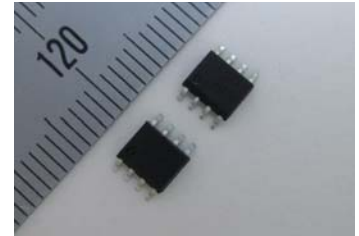


XC9248 Series



The XC9248 series is 18V bootstrap synchronous step-down DC/DC converter with built-in Nch-Nch driver transistors. With an input voltage range from 4.5V to 18V and a maximum output current of 2.2A, the series is suitable for digital home appliance and industrial equipment power supplies and can be used with small ceramic capacitors.

The series has a 0.8V reference voltage, and using externally connected resistors, the output voltage can be set freely from 1.0V to 12V.



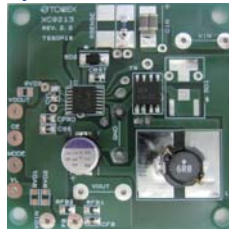
SOP-8FD
(6.0mmx4.9mmx1.55mm)



Miniaturization is achieved

Internal driver Tr. Synchronous rectification eliminates the need for a Schottky barrier diode. Space saving can be achieved because there are fewer external components than previous controller ICs.

Non Synchronous Controller



Mount Area
57% Reduction

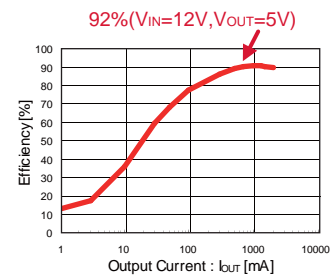
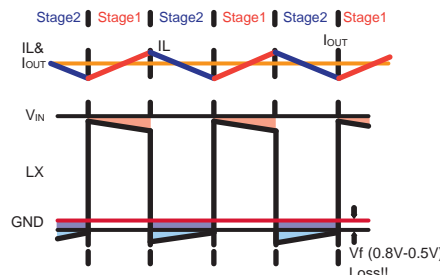
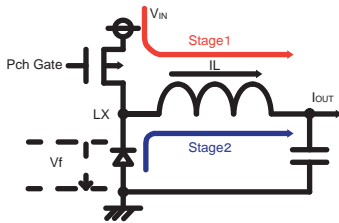


XC9248 Series

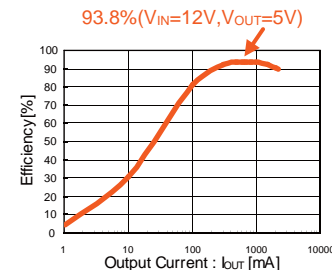
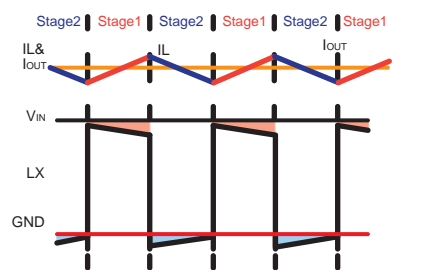
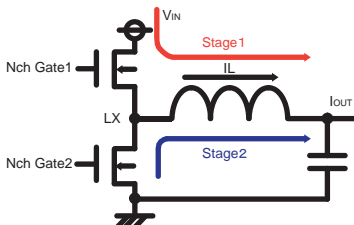


Synchronous rectification enables high efficiency

Non Synchronous Controller



XC9248 Series



Features		Protection Circuits	UVLO
Input Voltage	4.5V~18V		
Output Voltage	1.0V~12V	Short-circuit Protection	Over Voltage Protection
FB Voltage	$V_{FB}=0.8V \pm 1.5\%$, $\pm 40\text{ppm}/^\circ\text{C}$ ($-40^\circ\text{C} \leq \text{Topr} \leq 105^\circ\text{C}$)	Low-side Over Current Protection	
Output Current	2.2A	Package	SOP-8FD
Efficiency	93.8% ($V_{IN}=12\text{V}$, $V_{OUT}=5\text{V}$, $I_{OUT}=700\text{mA}$)		
Oscillation Frequency	500kHz		



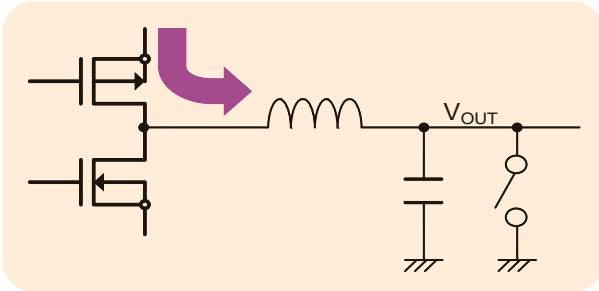
18V Driver Transistor Built-In Synchronous Step-Down DC/DC Converter **XC9248 Series**



