

XC6382 Series

PFM Controlled, Step-up DC/DC Converters (Duty Ratio 75%)

General Description

The XC6382 series is a group of PFM controlled step-up DC/DC converters. The XC6382 series employs CMOS process and laser trimming technologies so as to attain low power and high accuracy.

Max. oscillator frequency is trimmed to 100kHz (accuracy : ±15%).

Every built-in-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.

Both built-in and external transistor types include 5-pin and 3-pin packages, which are provided with either a CE (chip enable) function that reduces power consumption during shut-down mode, or a VDD pin function (separated power and voltage detect pins).

SOT-23, SOT-25, and SOT-89-5 super mini-mold packages.

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 ±2.5%

Maximum oscillator frequency: 100kHz (±15%)

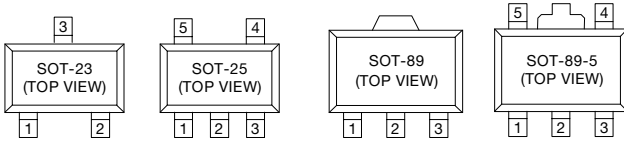
Duty Ratio: 75% (±5%)

Both built-in switching transistor and external types are available. Five-lead packaged units offer either Chip Enable or independent VOUT pin option.

Small package: SOT-23, 25 mini-mold (3-pin, 5-pin)

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

Pin Configuration



Pin Assignment

(1) XC6382A, XC6382B

PIN NUMBER				PIN NAME	FUNCTION
XC6382A		XC6382B			
SOT-23	SOT-89	SOT-23	SOT-89		
1	1	1	1	VSS	Ground
3	2	3	2	VOUT	Output voltage monitor / IC internal power supply
2	3	-	-	LX	Switch
-	-	2	3	EXT	External switch transistor drive

Pin Assignment

(2) XC6382C, XC6382D

PIN NUMBER				PIN NAME	FUNCTION
XC6382C		XC6382D			
SOT-25	SOT-89-5	SOT-25	SOT-89-5		
4	5	4	5	VSS	Ground
2	2	2	2	VOUT	Output voltage monitor / IC internal power supply
5	4	-	-	LX	Switch
-	-	5	4	EXT	External switch transistor drive
1	3	1	3	CE	Chip enable
3	1	3	1	NC	No Connection

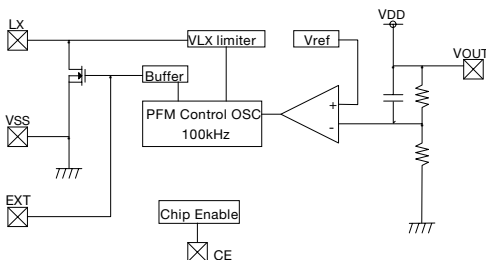
(3) XC6382E, XC6382F

PIN NUMBER				PIN NAME	FUNCTION
XC6382E		XC6382F			
SOT-25	SOT-89-5	SOT-25	SOT-89-5		
4	5	4	5	VSS	Ground
2	2	2	2	VDD	IC internal power supply
5	4	-	-	LX	Switch
-	-	5	4	EXT	External switch transistor drive
1	3	1	3	VOUT	Output voltage monitor
3	1	3	1	NC	No Connection

Block Diagram

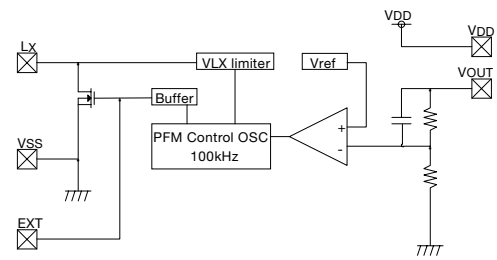
(1) XC6382A ~ XC6382D

(VOUT pin can also be used for VDD pin.)



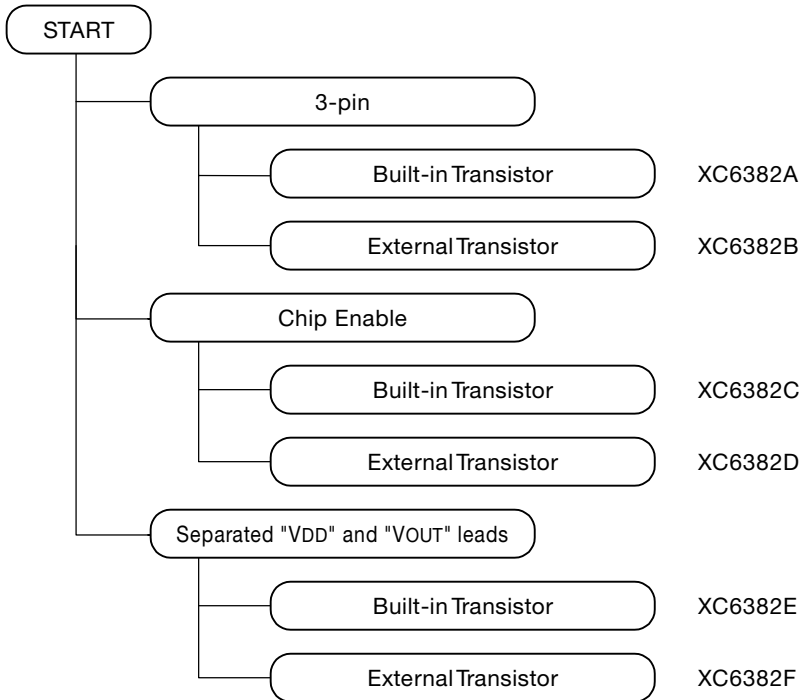
Note : Built-in Tr types use the Lx pin, external Tr.types use the EXT pin.
The CE pin is only used with the XC6382C and XC6382D.

(2) XC6382E and XC6382F



Note : The VDD pin is only used with the XC6382E and XC6382F.
Built-in Tr.types use the Lx pin, external Tr.types use the EXT pin.

Selection Guide



Ordering Information

XC6382①②③④⑤⑥

XC6382series PFM control Duty Ratio 75%

①	A	3-pin, Built-in switching transistor
	B	3-pin, External switching transistor
	C	Stand-by capability, (5-pin) Built-in switching transistor
	D	Stand-by capability, (5-pin) External switching transistor
	E	Separated VDD and VOUT, (5-pin) Built-in switching transistor
	F	Separated VDD and VOUT, (5-pin) External switching transistor
②		Output Voltage
③		e.g., VOUT=3.5V → ②=3, ③=5
④	1	OSC Frequency 100kHz
⑤	M	Package A ~ B → SOT-23 C ~ F → SOT-25
	P	Package A ~ B → SOT-89 C ~ F → SOT-89-5
⑥	R	Embossed tape. Orientation of device : Right
	L	Embossed tape. Orientation of device : Left