

## Keysight Technologies (KEYS)

**\$102.38** (As of 06/04/20)

Price Target (6-12 Months): **\$110.00**

Long Term: 6-12 Months

**Zacks Recommendation:**

**Neutral**

(Since: 01/27/20)

Prior Recommendation: Outperform

Short Term: 1-3 Months

**Zacks Rank:** (1-5)

**4-Sell**

Zacks Style Scores:

VGM:C

Value: C

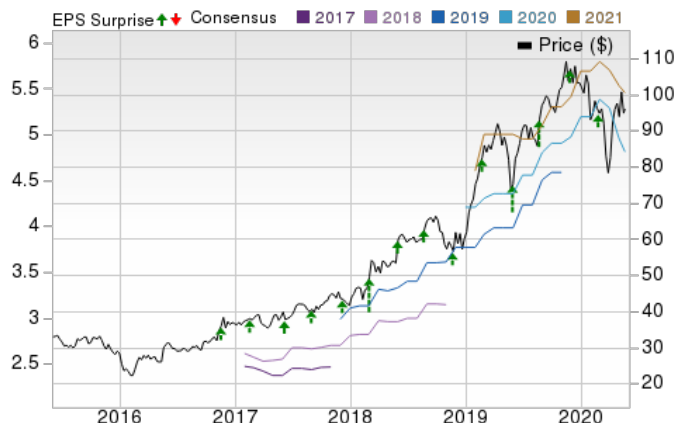
Growth: B

Momentum: D

### Summary

Keysight reported drab fiscal second-quarter results, with earnings and revenues declining year over year. Coronavirus-induced supply chain disruption and shutdown of production facilities affected fiscal second-quarter performance. Notably, shares have underperformed the industry on a year-to-date basis. Nevertheless, the company is well poised to capitalize on rising demand of its semiconductor measurement solutions on the back of allegiance of semiconductor companies to develop chips on next-generation process technologies. Markedly, less supply chain disruption across semiconductor domain is expected to bolster demand of semiconductor measurement solutions. Also, higher government spending and momentum in investments aimed at technology modernization, across the United States, is a positive.

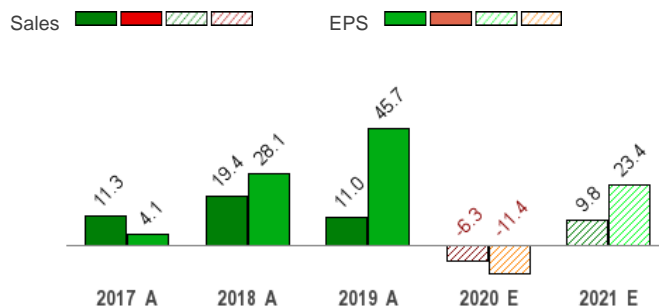
### Price, Consensus & Surprise



### Data Overview

|                            |   |
|----------------------------|---|
| 52 Week High-Low           | <b>\$110.00 - \$77.77</b>                           |
| 20 Day Average Volume (sh) | <b>2,422,695</b>                                    |
| Market Cap                 | <b>\$19.1 B</b>                                     |
| YTD Price Change           | <b>-0.2%</b>  |
| Beta                       | <b>1.12</b>   |
| Dividend / Div Yld         | <b>\$0.00 / 0.0%</b>                                |
| Industry                   | <a href="#">Electronics - Measuring Instruments</a> |
| Zacks Industry Rank        | <b>Bottom 19% (206 out of 253)</b>                  |

### Sales and EPS Growth Rates (Y/Y %)



|                           |                   |
|---------------------------|-------------------|
| Last EPS Surprise         | <b>-22.0%</b>     |
| Last Sales Surprise       | <b>-12.3%</b>     |
| EPS F1 Est- 4 week change | <b>-15.6%</b>     |
| Expected Report Date      | <b>08/19/2020</b> |
| Earnings ESP              | <b>-9.8%</b>      |
| P/E TTM                   | <b>22.2</b>       |
| P/E F1                    | <b>24.5</b>       |
| PEG F1                    | <b>2.5</b>        |
| P/S TTM                   | <b>4.6</b>        |

