

### Preliminary

- ◆ Input Voltage Range : 1.8V ~ 20V
- ◆ Output Voltage Range : 2.0V ~ 16V
- ◆ Oscillation Frequency Range : 100KHz ~ 600KHz
- ◆ Output Current : up to 2A
- ◆ MSOP-8 Package

#### Applications

- Mobile, Cordless phones
- Palm top computers, PDAs
- Portable games
- Cameras, Digital cameras
- Laptops

#### General Description

The XC9101/9201 series are step-up (9101) and step-down (9201) multiple current and voltage feedback DC/DC controller ICs. Current sense, clock frequencies and amp feedback gain can all be externally regulated. A stable power supply is possible with output currents of up to 2A and output voltage is selectable in 0.1V steps within a 2.0V ~ 16.0V ( ± 2.5% accuracy) range (internal). Further, a type which has 1.0V reference voltage internal and allows output voltage to be set-up freely via the external components is also available.

Switching frequencies can be regulated externally within a range of 100 ~ 600kHz and therefore frequencies suited to your particular application are selectable.

The XC9101/9201 series switches from PWM to current limited PFM control during light loads and the series offers low ripple and high efficiencies from light loads through to large output currents. Further, the drive transistor's current limit can be applied via the current sense function and soft-start times can be regulated by the external resistors and capacitors.

During shutdown (CE pin = L), consumption current can be reduced to as little as 0.5 μA or less and with U.V.L.O built-in, the external transistor will be automatically shut off below stipulated voltages.

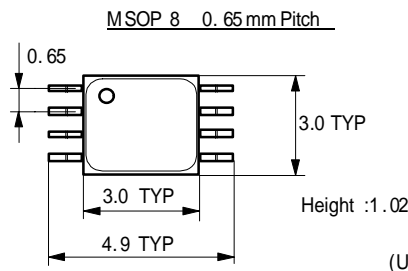
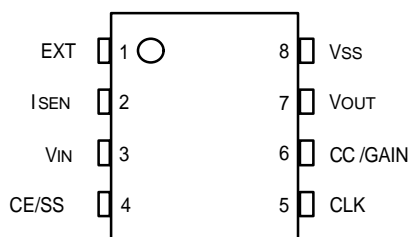
#### Features

- Stable Operations via Current & Voltage Multiple Feedback
- Unlimited Options for Peripheral Selection
- PWM/PFM Switching Control
- Current Protection Circuit
- Low Ripple Output Voltage during Light Loads (PFM)

#### Pin Assignment

PIN NUMBER	PIN NAME	FUNCTION
1	EXT	Driver
2	ISEN	Current Sense
3	VIN	Power Input
4	CE/SS	CE/Soft Start
5	VSS	Ground
6	VOUT/FB	Voltage Sense
7	CC/GAIN	Phase Compensation
8	CLK	Clock Input

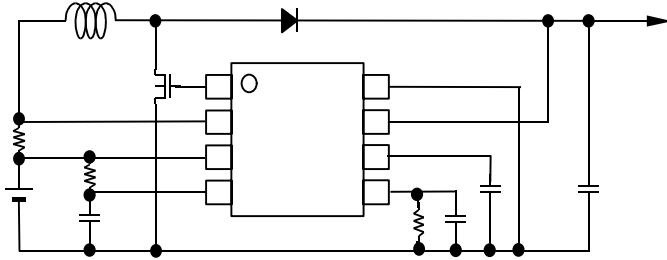
#### Pin Configuration



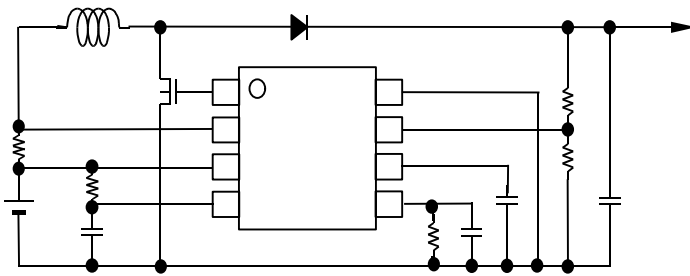
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### Standard Circuit Examples

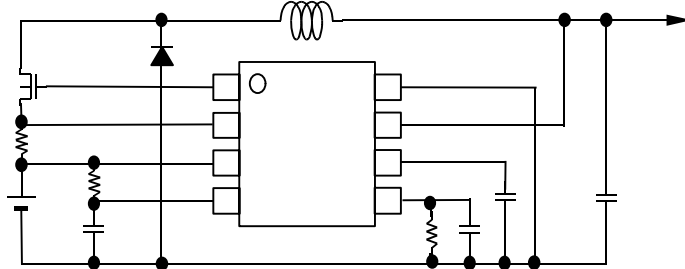
**XC9101x** : Step-Up Voltage Built-In Type



**XC9101x** : Step-Up Voltage External Type (FB)



**XC9201x** : Step-Down Voltage Built-In Type



**XC9201x** : Step-Down Voltage External Type (FB)

