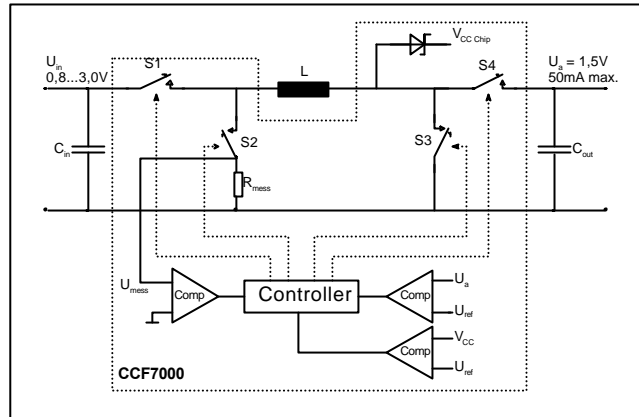


DC/DC Converter

Block diagram :

FEATURES

- Up / down conversion
- Fixed Output voltage 1,45V
- Output current up to 100mA
- Input voltage range 0.8 to 3V
- Start-Up voltage 1V
- Low power consumption
- Only few external components
- Temperature range -40 to 85°C



GENERAL DESCRIPTION

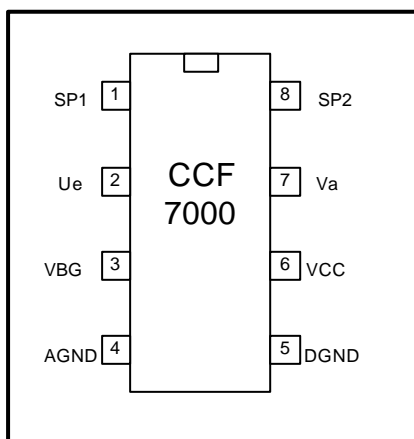
The CCF7000 is a CMOS DC/DC converter which provides a permanent regulated output voltage of 1,45 V by a wide input voltage range from 0.8 to 3 Volt and independent from external load.

A digitally controlled four phase switching scheme is used for up/ down conversion providing output voltage regulation.

The IC has an "on chip" power supply generation.

The circuit was designed for mobile applications using high energy capacitors as gold caps or Lithium-Ion rechargeable batteries.

PIN CONFIGURATION (SOP 8)



PIN	NAME	DESCRIPTION
1	SP1	coil 1
2	Ve	input voltage
3	VBG	internal Bandgap voltage
4	AGND	analog ground
5	DGND	digital ground
6	VCC	internal supply voltage
7	Va	output voltage
8	SP2	coil 2

