenue	1,305	295	1,600
Gross Profit	324	165	489
R&D	62	5	67
SG&A	67	0	67
EBITDA	387	160	547
Net Profit	160	101	261
Cash from operations	344	121	465
Cap-Ex	168	0	168
FCF	176	121	297

VALUATION

TSEM's public foundry comparables have a PE range of 13.6 to 17.9 times 2016 estimated EPS. Our fully diluted non-GAAP EPS estimate for TSEM is $1.68. **Using the average PE of 15.9 times for the group that give us a stock price of $26.70 per share**.

Company	Ticker	EPS 16E	EPS 17E	Price	PE 2016	PE 2017	Growth Rate
Advanced Semiconductor	ASX	$0.39	$0.46	$5.31	13.6	11.5	18%
Semiconductor Manufacturing	SMI	0.38	0.47	6.53	17.2	13.9	24%
Taiwan Semiconductor	TSM	1.99	2.19	29.63	14.9	13.5	10%
United Microelectronics	UMC	0.10	0.12	1.79	17.9	14.9	20%
Average					15.9	14.1	17.9%

OWNERSHIP



Source: E*TRADE and SEC filings

BALANCE SHEET

$ in thousands	Sept. 30, 2016	June 30, 2016		Mar. 31, 2016	
CURRENT ASSETS					
Cash and cash equivalents	**$362,833**	**$311,062**	16.6%	**$244,577**	27.2%
Trade accounts receivable	128,979	126,839	1.7%	122,918	3.2%
Other receivables	8,935	13,993	-36.1%	9,363	49.4%
Inventories	143,090	136,125	5.1%	128,031	6.3%
Other current assets	23,916	21,581	10.8%	16,666	29.5%
Total current assets	**667,753**	**609,600**	9.5%	**521,555**	16.9%
LONG-TERM INVESTMENTS	24,616	11,861	107.5%	11,816	0.4%
PROPERTY AND EQUIPMENT, NET	643,046	625,163	2.9%	582,250	7.4%
INTANGIBLE ASSETS, NET	32,687	34,807	-6.1%	35,601	-2.2%
GOODWILL	7,000	7,000	0.0%	7,000	0.0%
OTHER ASSETS, NET	4,535	4,586	-1.1%	5,688	-19.4%
TOTAL ASSETS	1,379,637	1,293,017	6.7%	1,163,910	11.1%
CURRENT LIABILITIES					
Short term debt	**41,646**	**38,174**	9.1%	**49,150**	-22.3%
Trade accounts payable	105,745	98,829	7.0%	104,617	-5.5%
Deferred revenue	25,878	18,802	37.6%	31,061	-39.5%
Other current liabilities	81,248	87,386	-7.0%	73,929	18.2%
Total current liabilities	**254,517**	**243,191**	4.7%	**258,757**	-6.0%
LONG-TERM DEBT	**330,526**	**320,444**	3.1%	**260,201**	23.2%
LONG-TERM CUSTOMERS' ADVANCES	36,547	48,999	-25.4%	28,444	72.3%
EMPLOYEE RELATED LIABILITIES	14,169	14,029	1.0%	14,387	-2.5%
DEFERRED TAX LIABILITY	107,843	107,585	0.2%	95,638	12.5%
OTHER LONG-TERM LIABILITIES	0	0		2,116	-100.0%
Total liabilities	743,602	734,248	1.3%	659,543	11.3%
SHAREHOLDERS' EQUITY	636,035	558,769	13.8%	504,367	10.8%
TOTAL LIABILITIES AND SHAREHOLDERS' EQUITY	$1,379,637	$1,293,017	6.7%	$1,163,910	11.1%
Current Ratio	2.6	2.5	4.7%	2.0	24.4%
Quick Ratio	2.1	1.9	5.9%	1.5	28.0%
Debt Percent of Assets	27%	28%	-2.7%	27%	4.4%
Debt to Equity	0.6	0.6	-8.8%	0.6	4.6%