### Sales Estimates (millions of \$)

|      | Q1      | Q2      | Q3      | Q4      | Annual* |
|------|---------|---------|---------|---------|---------|
| 2021 | 1,071 E | 1,094 E | 1,087 E | 1,185 E | 4,428 E |
| 2020 | 1,095 A | 895 A   | 915 E   | 1,129 E | 4,033 E |
| 2019 | 1,006 A | 1,090 A | 1,087 A | 1,120 A | 4,303 A |

### EPS Estimates

|      | Q1       | Q2       | Q3       | Q4       | Annual*  |
|------|----------|----------|----------|----------|----------|
| 2021 | \$1.18 E | \$1.33 E | \$1.32 E | \$1.42 E | \$5.16 E |
| 2020 | \$1.26 A | \$0.78 A | \$0.93 E | \$1.31 E | \$4.18 E |
| 2019 | \$0.93 A | \$1.22 A | \$1.25 A | \$1.33 A | \$4.72 A |

\*Quarterly figures may not add up to annual.

The data in the charts and tables, including the Zacks Consensus EPS and Sales estimates, is as of 06/04/2020. The reports text is as of 06/05/2020.

## Overview

Based in Santa Rosa, CA, Keysight Technologies, Inc. is a provider of electronic design and test instrumentation systems. In 2013, Agilent Technologies announced that it will split into two independent companies. One of the companies was named Keysight Technologies, which became a fully independent electronic measurement company on Nov 1, 2014 and got listed on the New York Stock Exchange on Nov 3, 2014, with ticker symbol KEYS.

In fiscal 2019, the company generated non-GAAP revenues of \$4.312 billion.

Beginning first-quarter fiscal 2020, the company's financial reporting comprises two segments — Electronic Industrial Solutions Group (EISG) and Communications Solutions Group (CSG). In second-quarter fiscal 2020, the company generated non-GAAP revenues of \$895 million.

Under CSG segment (73% of the non-GAAP revenues in second-quarter fiscal 2020), the company offers radio frequency (RF) and microwave test instruments and allied software, and electronic design automation (EDA) software instruments, laser source products, optical amplifiers, and other software solutions.

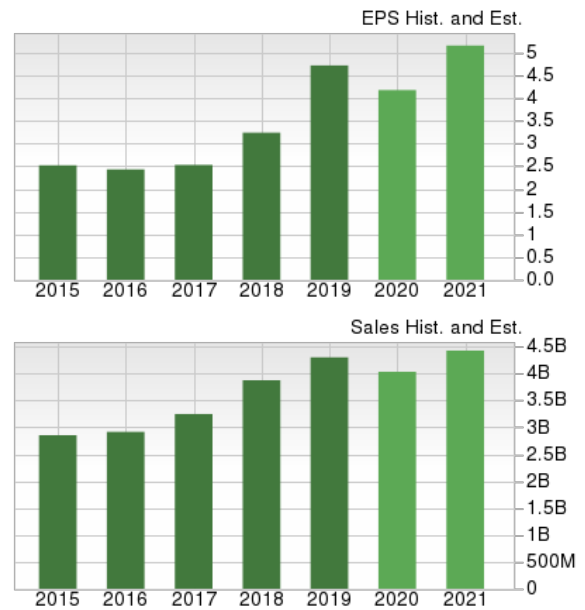
Notably, Ixia Solutions Group (ISG) segment reporting has been aligned with the CSG segment. ISG was formed after conclusion of Ixia buyout in Apr 18, 2017. Keysight's test and visibility solutions, and software maintenance services, were formerly under ISG.

CSG includes commercial communications (CC) and aerospace, defense & government (ADG) end markets.

In second-quarter fiscal 2020, CC and ADG revenues came in at \$468 million and \$185 million, respectively.