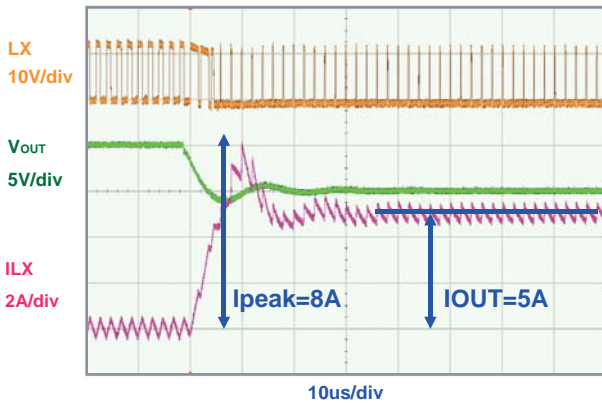
Low side driver current limit

The current limiting method can be selected from a latch type and an auto reset type to match the application. Low-side driver current limiting helps suppress current overlay when V_{OUT} is shorted.

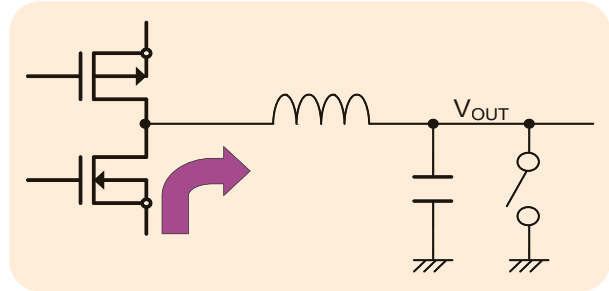
High-side Driver Current Limiter



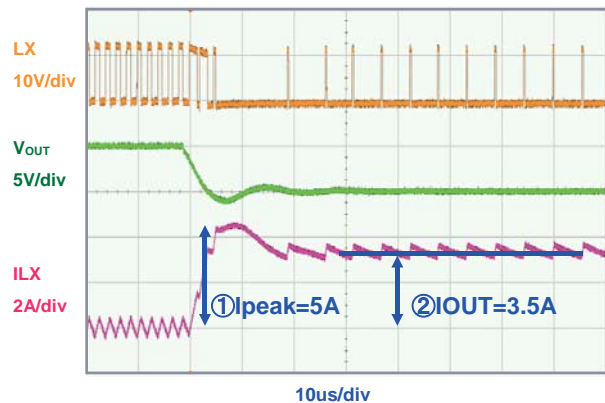
$V_{IN}=12V, V_{OUT}=5V \rightarrow$ SHORT GND



XC9248 Low-side Driver Current Limiter



$V_{IN}=12V, V_{OUT}=5V \rightarrow$ SHORT GND



Suppressing current overlay provides the following advantages:

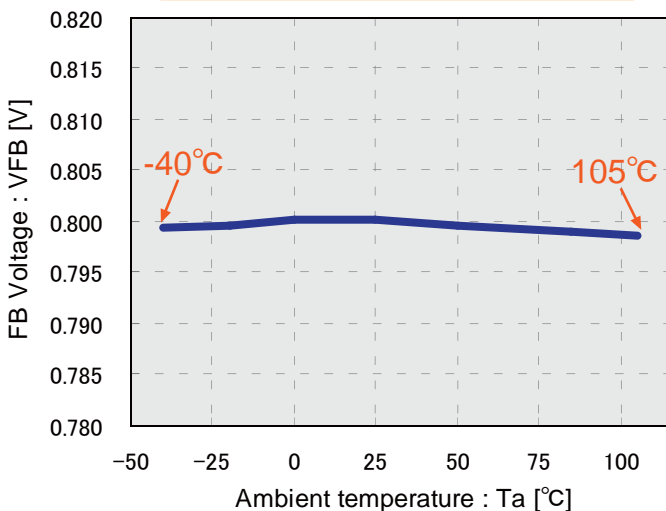
- I_{peak} is suppressed to prevent rush current.
- I_{OUT} is suppressed to prevent heat generation.



High accuracy FB voltage and switching frequency. Supports an operating temperature of 105°C.

High FB voltage accuracy of 1.5%, high-accuracy internal reference voltage with a temperature characteristic of 40ppm/°C. High switching frequency accuracy of ±10%, minimal temperature dependence enables easy noise design.

FB Voltage $V_{IN}=12V$



Oscillation Frequency $V_{IN}=12V$

