



Preliminary

OCP8130

MicroPower™ Regulated Charge Pump

ORIENT-CHIP

### General Description

The OCP8130 ChargePump is a member of Orient-chip's Total Power Management IC™ (TPMIC™) product family. The OCP8130 ChargePump™ is a MicroPower switched-capacitor voltage converter that delivers a regulated output. No external inductor is required for operation. Using three small capacitors, the OCP8130 can deliver up to 100mA to the voltage regulated output. The OCP8130 features very low quiescent current and high efficiency over a large portion of its load range making this device ideal for battery-powered applications. Furthermore, the combination of few external components and small package size keeps the total converter board area to a minimum in space restricted applications. The OCP8130 operates in an output-regulated voltage doubling mode. The regulator uses a pulse-skipping technique to provide a regulated output from a varying input supply. The OCP8130 contains a thermal management circuit to protect the device under continuous output short circuit conditions.

The OCP8130 is available in a Pb-free, surface mount 6-pin SOT23 package and is rated over the -40°C to 85°C.

### Features

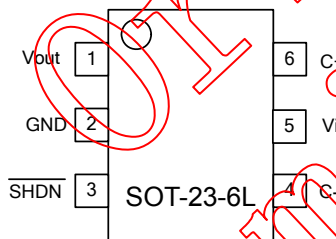
- Step-Up Voltage Converter
- Input Voltage Range  
OCP8130W50AD : 2.7V to 5V
- MicroPower consumption: 13  $\mu$  A
- Regulated 5V  $\pm$  4% Output
- 5V Output Current
  - 100mA with  $V_{IN} \geq 3.0V$
  - 50mA with  $V_{IN} \geq 2.7V$
- Peak Current 250mA for 100ms
- High Frequency 750 kHz operation
- Shutdown Mode Draws Less Than 1  $\mu$  A
- Short-Circuit/Over-Temperature Protection
- 2kV ESD Rating
- SOT23-6 package

### Applications

- Cellular Phone, PDAs
- Portable Communication Devices
- Handheld Electronics
- Digital Cameras
- LEDs for Camera Flash
- LED/Display Backlight Driver

### Pin Configuration

(Top View)



Pin No.	Pin Name	Pin Function
1	Vout	Regulated output pin. Bypass this pin to ground with a 6.8 $\mu$ F(min) low equivalent series resistance (ESR) capacitor.
2	GND	Ground connection.
3	SHDN	Shutdown input. Active low signal disables the converter.
4	C-	Flying capacitor negative terminal.
5	V <sub>IN</sub>	Input supply pin. Bypass this pin to ground with a 6.8 $\mu$ F(min) low-ESR capacitor.
6	C+	Flying capacitor positive terminal.

#### Contact Information:

For more detail information , please direct any inquiries and/or comments to [info@orient-chip.com](mailto:info@orient-chip.com).



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■ Typical Application Circuit