EISG (27%) accounts for design verification devices; general purpose test and measurement equipment; end-to-end manufacturing systems, and material analysis devices.

The company generated 36.9% of non-GAAP revenues from Americas in second-quarter fiscal 2020. Meanwhile, revenues from Europe and Asia Pacific came in at 16.2% and 46.9%, respectively.



## Reasons To Buy:

- ▲ Electronic devices form the very fulcrum of Internet of Things (IoT) services, wireless devices, data centers and 5G technologies. The rapid adoption of these devices is increasing demand for electronics testing equipment. Further, ongoing technical advancement in mobile communications, semiconductors and automotive markets are likely to drive growth. Moreover, rising demand for power management applications is a key catalyst. Sturdy efforts toward the ongoing modification of the Internet infrastructure, evolution of smart cars & autonomous-driving vehicles bode well. Additionally, medical devices and pharmaceutical markets hold immense potential, thanks to growing usage of electronics-based testing equipment in these markets. In fact, per MarketsandMarkets data, test and measurement equipment market is projected to be \$32.3 billion by 2024 at a CAGR of 3.9% from the estimated valuation of approximately \$25.7 billion in 2018. Keysight is gaining from strong industry wide growth. The company is witnessing solid adoption of its electronic design and test solutions. Strong demand for its solutions has been a key catalyst behind robust top-line growth. The company boasts a solid clientele comprising Alphabet, Amazon, Boeing, Facebook, MediaTek, Microsoft, Nvidia, Samsung, TSMC, and Tesla, to mention a few. Moreover, the company has a strong pipeline of new business bookings.
- ▲ Keysight boasts of a robust 5G portfolio. The company's 5G product design validation solutions ranging from Layer 1 to 7 enable telecom and semiconductor companies to accelerate their 5G initiatives. Further, Keysight's 5G network emulation solutions facilitate end-to-end processes from development to deployment, accelerating the 5G device architecture. The solutions offer cost-efficient test techniques with high flexibility and control capabilities, reducing time-to-market. Notably, over past three years, Keysight witnessed CAGR of more than 60% in order growth in 5G domain. Intensive infrastructure investments in 5G deployment and positive trial testing results hold promise. In fact, per ResearchAndMarkets data, global 5G market is expected to reach \$277 billion by 2025, witnessing a CAGR of around 111% between 2019 and 2025. Based on its portfolio strength, we believe that the company is well poised to gain from this robust growth prospect. Apart from strength in 5G domain, Keysight's efforts in other emerging growth markets like Internet of Things (IoT) and high-speed data centers, bodes well for the top line. Particularly, management's focus on Automotive and Energy, and Aerospace and Defense domains augur well in the long haul. In fact, growth in revenues from Aerospace, Defense and Government end-market deserves a special mention. Moreover, estimated higher spending on aerospace and defense as reflected in the the fiscal 2021 defense budget proposal bodes well. If approved, such a stupendous budgetary amendment will reflect massive growth prospects. The company is expected to benefit from the growing proliferation of electronic content in vehicles, momentum in space and satellite applications, and rising adoption of driver-assistance systems globally.
- ▲ The company has been active on the acquisition front. Keysight recently acquired Thales Calibration Services, a subsidiary of Thales Group. The buyout is likely to expand the company's current electrical portfolio, aiding Keysight in gaining foothold in the defense and security space. Similarly, buyouts like Ixia (January 2017), Electroservices Enterprises and Anite (August 2015), and Eagleware-Elanix (August 2005) have aided growth by expanding product portfolio at various levels and adding competence and domain expertise.
- ▲ Keysight is also expanding its business through collaborations with established sector players. Notably, the company is extending Ixia's CloudLens visibility platform capabilities, enabling it to offer access to packet data in leading cloud platforms including Amazon Web Services ("AWS"), Microsoft Azure, Google Cloud Platform, Alibaba Cloud, among others. This move is expected to augment adoption of CloudLens, which in turn favors top-line growth. Furthermore, Keysight's collaborations with the likes of Softbank, OPPO, ASUS, Motorola, Verizon Communications and Qualcomm Technologies, are enabling it to achieve 5G commercialization related milestones. Additionally, tie-ups with fabless semiconductor companies engaged in providing 5G chipsets, like UNISOC, MediaTek, among others, enhances Keysight's prospects in the 5G domain, favoring top-line growth. Moreover, the company is also part of China-based Phase I Step 3 5G trials led by IMT-2020 Promotion Group. The extended collaborations augur well for the company in the long haul.
- ▲ Management execution has been good amid the coronavirus-induced crisis scenario. As of Apr 30, 2020, Keysight had net cash amounted to \$53 million, compared with net debt of \$97 million as of Jan 31, 2020. This provides them the flexibility required to pursue any growth strategy, whether by way of acquisitions or otherwise. Moreover, total debt to total capital of 36.7% is lower than the prior quarter's figure of 38.4%. Moreover, cash flow from operations during the second quarter of fiscal 2020 came in at \$298 million compared with \$197 million reported in the prior quarter. Free cash flow was \$275 million compared with the previous quarter's \$165 million. During the first half of the second quarter of fiscal 2020, the company repurchased approximately 1.3 million shares for \$120 million. Notably, lower number of outstanding shares helped the bottom line. The strong cash flows help Keysight to continue shareholder-friendly initiatives of share repurchase.

