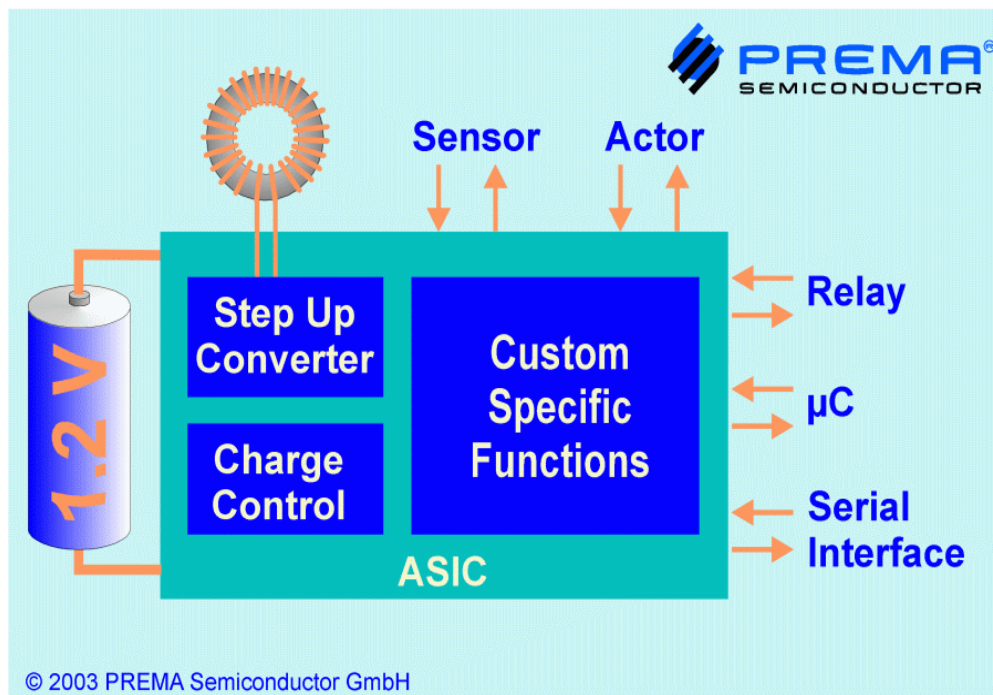


## Analog ASICs for Single Cell Battery Supply

A single-cell battery supply for portable devices saves cost and allows smaller dimensions and lower weight. However, the voltage of sometimes less than 1.0V is insufficient for most electronic circuits, LEDs and even many step-up converters.

PREMA offers a solution for ASICs with the design of a low-voltage step-up converter, operating from 0.9V. This allows the supply of other circuit blocks within the IC, such as sensor signal amplifiers, MOSFET drivers or serial interfaces. In addition the ASIC can also power external components, such as a microcontroller or LEDs with higher voltages.



Charge controllers based on  $dV/dt$  detection or timer-controlled cutoff for rechargeable batteries can be integrated as well, together with a voltage monitoring circuit, so that the ASIC can provide the complete battery management.

Single-cell battery applications often require adapted application specific solutions, as offered by PREMA with expertise in design and outstanding manufacturing solutions for analog ASICs. According to customer's requirements, different types of step-up converters can be integrated, e.g. a two-position controller with fixed pulse width and burst operation. The output voltage is switchable to reduce power consumption for devices with standby mode. Due to the unique features of the PREMA ModuS U6 process, the ASIC circuit can be operated on a very low current level and supply voltage, making it very suitable for battery operation.

The possibility to combine a step-up converter and battery management together with many other functions in one ASIC, offers a high potential for cost savings as well as possibilities to reduce the board size, resulting in smaller and lighter systems.

For more information please visit our web site [www.prema.com](http://www.prema.com).