

Freescale targets consumer applications with three-axis sensor

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As portable electronics increase in functionality and fuel the demand for data drive storage, designers are seeking improved protection systems that use less board space. The MMA7260Q sensor now available from Freescale Semiconductor helps meet that need.

Freescale developed the three-axis, low-gravity (low-g), microelectromechanical systems (MEMS)-based MMA7260Q specifically for portable consumer electronics a market that will require more than \$48 billion of semiconductors in 2005, according to Gartner Dataquest estimates. The sensor is small, competitively priced and ideal for electronics that require low power consumption, high sensitivity and shock survivability.

In an industry first, the MMA7260Q includes a g-select feature that ranges from 1.5 to 6g. This gives designers the flexibility to select the g-force detection level a specific application needs. The addition of the g-select feature reduces component count, which helps improve heat dissipation and overall production costs.

The MMA7260Q is a single-chip device that detects in three dimensions, allowing portable devices to intelligently respond to changes in position, orientation and movement. The small package size requires less board space, and the quick turn-on and sleep modes make the MMA7260Q ideal for battery-powered electronics such as PDAs, cell phones, 3D games and digital cameras.

Samsung Electronics designed the sensor into two of its newest digital

audio players announced last month — the YH-J70 and YP-T8.

"Freescale's device enables unique features not currently available in other multimedia players," said Heonhwa Chung, vice president, Samsung R&D team. "The YH-J70 utilizes the sensor for menu scroll by tilt and freefall detection. The gaming function is enabled with tilt detection in the YP-T8 flash multimedia player."

The MMA7260Q measures small forces resulting from fall, tilt, motion, positioning, shock or vibration to provide protection for shock-sensitive components. It detects acceleration or deceleration, such as when a device is dropped, helping prevent damage to the device and minimizing the risk of data loss.

"The availability of low-cost, robust and highly functional three-axis accelerometers will contribute to an explosion of application opportunities in the price-sensitive automotive, industrial and consumer markets," said Roger Grace, president of Roger Grace Associates and a recognized expert in MEMS marketing. "They will enable new products and improved functionality for existing products. Manufacturers are always seeking features that will create a competitive advantage, and the adoption of three-axis accelerometers certainly will satisfy this need."

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