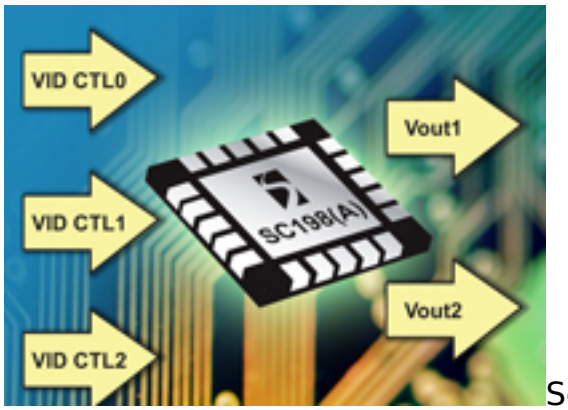
DC/DC Converter Platform Provides On-the-Fly Voltage Changes



Semtech announced the SC198 and SC198A, two new dual-output synchronous DC/DC buck converters each with eight VID programmable output voltage settings that allow portable systems manufacturers to lower processor voltages and extend the battery life of their devices.
The converters are suited for use in powering core ICs in fixed 5V, single Li-ion cell portable systems or three-cell NiMH/NiCd systems such as mobile/cordless phones, MP3 players and handheld game consoles. The SC198 and SC198A operate with an input voltage range of 2.7V to 5.5V. The output voltage for the devices can be digitally programmed via control pins to eight different output pairs, ranging from 1.0V to 3.3V. This capability allows system designers to dynamically change the output voltage without the need for four programming resistors that would be otherwise required.Each of the two outputs from the SC198A is capable of supplying 800 mA of current, while the SC198 sources up to 600mA per converter. Each channel from either converter operates with a fixed 1 MHz oscillator frequency, which maximizes the efficiency under normal loads. Under light loads, the regulators automatically transition to power save (PSAVE) mode to maintain high efficiency. The oscillators on both channels operate 180° out-of-phase with each other to minimize the input ripple current. Both devices can be forced to fixed pulse-width modulation (PWM) mode to further reduce noise for sensitive applications. Device quiescent current in shutdown is <1 µA. The regulators offer short-circuit and thermal protection on the output to safeguard the devices under extreme operating conditions.

Semtech
(805) 498-2111, www.semtech.com [1]

Links:
[1] http://www.semtech.com/