Robust adoption driven by high demand for 5G design and test solutions primarily from telecom vendors, and a strong pipeline for new business bookings are key catalysts.

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## Reasons To Sell:

- ▼ Keysight derives a significant proportion of its revenues from outside the United States (63.1% of total non-GAAP revenues in second-quarter fiscal 2020), subjecting the company to exchange rate volatility. Unfavorable movement in exchange rates of foreign currencies like renminbi, euro, pound sterling, Costa Rican colon, and yen related to the U.S. dollar can adversely impact results and undermine its growth potential to some extent.
- ▼ Keysight is considerably exposed particularly to the demand environment in China (19.1% of revenues in fiscal 2019), which is at present quite sluggish. Further, imposition of tariffs owing to trade war between the United States and China is anticipated to negatively impact growth prospects. The uncertainty over the trade war truce has impacted investors' confidence and is likely to remain an overhang on the company's performance. Moreover, the coronavirus outbreak led global supply chain disruptions and shutdown of production facilities and associated macroeconomic challenges are expected to impede Keysight's near-term growth prospects.
- ▼ Keysight's frequent acquisitions have escalated integration risks. Moreover, we note that the buyouts negatively impacted the company's balance sheet in the form of high level of goodwill and net intangible assets, which comprised of 23.7% of total assets as of Apr 30, 2020.
- ▼ Keysight is trading at premium in terms of Price/Book (P/B). Keysight currently has a trailing 12-month P/B ratio of 6.22. This level compares unfavorably with what the industry witnessed in the prior year. Additionally, the ratio is higher than the average level of 6.11 and is near the high end of the valuation range in this period. Consequently, the valuation looks slightly stretched from P/B perspective.

Exposure to foreign currency fluctuations, integration risks and a leveraged balance sheet remain major concerns.

## Last Earnings Report

### Keysight Q2 Earnings Miss Estimates, Revenues Down Y/Y

Keysight Technologies, Inc. delivered second-quarter fiscal 2020 non-GAAP earnings of 78 cents per share, missing the Zacks Consensus Estimate by 22%. The bottom line also declined 36.1% from the year-ago quarter.

Non-GAAP revenues declined 18% year over year to \$895 million. Non-GAAP core revenues (excluding the impact of currency and revenues from acquisitions in a year's time) fell 18% on a year-over-year basis to \$892 million. Moreover, GAAP revenues slumped 18% from the prior-year quarter to \$895 million. The Zacks Consensus Estimate for revenues was pegged at \$1.02 billion.

The coronavirus crisis-induced supply chain disruption and shutdown of production facilities affected Keysight's fiscal second-quarter results.

