

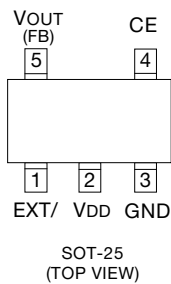
# XC6365/XC6366 Series

## PWM Controlled, PWM/PFM Switchable Step-down DC/DC Converter

### General Description

The XC6365/66 series are multi-functional step-down DC/DC converters with built-in high speed, low ON resistance drivers. An output current of more than 1A is possible using an externally connected transistor, coil, diode and capacitor. Output voltage is programmable in 0.1V steps between 1.5V to 6.0V (VOUT) (  $\pm 2.5\%$  accuracy ). Further, with 1.0V of standard voltage supply internal and using externally connected components, output voltage can be set up freely (FB). With a 300kHz switching frequency, the size of the external components can be reduced. Control switches from PWM to PFM during light loads with the XC6366 ( PWM/PFM switchable ) and the series is highly efficient from light loads to large output currents. In relation to soft - start time, both internally set-up 10msec types (A, B) and external resistor or capacitor regulated types (C, D) are available. During stand-by time (CE pin "Low"), current consumption is reduced to less than  $0.5\mu\text{A}$ . With U.V.L.O internal, the external Tr. Will be forcibly switched off if used below the stipulated voltage.

### Pin Configuration



### Features

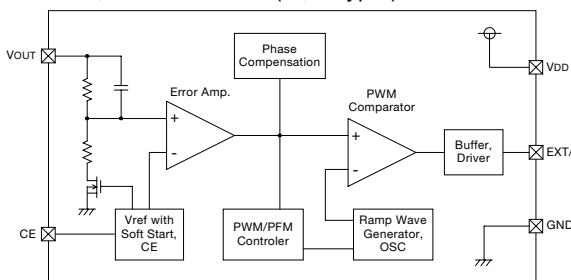
**Input voltage range:** 2.2V to 10V (VOUT type)  
**Output voltage range:**  
 1.5V to 6.0V programmable in 0.1V steps (  $\pm 2.5\%$  )  
**Oscillator Frequency:** 300kHz (  $\pm 15\%$  )  
 Custom products for 180, 500kHz  
**Output current:** 1.0A + (VIN = 5.0V, VOUT = 3.0V)  
**High Efficiency:** 92% (typ.)  
**Stand-by capability:** ISTB =  $0.5\mu\text{A}$  (max.)  
**Soft-start time set-up externally type possible**  
**Internally set-up output voltage type possible (VOUT)**  
**Externally set-up output voltage type possible (FB)**  
**Package:** SOT-25

### Pin Assignment

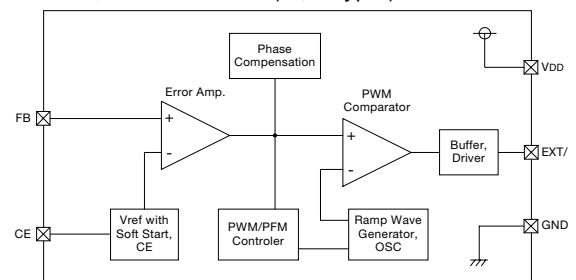
PIN NUMBER	PIN NAME	FUNCTION
1	EXT/	External Transistor Connection
2	VDD	Power Supply
3	GND	Ground
4	CE	Chip Enable Soft-start capacitor connection with softstart externally set-up types ( C, D )
5	VOUT (FB)	Output Voltage Monitor FB with externally set-up types ( B, D )

### Block Diagram

(1) XC6365, XC6366 Series ( A, C type )

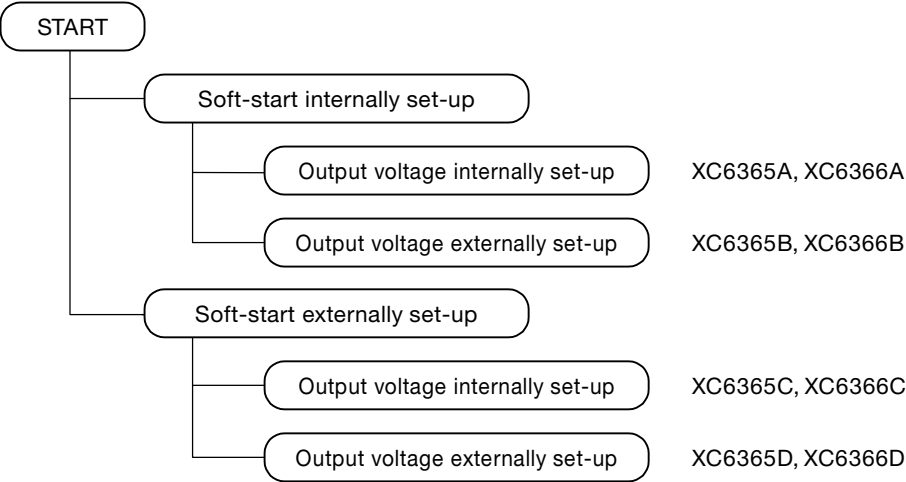


(2) XC6365, XC6366 Series ( B, D type )



4. DC/DC Converters

Selection Guide



Ordering Information

XC6365①②③④⑤⑥

XC6365series PWM control

①	A	VOUT type - internally set-up soft-start
	B	FB type - internally set-up soft-start
	C	VOUT type - externally set-up soft-start
	D	FB type - externally set-up soft-start
② ③	Output voltage e.g. 3.0V output ( ② = 3, ③ = 0 ), N.B. With FB (B,D) types( ② = 1, ③ = 0 )	
④	3	Oscillator frequency 300kHz
	5	Oscillator frequency 500kHz
	2	Oscillator frequency 180kHz
⑤	M	Package SOT-25
⑥	R	Embossed Tape : standard loading
	L	: reverse loading

XC6366①②③④⑤⑥

XC6366 series PWM/PFM switching control

①	A	VOUT type - internally set-up soft-start
	B	FB type - internally set-up soft-start
	C	VOUT type - externally set-up soft-start
	D	FB type - externally set-up soft-start
② ③	Output voltage e.g. 3.0V output ( ② = 3, ③ = 0 ), N.B. With FB (B,D) types( ② = 1, ③ = 0 )	
④	3	Oscillator frequency 300kHz
	5	Oscillator frequency 500kHz
	2	Oscillator frequency 180kHz
⑤	M	Package SOT-25
⑥	R	Embossed Tape : standard loading
	L	: reverse loading