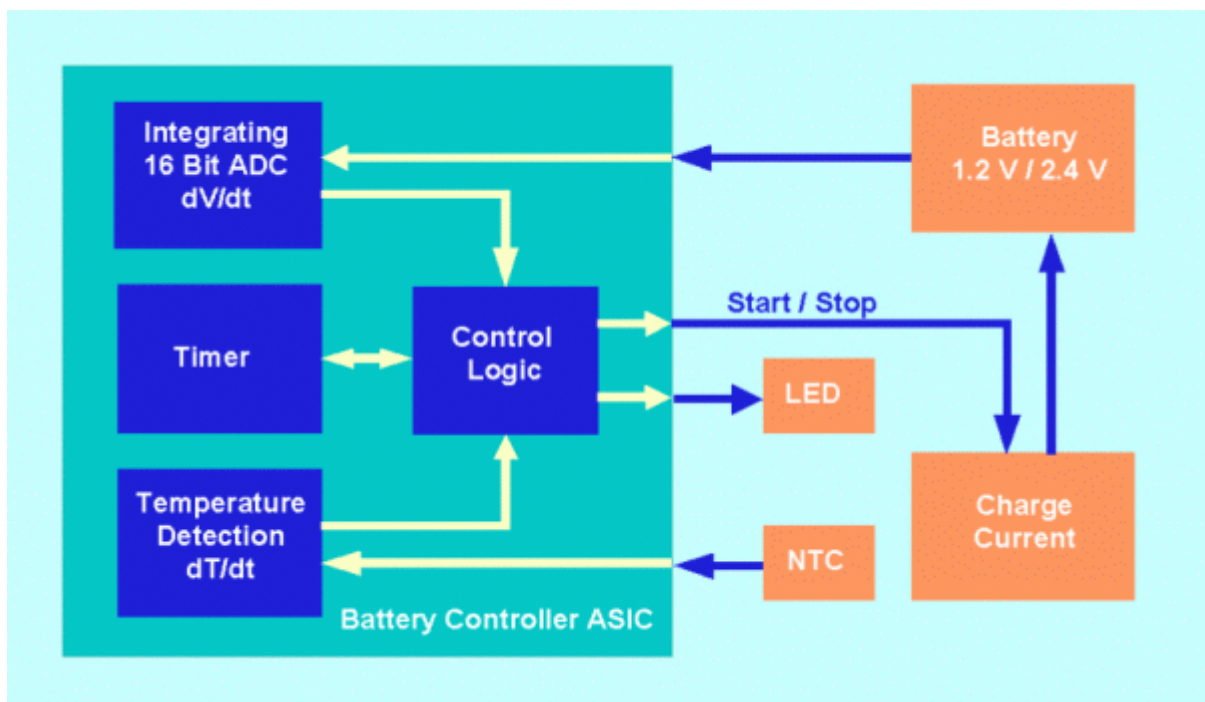


High Performance ASIC for Battery Applications



A fast battery charge controller ASIC for NiCd and NiMH batteries used in consumer products has been developed by PREMA Semiconductor. The charge control is based on a patented multiple ramp A/D conversion method that allows the recognition of dV/dt with a sensitivity of better than 0.5 mV/min. The charging is monitored by a timer as an additional safeguard. A noise suppression of more than 60 dB prevents an overcharging with exceptional accuracy which guarantees a long battery lifetime, despite of high charging rates. The IC can be configured to charge one or two 1.2V cells and thus is taking the whole range of customer's applications into account.

This charge control IC is an example for a custom specific mixed-signal ASIC perfectly suited for PREMA's advanced bipolar process, since apart from the integration of nearly 1000 gates high precision and high performance analog components are required.



The functionality of this ASIC can be extended on customer's request. Additional components can be integrated to support other parts of the system, so electronics components can be economized on the PCB. For example a timer will switch off a motor after a fixed time or an integrated DC / DC converter transforms the battery voltage to a desired value. Precise sensor amplifiers are able to convert the signals of pressure sensors, temperature or photo sensors, a motor speed can be controlled by a pulse width modulation (PWM) and also LED drivers are available.

Important reasons for the development of an own ASIC are not only in-time delivery and product security over a long period but also the guaranteed product quality. Each part delivered will be tested according to test specifications which are perfectly fitted to the customer's application. The use of an ASIC might be necessary when the product size has to be reduced. The chip packaging and pin selection is defined by the customer. All common packages are available like SOP, SSOP, PLCC, but also CoB (Chip on Board) and Flip Chip.

Typical applications for the battery controller ASIC are electrical toothbrushes, mobile phones, notebooks, shavers, battery driven toys and household appliances. against product piracy.

For more information about ASICs please visit our web site www.prema.com .

PREMA Semiconductor GmbH, Robert-Bosch-Str. 6, D-55129 Mainz - Germany

Phone: +49-6131-5062-20 or -0 Fax: +49-6131-5062-22

www.prema.com Email: prema@prema.com