### Quarter in Detail

Orders fell 3% on a year-over-year basis to \$1.089 billion during the reported quarter. Notably, core orders declined 3%.

Beginning first-quarter fiscal 2020, the company's financial reporting comprises two segments — Electronic Industrial Solutions Group (EISG) and Communications Solutions Group (CSG). Ixia Solutions Group (ISG) segment reporting has been aligned with the CGS segment.

CSG includes commercial communications (CC) and aerospace, defense & government (ADG) end markets. CSG revenues of \$653 million declined 18% on year-over-year and core basis. CSG contributed 73% to total non-GAAP revenues in the fiscal second quarter.

CC revenues of \$468 million were down 15% year over year due to coronavirus crisis-induced supply chain disruption. However, management noted robust 5G order growth primarily fueled by 5G investments.

ADG revenues came in at \$185 million, down 25% year over year, due to lower international spending. However, higher government spending and momentum in investments aimed at technology modernization, across the United States, was a positive.

EISG revenues declined 19% to \$242 million. Challenges pertaining to automotive sector weighed on revenues. However, management noted momentum in first-to-market solutions, and demand for the company's solutions in process node technology testing, considering semiconductor vertical. EISG contributed 27% to total non-GAAP revenues in second-quarter fiscal 2020.

Non-GAAP revenues from Americas came in at \$330 million, down 23% year over year. Non-GAAP revenues from Europe and Asia Pacific of \$145 million and \$420 million declined 19% and 14%, respectively, on a year-over-year basis. Americas, Europe and Asia Pacific contributed 36.9%, 16.2% and 46.9%, respectively, to total non-GAAP revenues in the reported quarter.

### Margin Highlights

Non-GAAP gross margin contracted 90 basis points (bps) to 62.8% during the reported quarter. CSG gross margin of 63.1% contracted 150 bps, while EISG's gross margin of 61.1% expanded 70 bps on a year-over-year basis.

Non-GAAP operating expenses fell 9.1% to \$389 million. As a percentage of revenues, the figure expanded 430 bps to 43.5%.

Consequently, non-GAAP operating margin contracted 520 bps to 19.4%.

### Balance Sheet & Cash Flow

As of Apr 30, 2020, Keysight had cash & cash equivalents of \$1.841 billion, up from \$1.691 billion as of Jan 31, 2020.

As on Apr 30, 2020, the company reported long-term debt of \$1.788 billion, which remained unchanged sequentially.

Cash flow from operations during the quarter came in at \$298 million compared with \$197 million reported in the prior quarter.

Free cash flow was \$275 million compared with the previous quarter's \$165 million.

During the first half of the reported quarter, the company repurchased approximately 1.3 million shares for \$120 million.

### Guidance

Keysight did not provide a specific quantitative guidance for third-quarter fiscal 2020. The company expects fiscal third-quarter revenues, earnings, and operating margin to be in line with or better than fiscal second quarter.

The company is improving production and services operations and anticipates returning to 100% capacity by the end of the fiscal third quarter amid persistent supply chain challenges.

Quarter Ending **04/2020**

| Report Date      | May 26, 2020 |
|------------------|--------------|
| Sales Surprise   | -12.25%      |
| EPS Surprise     | -22.00%      |
| Quarterly EPS    | 0.78         |
| Annual EPS (TTM) | 4.62         |

## Recent News

On Jun 4, Keysight announced that its 5G test platforms have been selected by Sporton, a Taiwan-based test laboratory, to certify 5G devices in conformance with standards specified by 3GPP, and other regulatory measures.

On Jun 2, Keysight announced that its end-to-end 5G emulation solutions have been adopted by CETECOM to comply with 5G new radio (NR) certification criteria per the latest 3GPP standards.

On May 28, Keysight announced that its 5G verification solutions have been selected by Audix, a Taiwan-based test laboratory, to authenticate safe levels of radio frequency (RF) and microwave emissions from wireless devices.

On May 20, Keysight announced that its 5G device testing solutions have been selected by China Unicom to ensure 5G smartphones and consumer premises equipment (CPE) comply to the latest 5G new radio (NR) standards.