INCOME STATEMENT

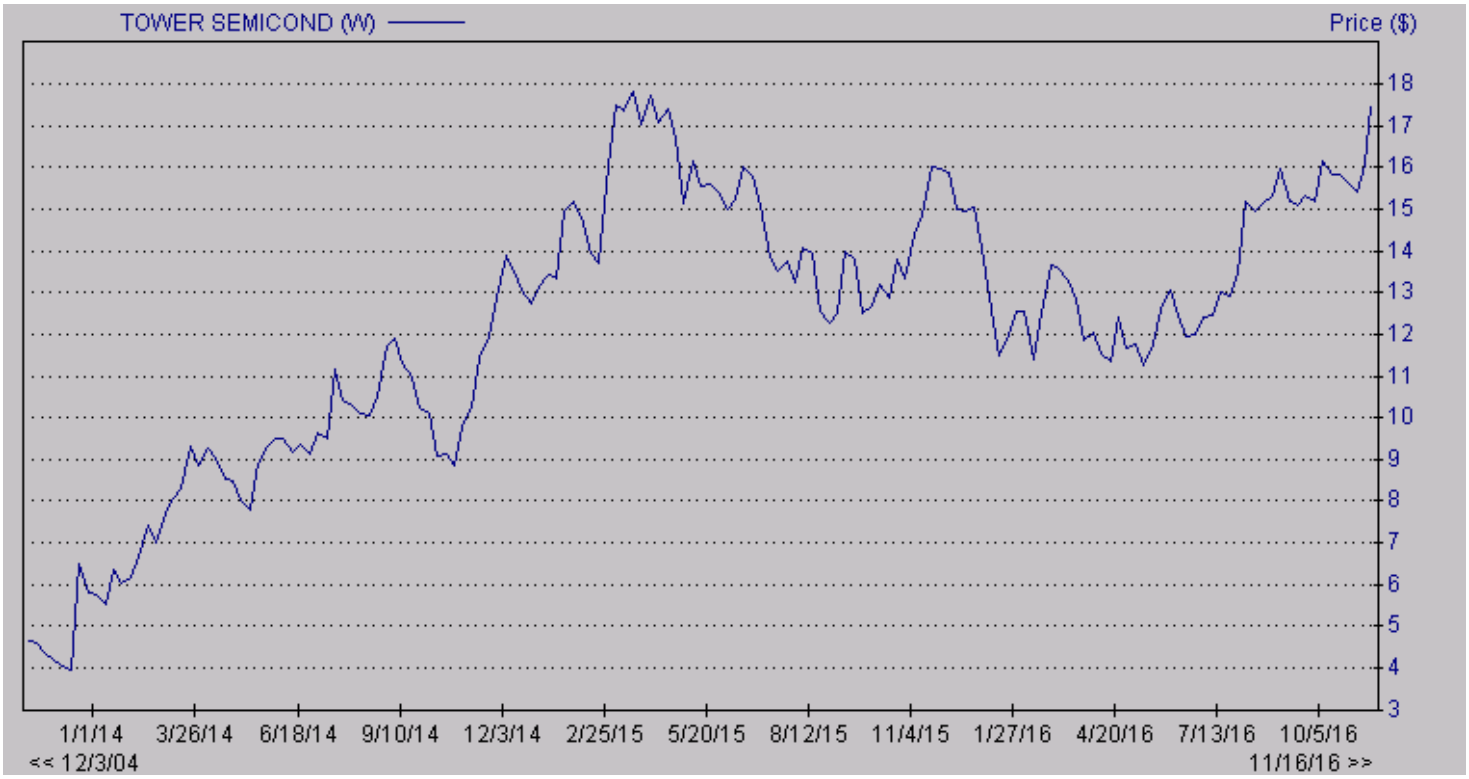
	March Q1 15	June Q2 15	Sept Q3 15	Dec Q4 15	March Q1 16	June Q2 16	Sept Q3 16	Dec Q4 16E	2015	2016E	2017E
REVENUE											
Net Revenue	226.2	235.6	244.2	254.6	278.0	305.0	326.2	340.0	960.6	1,249.3	1,380.0
Yr-to-yr Gr.	71%	1%	8%	8%	23%	29%	34%	34%	16%	30%	10%
OPERATING EXPENSES											
Cost of goods sold	193.2	183.1	188.8	190.1	216.7	232.3	244.9	252.0	755.2	945.9	1,000.8
Gross Margin	33.0	52.5	55.4	64.5	61.3	72.7	81.3	86.9	205.4	303.4	379.2
% of Sales	14.6%	22.3%	22.7%	25.3%	22.1%	23.8%	24.9%	25.6%	21.4%	24.3%	27.5%
R&D	14.8	15.1	16.0	15.7	15.2	16.0	15.5	15.8	61.7	62.6	65.0
M, G&A	16.2	15.8	15.3	15.5	15.9	16.5	16.8	16.8	62.8	66.0	73.0
One-time charges	0.0	0.0	0.0	-1.0	(0.6)	0.0	0.0	0.0	56.7	(0.6)	0.0
Tot Operating Exp.	31.0	31.0	31.3	30.2	30.5	32.6	32.3	32.6	181.2	128.0	138.0
Operating Income	2.0	21.5	24.1	34.3	30.8	40.2	49.0	54.3	24.2	175.4	241.2
Operating Margin	1%	9%	10%	13%	11%	13%	15%	16%	3%	14%	17%
Yr-to-yr Gr.	-93%	-35%	-36%	-39%	1157%	44%	52%	19%	2.5%	14.0%	17.5%
Net Interest	(3.6)	(3.6)	(3.6)	(2.4)	(3.4)	(3.0)	(3.3)	(3.3)	(13.2)	(12.9)	(13.2)
Other non-cash financing expense	(84.6)	(7.3)	(5.3)	(12.8)	(4.0)	(7.5)	(2.2)	(2.2)	(109.9)	(15.9)	(8.8)
Other income	(0.0)	(0.0)	(0.2)	0.1	0.0	4.4	5.1	0.0	(0.2)	9.4	9.4
Gain from acqusiition	0.0	0.0	0.0	0.0	41.1	10.2	0.0	0.0	0.0	51.3	0.0
