

Linear Technology remains the performance gold standard of the IC industry, says Petrov Group

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Linear Technology's profit-driven strategy distinctly separates Linear from its analog IC competitors. Its unprecedented and consistent financial performance makes Linear the gold standard of the analog, as well as the entire IC industry. Among the leading analog companies Linear Technology stands out as the ultimate Money Machine, the most profitable vendor in the semiconductor business, says The Petrov Group.

The company's gross, operating, and net income margins have remained unsurpassed in the analog IC industry for decades. The company is a pure-play profit-driven company; for Linear its growth is incidental. Although it did not grow at all for eight years (its 2001-09 CAGR was 0%), 2010 will be Linear's record year in both growth and net profitability thanks to the company's impeccable market segment exit and entry strategies and their timing.

Linear is increasingly focusing on the power management business segment. Power management represents more than one-half of Linear's total US\$1.1 billion revenues in FY10 (June 2010), placing it third ranked in terms of revenues after TI and National. At the current revenue growth rate Linear could displace National as the second-ranked power IC player.

Linear is a proven measure of analog IC high value versus commoditization trends, its participation is an excellent indication of the boundary dynamics between high performance and commodity analog ICs. The company has consistently anticipated industry trends well ahead of its competition; its historic record indicates impeccable timing of target market entries and exits, to reap profits and to avoid commoditization, respectively.

In its target end-market segments Linear outmaneuvers its competitors at the product level along three dimensions: (1) superior analog performance, (2) enhanced application enablement, and (3) higher affordability (total cost of ownership). This enables the company to exploit a product-specific market opportunity on top of competitors' established or emerging market positions. Linear exploits such a market opportunity as long as it yields target profit margins; it abandons it when competitors start their commoditization, says The Petrov Group.

Linear avoids system-level functional integration; instead it focuses on plug-in modules (MicroModules), which in terms of profitability are superior to on-chip functional integration. These products integrate a system's analog periphery IC functions with discrettes such as power MOSFETs, inductors, and capacitors. The plug-in module represent Linear's highest growth rate product category. Since FY07 Linear has increased its module product portfolio by more than three times. Currently offered power modules include point-of-load (POL) DC/DC regulators and a recently introduced LED driver module.

Linear's recent areas of market entry include ambient energy harvesting (vibration, thermal, solar, and lamp light), super-capacitor chargers, and PMBus compliant digital power managers. Energy harvesting power supplies are targeted at smart wireless sensors in networks (mesh networks) as well as industrial automation and building HVAC systems. Super-capacitor chargers replace batteries as a low cost alternative for battery backup energy sources. PMBus compliant digital managers provide a superior solution (versus analog alternatives) for managing point-of-load (POL) analog power supplies in complex high reliability power systems.

Linear offers about 1,422 generic power management products that can be segmented into ten power domains. About two-thirds of power management products and revenues are derived from the two power domains: (1) the analog power conversion domain dominates with about 60% of products and 55% of power management revenues, and (2) the battery management domain with 9% of products and about 10% of revenues.

Energy harvesting is the most recent new domain (FY09), while the LED lighting domain features the highest growth. The RF power management domain includes products introduced prior to FY06; this is a de-emphasized business as a result of Linear's exit from the handset business. The remaining power domains are adjuncts to the analog power conversion domain.

Linear's power management business strategy evolves at two levels: (1) well timed entries and exits into and from target end-markets and applications, and (2) superior proprietary products optimized for those target applications. Linear's power management product portfolio features a 70/30 split between general-purpose and application-specific products. General-purpose products are the company's business focus, while application-specific products are targeted selectively in two end-market segments: computing and high-end consumer.

Handsets represent only about 2% of FY10 revenues; Linear has effectively exited this business. In addition, the company has also de-emphasized the high-end consumer business which in FY10 represents about 6% of revenues. Linear's handsets and high-end consumer business represented about 20% of total revenues in FY05 versus about 8% in FY10.

Linear has a simple and effective management of operating expenses. Linear's headcount blueprint reveals a tightly controlled stratification of human capital in the form of a pyramid that maintains a constant proportion of human resources over time (FY02 to FY09). This means that Linear scales its human capital pyramid proportionally up or down impacting all layers. As a result, the company's operating expenses as percent of revenues remain relatively constant and independent of revenue fluctuations. For example, during the recent market downturn (FY09) Linear's operating expenses were 32% of total revenues. In comparison, National Semiconductor's operating expenses were 40%. During the current market upturn (FY10) Linear's and National's operating expenses are estimated at 29% and 41%, respectively, according to Boris Petrov, managing partner of The Petrov Group.

Linear extends its design expertise into proprietary manufacturing technologies. Its manufacturing technology capabilities are tightly aligned with the company's end market requirements. Its proprietary processing technologies are implemented in two 6-inch fabs indicating the company's focus on building block products rather than highly integrated system-level ICs. These processes extend the company's analog design expertise into silicon. As a result, design expertise plays a pivotal role in Linear's product differentiation. Linear's processing technologies feature conservative process lithography which combined with 6-inch wafers enable cost-effective product implementations.

In summary, Linear Technology is a unique analog IC vendor; it separates itself from the competition with its pure-play profit-driven strategy. In terms of its historically consistent superior financial performance it could be viewed as the true gold standard of the IC industry. Over decades the company's gross, operating, and net income margins remain unsurpassed in the IC industry. Linear has also consistently anticipated industry trends ahead of the competition; the company walks away from market opportunities where it can no longer achieve the target net income margin. Similarly, the company enters into a new market opportunity only where it perceives that it can achieve its exceptional profitability goals.

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