

ams launches ultra-compact, efficient 200mA boost converter for products powered by a single-cell li-ion battery

AS1383's 3.5MHz fixed-frequency switching enables use of small external components, making it ideal for use in space-constrained products such as wristbands

Unterpremstaetten, Austria (14 October, 2015), ams AG (SIX: AMS), a leading provider of high performance sensors and analog ICs, today introduced the AS1383, an ultra-compact switching boost converter which offers high efficiency and helps extend run-time in applications powered by a single-cell lithium-ion battery.

The converter provides outputs of between 2.7V and 5.0V from a 2.7V-5.5V input voltage range. It is available with an adjustable output voltage, or a factory-programmed fixed output voltage. Depending on the input voltage, it can provide a maximum output current of up to 200mA.

The AS1383, which implements peak current-mode PWM control for accurate line and load regulation, features internal NMOS and PMOS power switches with very low on-resistance and gate charge. This helps the converter to achieve high efficiency, peaking at 92%, across the range from moderate to full loads.

In addition, it offers a clever 'Powersave' mode in which all circuitry except that required to monitor the output voltage is turned off when the output current falls below the point at which the energy supplied in the switch's minimum on-time is greater than the energy consumed by the load. This Powersave mode keeps power consumption down to a typical 25µA when supplying light loads.

Operating at a high fixed switching frequency of 3.5MHz, the AS1383 requires only a small input and output capacitor and an inductor rated at just 1µH. Two additional components, external resistors for setting the output voltage, are required only in the adjustable-output version of the device.

The converter itself is a six-pin wafer-level chip-scale package, with a footprint of just 1.2mm x 0.8mm and a pitch of 0.4mm. This means that an AS1383-based circuit is small enough to fit in the latest sleek designs for consumer products such as wristbands, media players, digital cameras and mobile phones.

The fixed switching frequency used by the AS1383, and integrated anti-ringing control implemented in the device, help system designers to realize low-noise end product designs. At 20mV peak-to-peak for a 150mA load, output voltage ripple is also low enough to avoid interfering with sensitive downstream signals.

'With the introduction of the AS1383, ams has achieved a remarkable combination of small solution size and high efficiency across the load range from light loads up to the maximum 200mA output current. OEMs can benefit from this to meet consumers' demand for longer intervals between charges in the devices they use heavily', said Bernd Kraethoefer, marketing manager at ams.



The AS1383 is available in production volumes now. Unit pricing is \$0.25 in order quantities of 1,000 units.

A demonstration kit for the AS1383 is available from the ams ICdirect online shop. For sample requests and for more technical information, please go to www.ams.com/Boost-Converter/AS1383.

About ams

ams is a global leader in the design and manufacture of advanced sensor solutions and analog ICs. Our mission is to shape the world with sensor solutions by providing a seamless interface between humans and technology. ams' high-performance analog products drive applications requiring extreme precision, dynamic range, sensitivity, and ultra-low power consumption. Products include sensors, sensor interfaces, power management and wireless ICs for consumer, communications, industrial, medical, and automotive markets.

With headquarters in Austria, ams employs over 1,800 people globally and serves more than 8,000 customers worldwide. ams is listed on the SIX Swiss stock exchange (ticker symbol: AMS). More information about ams can be found at www.ams.com.

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