Profit before tax	(86.2)	10.6	14.9	19.3	64.6	44.2	48.6	48.8	(99.1)	207.3	228.6
	-38.1%	4.5%	6.1%	7.6%	23.2%	14.5%	14.9%	14.4%	-10.3%	16.6%	16.6%
Taxes	10.9	(2.5)	(0.9)	4.8	(0.1)	(3.8)	3.5	(3.1)	12.3	(3.5)	(12.4)
Tax Rate	-12.6%	-23.2%	-6.2%	24.8%	-0.1%	-8.7%	7.1%	-6.3%	-12.4%	1.7%	5.4%
Profit before non-controlling	(75.4)	8.2	14.0	24.1	64.5	40.3	52.0	45.7	(86.8)	203.8	216.2
Minority Income	2.3	(0.4)	(0.5)	(2.0)	1.3	(1.9)	(0.8)	(2.0)	(0.5)	(3.3)	(10.0)
GAAP Net income	(73.1)	7.8	13.6	22.1	65.9	38.5	51.2	43.7	(87.4)	200.4	206.2
Yr-to-yr Gr.					-190%	394%	278%	98%	NM	NM	3%
Non-GAAP Net Income	(7.6)	12.0	18.7	26.0	31.6	39.8	49.4	48.4	49.2	169.2	225.34
GAAP primary EPS	($1.15)	$0.10	$0.18	$0.28	$0.78	$0.45	$0.58	$0.48	($1.17)	$2.30	$2.28
Fully diluted GAAP	($1.15)	$0.09	$0.16	$0.24	$0.69	$0.40	$0.52	$0.45	($1.10)	$2.06	$1.92
Adj Non-GAAP EPS-Fully dil.	**($0.03)**	**$0.14**	**$0.22**	**$0.29**	**$0.32**	**$0.40**	**$0.49**	**$0.47**	**$0.58**	**$1.68**	**$2.09**
					-1198%	190%	125%	63%	-2414%	189%	24%
Primary Share Out	63.6	76.7	77.4	79.6	84.5	86.3	87.8	90.3	74.4	87.1	90.5
Fully Diluted GAAP	96.2	87.6	86.8	91.1	98.8	100.2	101.8	102.0	84.9	100.7	107.5
All in shares	104.5	103.6	103.5	103.5	106.9	107.1	107.9	107.9	103.5	107.4	108.0
EBITDA	**51.3**	**58.6**	**63.1**	**75.5**	**77.7**	**87.0**	**96.8**	**98.6**	**248.5**	**360.1**	**468.8**
EBITDA Margin	23%	25%	26%	30%	28%	29%	30%	29%	26%	29%	34%

