

Twelve Channel Integrated Power Management IC for Mobile Handsets

FEATURES

- Multiple Patents Pending
- 350mA, PWM Step-Down DC/DC Converter
- Eight I²C-Programmable, Low Noise LDOs
 - Three Optimized for RF Section Power
 - Five Optimized for BB Section Power
- Li+ Battery Charger with Integrated MOSFET
 - Charger Current Monitor Output (VICHG)
 - Charger ON/OFF Control Pin
- Two N-channel Open Drain Switches
- Minimal External Components
- I²C™ Serial Interface
 - Configurable Operating Modes
- AC-OK and RESET Outputs
- 5x5mm, Thin-QFN (TQFN55-40) Package
 - Only 0.75mm Height
 - RoHS-Compliant

GENERAL DESCRIPTION

The patent-pending ACT5830 is a complete, integrated power management solution that is ideal for mid-high and mobile phones. This device integrates a linear Li+ battery charger with an internal power MOSFET, a high efficiency 350mA DC/DC converter, eight low dropout linear regulators, a reset output, and two N-Channel open drain switches, and an I²C Serial Interface to achieve flexibility for programming LDO outputs and individual on/off control.

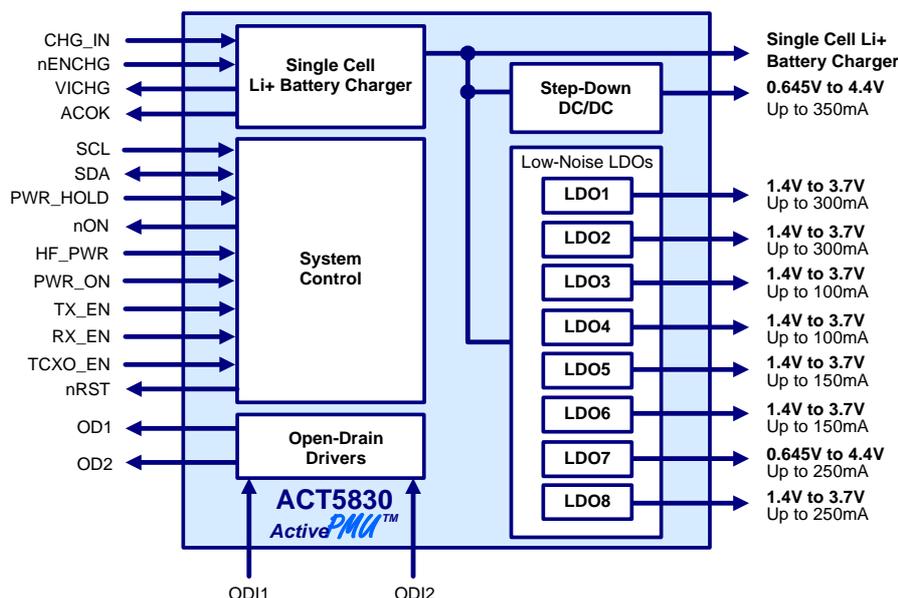
The charger is a complete, thermally-regulated, stand-alone single-cell linear Li+ battery charger that incorporates an internal power MOSFET for constant-current/constant-voltage control. The charger includes a variety of value-added features, and it is programmable via the I²C-Interface to control charging current, termination voltage, along with safety features and operation modes.

The ACT5830 is available in a compact 5mm x 5mm 40-pin Thin-QFN package that is just 0.75mm thin.

APPLICATIONS

- GSM or CDMA Mobile Phones

SYSTEM BLOCK DIAGRAM



PRODUCT OPTIONS

Block	Function	Output Voltage ^①	Capability ^②
CHGR	Battery Charger	4.20V (4.10V to 4.30V available)	Programmable Up to 1A
BUCK	Step-Down DC/DC	0.645V to 4.4V	350mA
LDO1	LDO	1.4V to 3.7V	300mA
LDO2	LDO		300mA
LDO3	LDO		100mA
LDO4	LDO		100mA
LDO5	LDO		150mA
LDO6	LDO		150mA
LDO7	LDO	0.645V to 4.4V	250mA
LDO8	LDO	1.4V to 3.7V	250mA

①: Output voltage options detailed in this table represent standard voltage options, and are available for samples or production orders. Contact Active-Semi for more information regarding semi-custom output voltage combinations.

②: Contact factory for additional available products or custom requirements.

FUNCTIONAL BLOCK DIAGRAM