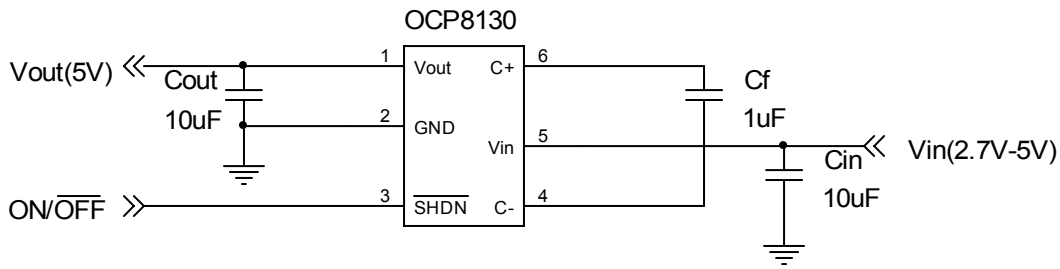


Figure 1: Typical charge pump boost converter circuit

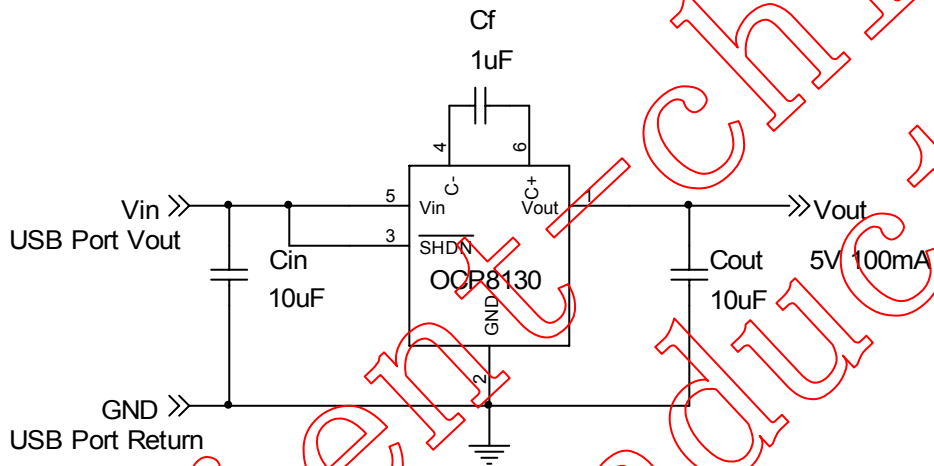


Figure 2: 5V, 100mA supply powered from a USB port

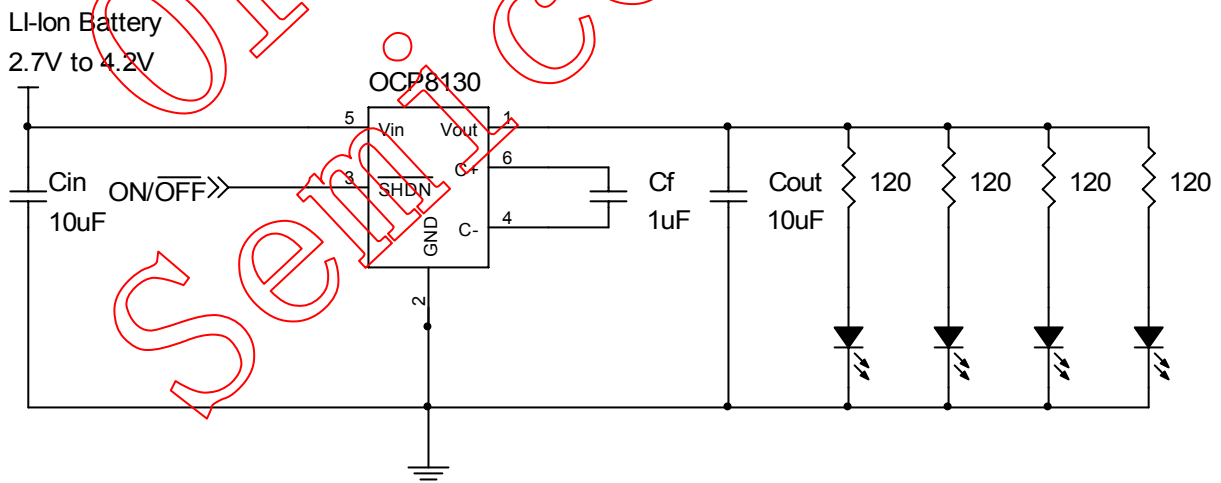


Figure 3: 5V LED or Display Driver from a Li-ion Battery Source

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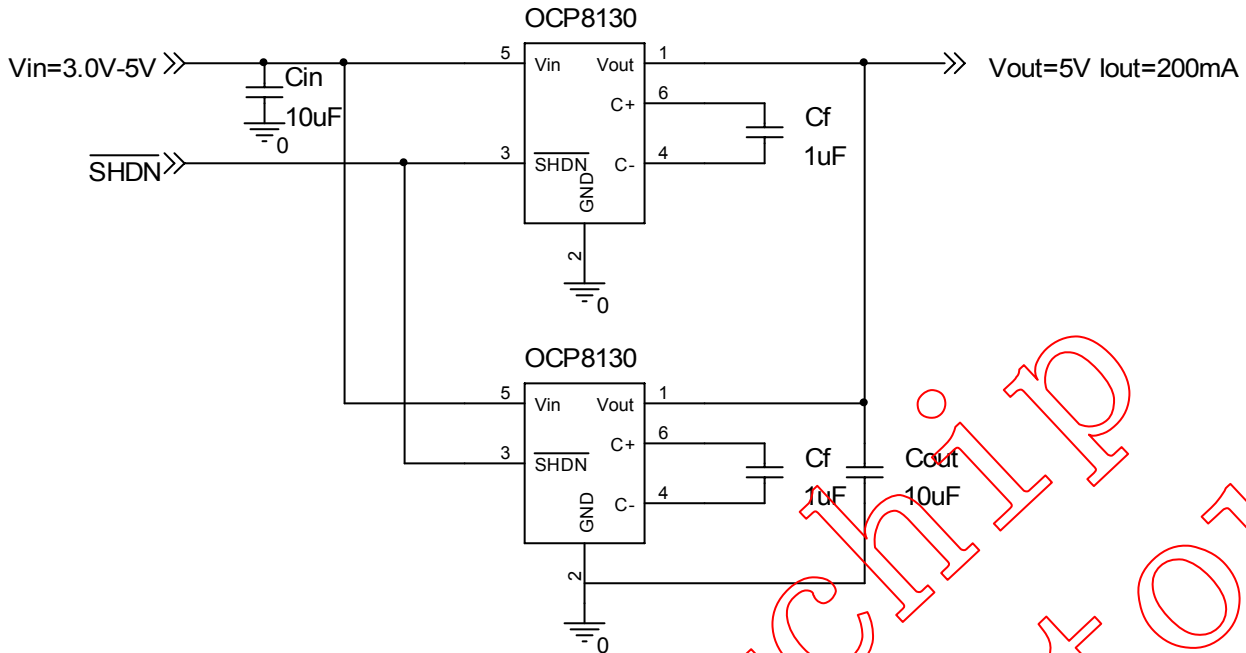


Figure 4 :5V 200mA Step-Up Supply from a 3.0V to 5V Source

■ **Block Diagram**