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CASH FLOW

	3-months 31-Mar-15	3-months 30-Jun-15	6-months Jun. 30, 2015	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
CASH FLOWS - OPERATING ACTIVITIES								
Net profit (loss)	$ 24,071	$ 8,150	$ (67,200)	$ 14,002	$ 24,071	$ 64,548	$ 40,347	$ 52,018
Income and expense items not involving cash flows:								
Depreciation and amortization	43,663	$ 37,343	85,311	39,058	43,663	48,544	48,117	49,194
Financing expense associated with debentures series F	7,998	$ 1,945	77,279	2,696	7,998	38	0	0
Effect of fair value measurement on debt	3,804	$ 3,547	11,356	918	3,804	1,401	6,700	2,808
Financing costs relating to Jazz notes exchange	0	$ 0	0	0	0	0	0	0
Other expense (income), net	(70)	$ 4	13	247	(70)	0	(4,362)	(5,081)
Gain from acquisition	0	$ 0	0	0	0	(41,140)	(10,158)	0
Changes in assets and liabilities:								
Trade accounts receivable	11,795	$ (9,258)	(15,585)	(7,325)	11,795	(8,519)	(1,916)	(1,469)
Other receivables and other current assets	(4,463)	$ 2,188	(4,966)	(5,549)	(4,464)	822	(5,476)	4,328
Inventories	(1,302)	$ (6,098)	(4,455)	(12,151)	(1,302)	(9,224)	(6,300)	(6,245)
Trade accounts payable	(18,979)	$ (5,072)	(6,676)	(508)	(18,978)	10,145	130	2,624
Deferred revenue and customers' advances	8,613	$ 3,264	5,968	18,144	8,613	15,030	8,294	(5,377)
Other current liabilities	(16,413)	$ 15,248	23,270	1,597	(16,413)	(1,953)	11,194	(6,938)
Deferred tax liability, net	(4,612)	$ (245)	306	133	(4,612)	(2,250)	(4,789)	548
Other long-term liabilities	(925)	$ (82)	(13,410)	(440)	(925)	0	0	0
Net cash provided by operating activities	**53,180**	**50,934**	**91,211**	**50,822**	**53,180**	**77,442**	**81,781**	**86,410**
CASH FLOWS - INVESTING ACTIVITIES								
Investments in property and equipment, net	**(58,291)**	**$ (38,641)**	**(66,572)**	**(40,626)**	**(58,172)**	**(57,533)**	**(54,323)**	**(54,947)**
Investments in other assets	0	$ 0	0	0	(119)	0	0	0
Acquisition of subsidiary consolidated for the first time (a)	0	$ 0	0	0	0	0	0	0
Interest bearing deposits, including designated deposits	(30,000)	$ 0	0	0	(30,000)	10,000	19,600	(12,500)
Net cash provided by (used in) investing activities	(88,291)	$ 21,719	(66,572)	(40,626)	(88,291)	(47,533)	(34,723)	(67,447)
CASH FLOWS - FINANCING ACTIVITIES								
Proceeds on account of shareholders' equity	4,168	$ (817)	5,654	4,602	4,168	5,881	360	21,918
Proceeds from long-term loans	70,592	$ 0	0	0	70,592	17,000	27,444	8,554
Short-term loan repayment to Panasonic	0	$ 0	0	0	0	0	0	0
Debt repayment	(18,006)	$ (2,000)	(48,683)	(3,000)	33,483	(10,254)	0	0
Debenture repayment	0	$ 0	0	0	(51,489)	0	0	0
TPSCo dividend to Panasonic	(1,570)	$ 0	0	0	(1,570)	(2,563)	0	0
Net cash used in financing activities	10,064	$ (2,817)	(43,029)	1,602	55,184	10,064	27,804	30,472
Effect of foreign exchange rate change	154	$ (1,189)	(1,367)	1,047	154	9,029	11,623	2,336
INCREASE (DECREASE) IN CASH AND CASH EQUIVALENTS	49,002	$ 8,287	(44,664)	12,845	20,227	49,002	86,485	51,771
CASH AND CASH EQUIVALENTS - BEGINNING OF PERIOD	20,227	$ 156,348	187,167	142,503	155,348	175,575	224,577	311,062
CASH AND CASH EQUIVALENTS - END OF PERIOD	156,348	$ 142,503	142,503	155,348	175,575	224,577	311,062	362,833
Cash Flow	$ 79,466	$ 50,989	$ 106,759	$ 56,921	$ 79,466	$ 73,391	$ 80,644	$ 98,939
Free cash flow	$ 21,175	$ 12,348	$ 40,187	$ 16,295	$ 21,294	$ 15,858	$ 26,321	$ 43,992

HISTORICAL STOCK PRICE



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