On May 12, Keysight announced the launch of the Infiniium MXR-Series mixed signal oscilloscope, the first ever oscilloscope with 8 analog channels at 6 GHz and 16 simultaneous digital channels which provides greater accuracy and performance.

On May 11, Keysight announced the launch of a new simulation workflow that connects PathWave Advanced Design System (ADS) with VPI Design Suite from VPIphotonics, and enables designers to predict the signal integrity of Electrical-Optical-Electrical data links.

On May 5, Keysight unveiled PathWave Waveform Analytics, an edge-to-cloud computing application, which accelerates anomaly detection and reduces data storage costs in pre-silicon validation with sacrificing reliability.

On May 4, Keysight announced that it has become the first company to gain approval from 3GPP for 5G new radio (NR) protocol test cases that support carrier aggregation (CA) technology.

On Apr 29, Keysight announced the launch of Open RAN Studio, the first emulation software for validating O-RAN compliant radio units (O-RUs).

On Apr 16, Keysight announced that its Scienlab Charging Discovery System (CDS) has been adopted by DEKRA to test and certify the charging technology within an electric vehicle (EV) or electric vehicle supply equipment (EVSE).

On Apr 7, Keysight announced that its 5G test solutions have been selected by China Telecommunication Technology Laboratory (CTTL) to certify 5G devices as per 5G new radio (NR) 3GPP specifications.

## Valuation

Shares of Keysight are down 0.2% in the year-to-date period but up 28.1% over the trailing 12-month period. Stocks in the Zacks sub-industry are down 1.3%, while the same in the Zacks Computer & Technology sector are up 5.9% in the year-to-date period, respectively. Over the past year, the Zacks sub-industry and sector are up 27.2% and 24.4%, respectively.

The S&P 500 index is down 3.6% in the year-to-date period but up 9.4% in the past year.

The stock is currently trading at 21.51X forward 12-month earnings, which compares to 29.71X for the Zacks sub-industry, 24.63X for the Zacks sector and 22.48X for the S&P 500 index.

Over the past five years, the stock has traded as high as 24.71X and as low as 8.96X, with a 5-year median of 17.59X. Our Neutral recommendation indicates that the stock will perform in line with the market. Our \$110 price target reflects 23.11X forward 12-month earnings.

The table below shows summary valuation data for KEYS

| Valuation Multiples - KEYS |               |       |              |        |         |
|----------------------------|---------------|-------|--------------|--------|---------|
|                            |               | Stock | Sub-Industry | Sector | S&P 500 |
| P/E F12M                   | Current       | 21.51 | 29.71        | 24.63  | 22.48   |
|                            | 5-Year High   | 24.71 | 29.71        | 24.63  | 22.48   |
|                            | 5-Year Low    | 8.96  | 12.94        | 16.72  | 15.23   |
|                            | 5-Year Median | 17.59 | 23.29        | 19.26  | 17.49   |
| P/S F12M                   | Current       | 4.47  | 3.48         | 3.74   | 3.5     |
|                            | 5-Year High   | 4.73  | 3.48         | 3.74   | 3.5     |
|                            | 5-Year Low    | 1.19  | 0.98         | 2.32   | 2.53    |
|                            | 5-Year Median | 2.27  | 1.74         | 3.11   | 3.02    |
| EV/Sales TTM               | Current       | 4.59  | 3.43         | 4.25   | 3.04    |
|                            | 5-Year High   | 4.85  | 3.73         | 4.43   | 3.46    |
|                            | 5-Year Low    | 1.44  | 1.1          | 2.55   | 2.13    |
|                            | 5-Year Median | 2.93  | 2.16         | 3.6    | 2.83    |