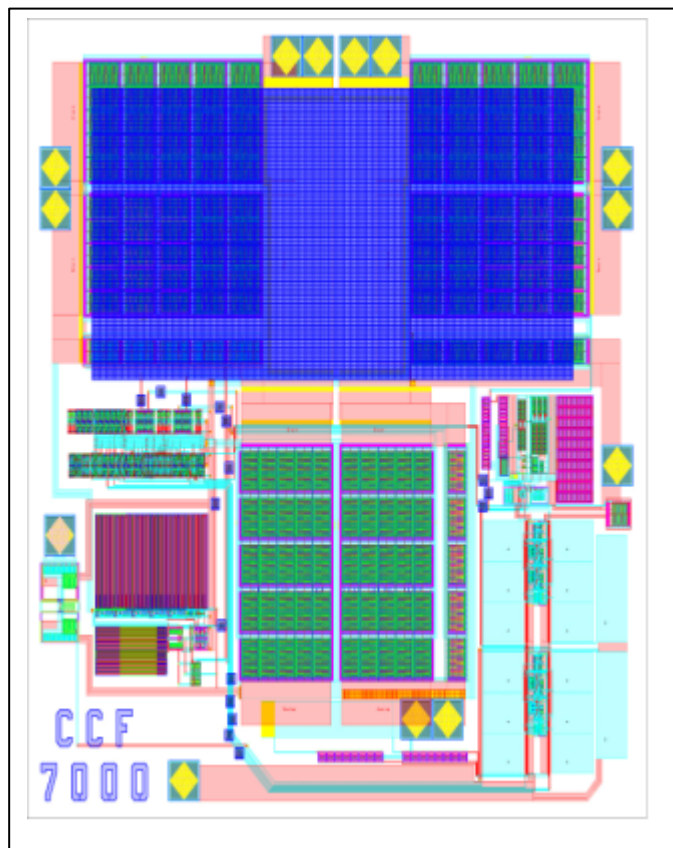
CCF 7000 DC/DC Converter

ELECTRICAL CHARACTERISTICS

Conditions unless otherwise specified: L=470uH C=220uF C_{VBG}=1nF C_{VCC}=10uF

Parameter	Symbol	Conditions	Min.	Typ.	Max.	Unit
Input Voltage Range	V _e		0.8		3	V
Current Consumption	I _e	@V _e =1.5V I _a =0A		200		uA
Output Voltage	V _a		1.40	1.45	1.50	V
Output Current	I _a		0		100	mA
Output Ripple		@V _e =1.5V I _a =1mA			50	mV
Internal Supply Voltage	V _{CC}		4.2	4.7	5.2	V
Intern. Bandgap Voltage	V _{BG}			1.3		V
Efficiency		@V _e =1.5V I _a =1mA	75			%

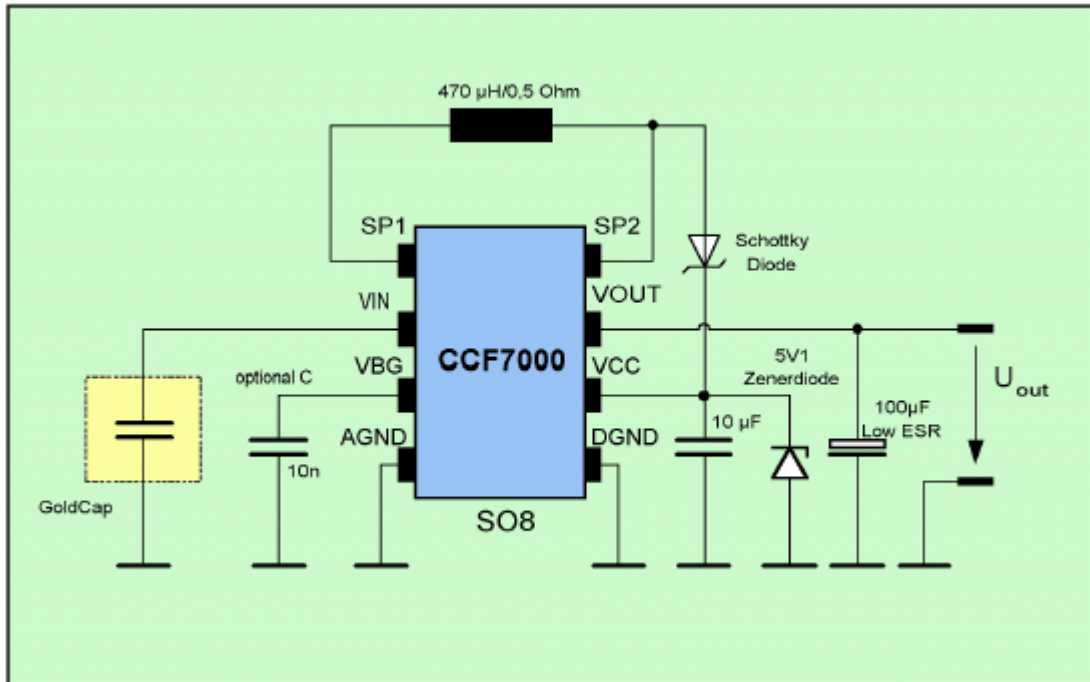
Chip layout:



CCF 7000 DC/DC Converter

Application circuite:

Don't use the circuit without installed diodes ! - Risk of destruction!



REVISION HISTORY

Revision	Date	Author	Item
1.0	20/06/01	R. Obst	First version
1.1	28/11/01	R.Obst	Corrected version