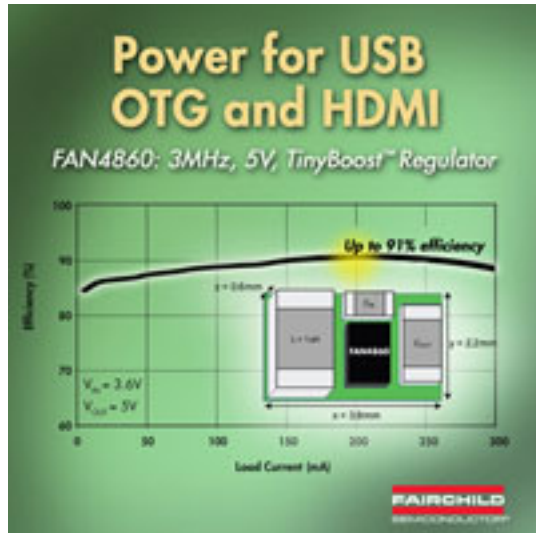


5V Regulator Enables USB OTG and HDMI Functionality in Lithium Ion Portables



As portable devices begin to overtake the PC-centric world, it is increasingly important that cell phones, smartphones, digital cameras and other devices are able to communicate with each other. To enable this, Fairchild Semiconductor's FAN4860, a 5V 300 mA TinyBoost™ regulator offers power for USB On-the-Go (OTG) and HDMI communication circuits, combining a high level of efficiency as well as a small form factor.

This device switches at a high 3MHz frequency, allowing the use of small capacitors and inductors, saving board space in space-constrained designs and reducing overall Bill of Material (BOM) costs. Available in two package options, WL-CSP (0.88 mm x 1.23 mm) and ultra-thin MLP (2 mm x 2 mm), the FAN4860 has a total solution area as small as 2.2 mm x 3.9 mm.

This regulator offers the industry's highest efficiency for this form factor, extending battery life through an optimized power train and low quiescent current. With a V_{IN} of 3.6V at light load (1mA), efficiency is 84% and at 200mA load efficiency is 91%. In addition, the true load-disconnect between the battery and the load eliminates the leakage from the battery during the OFF state, extending the phone's shutdown life. The FAN4860 also offers excellent transient response even with a small output capacitor.

This easy-to-design solution supports the quick design cycles found in the mobile device market, making it an ideal choice for cell phones, smartphones, PMPs and lithium-ion portables.

The FAN4860 complements Fairchild's core power and battery management solutions, including the FAN5361 – a 6 MHz 600 mA Buck regulator, which allows the use of tiny 470 nH chip inductors and 0402 case size input and output capacitors, as well as the award-winning FAN5355 – an 800 mA/1000 mA 3MHz Buck converter equipped with an I2C interface for dynamic voltage scaling.

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