As of 06/04/2020

## Industry Analysis Zacks Industry Rank: Bottom 19% (206 out of 253)



## Top Peers

| Company (Ticker)                       | Rec          | Rank |
|--|--------------|------|
| AAON, Inc. (AAON)                      | Neutral      | 4    |
| ASML Holding N.V. (ASML)               | Neutral      | 3    |
| Amtech Systems, Inc. (ASYS)            | Neutral      | 2    |
| Canon, Inc. (CAJ)                      | Neutral      | 4    |
| Cadence Design Systems, Inc. (CDNS)    | Neutral      | 3    |
| Garmin Ltd. (GRMN)                     | Neutral      | 3    |
| Lam Research Corporation (LRCX)        | Neutral      | 3    |
| Nova Measuring Instruments Ltd. (NVMI) | Underperform | 5    |

## Industry Comparison

Industry: Electronics - Measuring Instruments

Industry Peers

|                                  | KEYS      | X Industry | S&P 500   | ASML     | ASYS     | CAJ     |
|----------------------------------|-----------|------------|-----------|----------|----------|---------|
| Zacks Recommendation (Long Term) | Neutral   | -          | -         | Neutral  | Neutral  | Neutral |
| Zacks Rank (Short Term)          | 4         | -          | -         | 3        | 2        | 4       |
| VGM Score                        | C         | -          | -         | F        | A        | A       |
| Market Cap                       | 19.15 B   | 77.16 M    | 22.58 B   | 148.24 B | 74.31 M  | 22.31 B |
| # of Analysts                    | 4         | 1          | 14        | 3        | 1        | 3       |
| Dividend Yield                   | 0.00%     | 0.00%      | 1.87%     | 0.70%    | 0.00%    | 5.63%   |
| Value Score                      | C         | -          | -         | F        | B        | B       |
| Cash/Price                       | 0.09      | 0.16       | 0.06      | 0.03     | 0.67     | 0.19    |
| EV/EBITDA                        | 17.43     | 4.64       | 12.93     | 40.79    | 4.03     | 5.39    |
| PEG Ratio                        | 2.49      | 3.57       | 3.06      | 2.14     | NA       | 4.80    |
| Price/Book (P/B)                 | 6.21      | 2.84       | 3.09      | 10.73    | 0.93     | 0.89    |
| Price/Cash Flow (P/CF)           | 16.91     | 17.35      | 12.17     | 43.52    | 13.24    | 6.72    |
| P/E (F1)                         | 24.94     | 24.65      | 22.17     | 48.59    | 264.50   | 21.62   |
| Price/Sales (P/S)                | 4.56      | 1.10       | 2.41      | 11.09    | 0.97     | 0.70    |
| Earnings Yield                   | 4.08%     | 4.03%      | 4.27%     | 2.06%    | -17.39%  | 4.63%   |
| Debt/Equity                      | 0.62      | 0.11       | 0.76      | 0.31     | 0.06     | 0.13    |
| Cash Flow (\$/share)             | 6.05      | 0.68       | 7.01      | 8.11     | 0.40     | 3.12    |
| Growth Score                     | B         | -          | -         | F        | B        | B       |
| Hist. EPS Growth (3-5 yrs)       | 16.53%    | 28.12%     | 10.87%    | 22.72%   | NA       | -1.90%  |
| Proj. EPS Growth (F1/F0)         | -11.49%   | -3.70%     | -10.79%   | 5.47%    | -428.57% | -8.49%  |
| Curr. Cash Flow Growth           | -28.59%   | -24.28%    | 5.48%     | -4.32%   | -45.26%  | -27.71% |
| Hist. Cash Flow Growth (3-5 yrs) | 15.69%    | 17.64%     | 8.55%     | 14.58%   | 20.49%   | -6.35%  |
| Current Ratio                    | 3.47      | 3.22       | 1.29      | 2.72     | 8.41     | 1.71    |
| Debt/Capital                     | 38.26%    | 9.63%      | 44.75%    | 23.60%   | 5.76%    | 11.60%  |
| Net Margin                       | 14.01%    | 0.75%      | 10.59%    | 21.83%   | -14.12%  | 3.29%   |
| Return on Equity                 | 26.33%    | 4.13%      | 16.26%    | 21.49%   | 2.68%    | 4.03%   |
| Sales/Assets                     | 0.63      | 0.90       | 0.55      | 0.55     | 0.64     | 0.73    |
| Proj. Sales Growth (F1/F0)       | -6.26%    | 0.00%      | -2.61%    | 0.98%    | -18.70%  | -1.17%  |
| Momentum Score                   | D         | -          | -         | C        | A        | B       |
| Daily Price Chg                  | -3.90%    | 0.00%      | -0.08%    | 1.97%    | -1.67%   | -2.01%  |
| 1 Week Price Chg                 | 5.95%     | 0.95%      | 4.60%     | 3.18%    | 5.01%    | 3.32%   |
| 4 Week Price Chg                 | 5.56%     | 12.18%     | 12.07%    | 17.86%   | 5.17%    | 2.84%   |
| 12 Week Price Chg                | 24.31%    | 21.40%     | 25.17%    | 46.67%   | 36.69%   | 4.17%   |
| 52 Week Price Chg                | 28.10%    | 22.23%     | 0.34%     | 83.19%   | -5.70%   | -26.86% |
| 20 Day Average Volume            | 2,422,695 | 80,901     | 2,537,324 | 723,274  | 31,314   | 488,458 |
| (F1) EPS Est 1 week change       | 0.00%     | 0.00%      | 0.00%     | 0.00%    | 0.00%    | 0.00%   |
| (F1) EPS Est 4 week change       | -15.63%   | -15.63%    | -0.08%    | -0.37%   | 150.00%  | 0.00%   |
| (F1) EPS Est 12 week change      | -23.52%   | -23.52%    | -16.19%   | -16.92%  | 150.00%  | -19.39% |
| (Q1) EPS Est Mthly Chg           | -23.38%   | -6.67%     | 0.00%     | 0.00%    | -450.00% | 0.00%   |



