

# XC9201/9202 Series

PWM Controlled, PWM//PFM Switchable  
Step-Down DC/DC Controller

## General Description

The XC9201/9202 series are step-down 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 3A and output voltage is selectable in 0.1V steps within a 1.2V - 16.0V ( $\pm 2.5\%$  accuracy) range (internal). Further, a type which has a 0.9V internal reference voltage and which allows output voltage to be set-up freely via the external components is also available (FB type).

The output voltage range with this FB type is selectable from 1.2V.

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

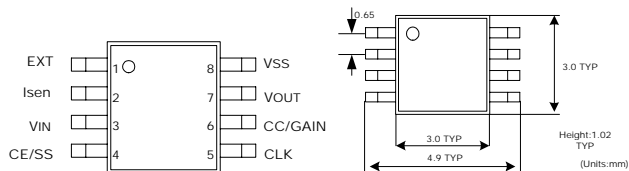
The XC9202 series switches from PWM to current limited PFM control during light loads and the series offers low ripple and high efficiencies from light loads through to large output currents. Further, the drive transistor's current limit can be applied via the current sense function and soft-start times 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 $\mu$ A 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 (XC9202)  
Current Protection Circuit  
Low Ripple Output Voltage during Light Loads (XC9202)  
Ceramic Capacitor Compatible

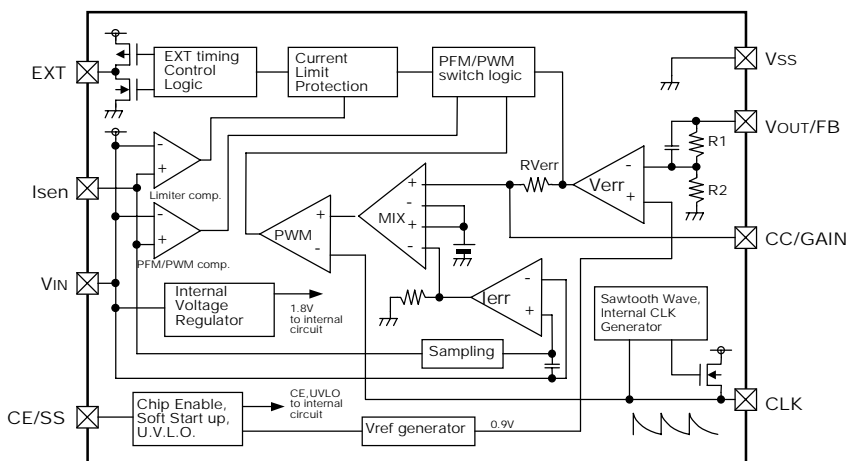
## Pin Configuration



## 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	CLK	Clock Input
6	CC / GAIN	Phase Compensation
7	VOUT / FB	Voltage Sense
8	VSS	Ground

## Block Diagram



The output of EXT pin is switched "H" and "L" between XC9101/02 series and XC9201/02 series.

## 4. DC/DC Converters

Ordering Information

XC9201 a b c d e f

a	C	VOUT	Soft-start externally set-up
	D	FB	Soft-start externally set-up
b	20 ~ G0	Output Voltage : For the voltage above 10V, see the example 10=A, 11=B, 12=C, 13=D, 14=E, 15=F, 16=G e.g. VOUT=2.3V    b=2, c=3    VOUT=13.5V    b=D, c=5	
c			
	09	FB products	
d	A	Adjustable Frequency	
e	K	MSOP-8A	
f	R	Embossed tape. Standard Feed	
	L	Embossed tape. Reverse Feed	

The standard output voltage of XC9201C series are 2.5V, 3.3V, and 5.0V. The voltage other than listed are semi-custom.