

XC6371 Series PWM Controlled Step-up DC/DC Converters

General Description

The XC6371 series is a group of PWM controlled step-up DC/DC converters. The XC6371 series employs CMOS process and laser trimming technologies so as to attain low power and high accuracy. On-chip proprietary phase compensation and slow start-up circuits ensure excellent transient response and improved performance.

Output voltage can be selected from 2.0V to 7.0V in 0.1V increments (accuracy: $\pm 2.5\%$). Oscillator frequency is also selectable from three frequencies; 50, 100, and 180kHz (accuracy: $\pm 15\%$).

Every built-in switching transistor type enables a step-up circuit to be configured using only three external components; a coil, a diode, and a capacitor. External transistor versions are available to accommodate high output current applications.

5-pin packages, which are provided with either a CE (chip enable) function that reduces power consumption during shut-down mode, or a VDD pin (separated power and voltage detect pins) are available. SOT-89 small package.

Features

Operating (start-up) voltage range: 0.9V ~ 10V

Output voltage range: 2.0V ~ 7.0V in 0.1V increments

Highly accurate: Set-up voltage $\pm 2.5\%$

Oscillator frequency: 50kHz, 100kHz, 180kHz ($\pm 15\%$) selectable

Maximum output currents (Tr built-in):

Typ. 100mA at $V_{IN}=3.0V, V_{OUT}=5.0V$Note(1)

Built-in switching transistor type and an external Tr type available.

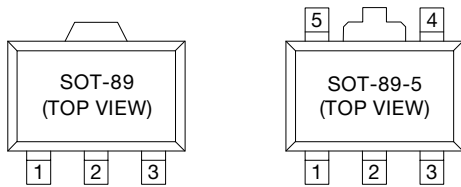
Five-lead packaged units offer either Chip Enable or independent Vout pin option.

Phase compensation and slow start-up circuits built-in

Small package : SOT-89 mini-power mold (3-pin, 5-pin)

Note(1) : Performance depends on external components and PCB layout.

Pin Configuration



Pin Assignment

(1) XC6371A, XC6371B

PIN NUMBER		PIN NAME	FUNCTION
XC6371A	XC6371B		
1	1	VSS	Ground
2	2	VOUT	Output voltage monitor / IC internal power supply
3	-	LX	Switch
-	3	EXT	External switch transistor drive

Pin Assignment

(2) XC6371C, XC6371D

PIN NUMBER		PIN NAME	FUNCTION
XC6371C	XC6371D		
5	5	VSS	Ground
2	2	VOUT	Output voltage monitor / IC internal power supply
4	-	LX	Switch
-	4	EXT	External switch transistor drive
3	3	CE	Chip Enable
1	1	NC	No Connection

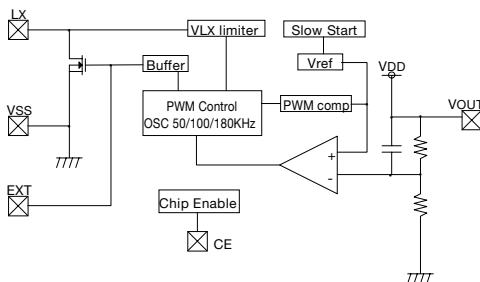
(3) XC6371E, XC6371F

PIN NUMBER		PIN NAME	FUNCTION
XC6371E	XC6371F		
5	5	VSS	Ground
2	2	VDD	IC internal power supply
4	-	LX	Switch
-	4	EXT	External switch transistor drive
3	3	VOUT	Output voltage monitor
1	1	NC	No Connection

Block Diagram

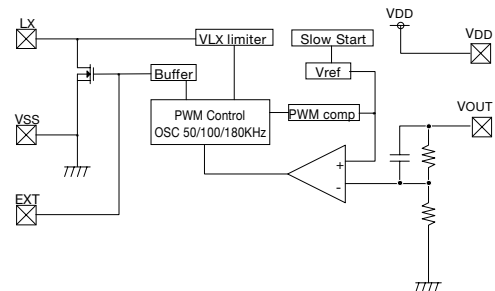
(1) XC6371A ~ XC6371D

(The VOUT pin is used also for the VDD pin.)



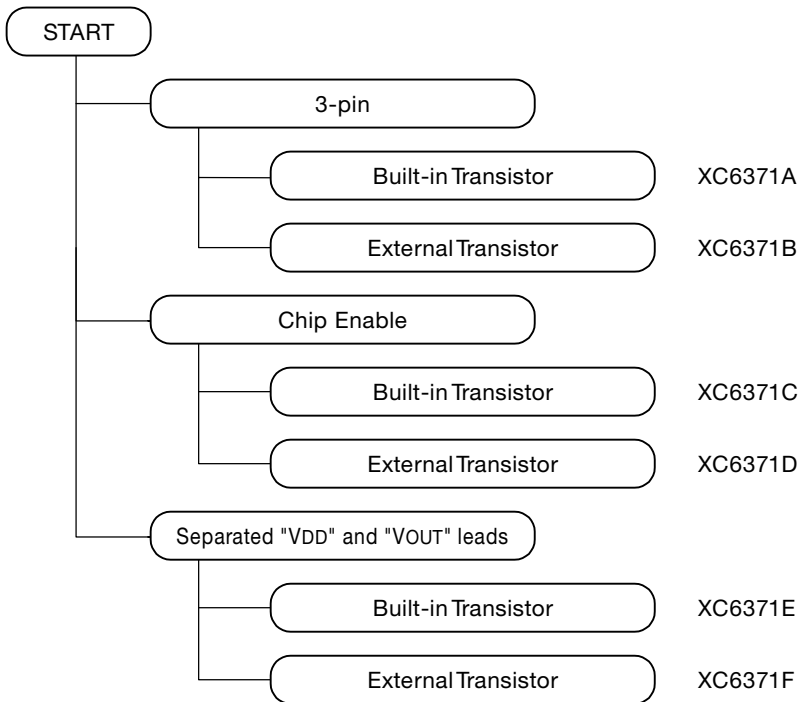
Note : Built-in tr.type units use the LX pin. External tr.type units use the EXT pin. The CE pin is only used with the XC6371C and XC6371D.

(2) XC6371E and XC6371F



Note : The VDD pin is only used with XC6371E and XC6371F. Built-in tr.type units use the LX pin. External tr.type units use the EXT pin.

Selection Guide



Ordering Information

XC6371①②③④⑤⑥

XC6371series PWM control

①	A	3-pin, Built-in switching transistor
	B	3-pin, External switching transistor
	C	Stand-by capability, Built-in switching transistor
	D	Stand-by capability, External switching transistor
	E	Separated VDD and VOUT, Built-in switching transistor
	F	Separated VDD and VOUT, External switching transistor
②	Output Voltage	
③	e.g., VOUT=3.5V → ②=3, ③=5	
④	0	OSC Frequency 50kHz
	1	OSC Frequency 100kHz
	2	OSC Frequency 180kHz
⑤	P	Package A ~ B → SOT-89-3 C ~ F → SOT-89-5
⑥	R	Embossed tape. Orientation of device : Right
	L	Embossed tape. Orientation of device : Left