

Fujitsu 6MHz buck-boost DCDC convertor IC allows for smaller external components and wider battery voltage range

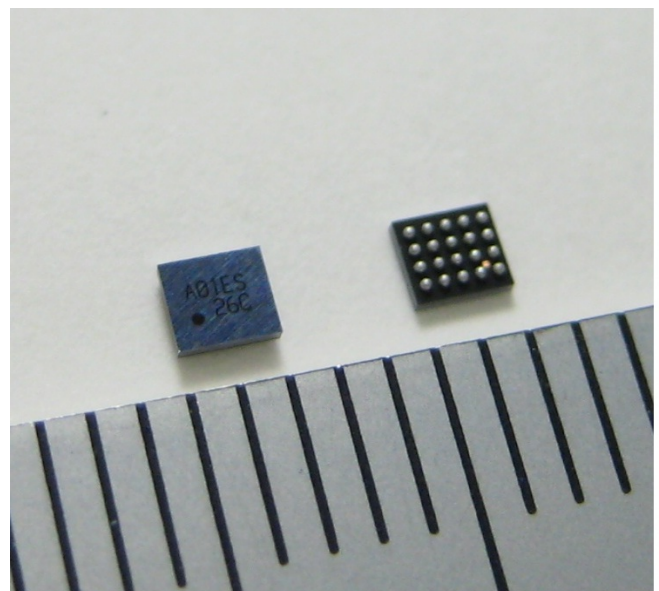
Yokohama, Japan, February 3, 2011 - Fujitsu Semiconductor Limited today announced the development of 6MHz buck-boost DCDC convertor IC "MB39C326" for radio frequency power amplifiers in mobile phones, smart phones, e-books and other handheld mobile devices. Sample shipments for the new IC product, MB39C306, will start from June 2011.

"MB39C326" operates at an industry-leading 6MHz as the buck-boost DCDC converter IC for radio frequency power amplifiers. The higher frequency operation of 6MHz can largely reduce the mounting area of the power supply part (half the ratio of existing products.)

Buck-boost operation makes it possible for Li-ion battery to operate at wider battery voltage range. "MB39C326" makes it possible to deliver stable voltages for the equipment and extend the life of Li-ion batteries, when the voltage of Li-ion batteries drops.

Mobile phones, smart phones, e-book and other handheld mobile devices are demanding higher performance with larger data transfer capacity, while aggressively miniaturizing components and board space. There is a strong push to reduce the overall size of RF amplifier without sacrificing stability and efficiency of its power supply. The passive inductor is one of the larger components requiring large space. With DCDC convertors switching at higher frequencies, inductor size can be reduced. Fujitsu Semiconductor's DCDC convertor switches at 6MHz compared to conventional 2 to 3MHz, allowing a smaller inductor to be used and can be expected to reduce the

overall board space of the power management circuits by half. Its buck boost operation switches automatically to extend the operating voltage of the lithium battery, while providing stable power supply to the power amplifier.



MB39C326 (2.15 × 1.94mm)

Fujitsu Semiconductor will introduce the new buck-boost DCDC convertor, MB39C326, at the Mobile World Congress in Barcelona from 14th to 17th February 2011. Samples will be available in June 2011.

Sample Price and Release Schedule

Product	Price	Sample release schedule
MB39C326	300 Yen	From June 2011

Sales Target

0.8 million units/month from 2011 (Mass-product)

Features of MB39C326

1. Smaller inductor can be used with switching frequency of 6MHz, hence reducing surface area occupied by the power circuit

Compared to conventional DCDC convertors which switch at around 2 to 3MHz, smaller size inductors can be used with Fujitsu Semiconductor's 6MHz DCDC convertor. The reduction of space consumed by the inductor can cut the overall surface area occupied by the power supply by half. This is critical for mobile devices where space is critical.

2. Buck Boost operation makes it possible for Li-ion battery to operate at lower voltage

The operating voltage of Li-ion battery drops as it discharges during use to a certain level at which it cannot supply enough power to drive the devices it is connected to. It is necessary to boost the output voltage level to the required level of the devices to continue to deliver power to the devices it is driving. Fujitsu's buck-boost convertor is able to extend the usage of battery by pumping up the output voltage level, hence allowing sufficient power to continue operation. As such, a large amount of data can still be transferred through the power amplifier even when battery voltage is low, resulting in more efficient use of remaining charges in the battery.

3. High-efficiency power supply

The new effective controller is designed using low gate charge process technology which reduces switching loss and consumption power. Higher efficiency is realized in this improved buck boost DCDC convertor.

For More Information

Fujitsu Semiconductor:

<http://jp.fujitsu.com/group/fsl/en/>

Power Management IC :

<http://www.fujitsu.com/us/services/edevices/microelectronics/analogproducts/pmic/>

Press Contact:

Fujitsu Semiconductor Limited

Inquiries: <https://www-s.fujitsu.com/jp/group/fsl/en/release/inquiry.html>

About Fujitsu Semiconductor

Fujitsu Semiconductor Limited designs, manufactures, and sells semiconductors, providing highly reliable, optimal solutions and support to meet the varying needs of its customers. Products and services include microcontrollers, ASICs, ASSPs, and power management ICs, with wide-ranging expertise focusing on mobile, ecological, automotive, imaging, security, and high-performance applications. Fujitsu Semiconductor also drives power efficiency and environmental initiatives. Headquartered in Yokohama, Fujitsu Semiconductor Limited (formerly named Fujitsu Microelectronics Limited) was established as a subsidiary of Fujitsu Limited on March 21, 2008. Through its global sales and development network, with sites in Japan and throughout Asia, Europe, and the Americas, Fujitsu Semiconductor offers semiconductor solutions to the global marketplace.

For more information: <http://jp.fujitsu.com/group/fsl/en/>

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MAIN FEATURES

- 6MHz PWM operation allows 0.5uH small inductor
- Automatic transition between buck mode and boost mode
- Built in internal FETs
- Power-Save Mode for improved efficiency at light load current
- Input Voltage range: 3.1V to 4.6V
- Adjustable output voltage range: 0.6V to 4.2 V
- Output current of 800mA
- Over temperature protection
- Input under voltage lock out
- 20pin 0.4mm-ball-pitch 2.15mm×1.94mm WL-CSP (wafer level chip size package)
- Operating temperature range of -40°C to +85°C