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## Zacks Stock Rating System

We offer two rating systems that take into account investors' holding horizons: Zacks Rank and Zacks Recommendation. Each provides valuable insights into the future profitability of the stock and can be used separately or in combination with each other depending on your investment style.

### Zacks Recommendation

The Zacks Recommendation aims to predict performance over the next 6 to 12 months. The foundation for the quantitatively determined Zacks Recommendation is trends in the company's estimate revisions and earnings outlook. The Zacks Recommendation is broken down into 3 Levels; Outperform, Neutral and Underperform. Unlike many Wall Street firms, we have an excellent balance between the number of Outperform and Neutral recommendations. Our team of 70 analysts are fully versed in the benefits of earnings estimate revisions and how that is harnessed through the Zacks quantitative rating system. But we have given our analysts the ability to override the Zacks Recommendation for the 1200 stocks that they follow. The reason for the analyst over-rides is that there are often factors such as valuation, industry conditions and management effectiveness that a trained investment professional can spot better than a quantitative model.

### Zacks Rank

The Zacks Rank is our short-term rating system that is most effective over the one- to three-month holding horizon. The underlying driver for the quantitatively-determined Zacks Rank is the same as the Zacks Recommendation, and reflects trends in earnings estimate revisions.

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### Zacks Style Scores

The Zacks Style Score is as a complementary indicator to the Zacks rating system, giving investors a way to focus on the highest rated stocks that best fit their own stock picking preferences.

Academic research has proven that stocks with the best Value, Growth and Momentum characteristics outperform the market. The Zacks Style Scores rate stocks on each of these individual styles and assigns a rating of A, B, C, D and F. We also produce the VGM Score (V for Value, G for Growth and M for Momentum), which combines the weighted average of the individual Style Scores into one score. This is perfectly suited for those who want their stocks to have the best scores across the board.

|                |   |
|----------------|---|
| Value Score    | C |
| Growth Score   | B |
| Momentum Score | D |
| VGM Score      | C |

As an investor, you want to buy stocks with the highest probability of success. That means buying stocks with a Zacks Recommendation of Outperform, which also has a Style Score of an A or a B.

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