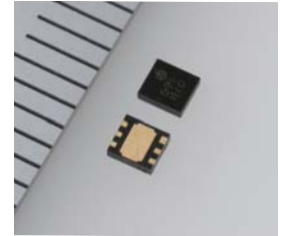


Low ON resistance(85mΩ) High Function Power Switch

# XC8107/XC8108/XC8109 Series



The XC8107/XC8108/XC8109 series are high-function power switch ICs with an internal Pch MOS. These ICs are ideal as a USB high-side switch, for power line distribution, and as a load switch for load breaker applications. As an additional function, the XC8107 series includes overcurrent limiting with an accuracy of ±10%. On the XC8108/XC8109 series, an external resistor can be used to set the current limit to a value from 0.075A to 2.4A. The flag pin is an Nch open drain that detects abnormal system states such as overcurrent, reverse current, and overheating, and outputs Low level. The IC is housed in the small USP6C package or the standard SOT-25 package (XC8107 only).



USP-6C  
(1.8x2.0x0.6mm)

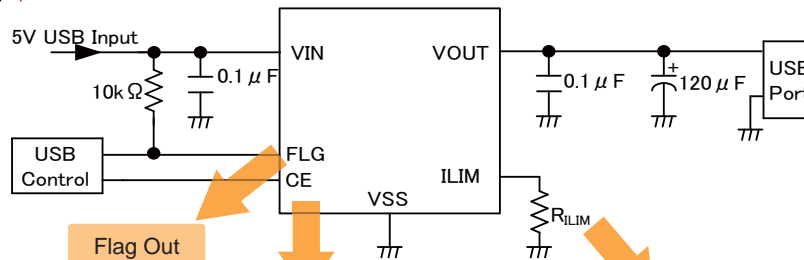


Features a variety of additional functions and protective circuits

Internal soft-start function (0.6 ms)

Reverse current protection

Internal UVLO circuit (1.9V detection, 2.0V release)



Flag output reports over current conditions on USB VBUS as well as over heating or reverse current

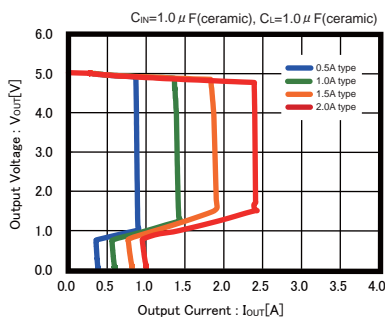
CE pin input logic selection

Adjustable Current Limit (XC8108/XC8109)



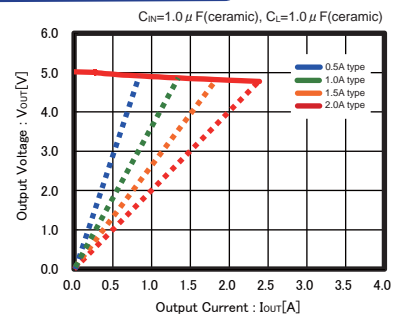
Auto reset and latch-off types are selectable

## Auto reset types(XC810xxC)



Automatically resets when overcurrent state or reverse voltage state stops

## Latch-off types(XC810xxD)



Even after the overcurrent or reverse voltage state stops, the switching transistor is latched to the OFF state. When the input voltage or CE voltage is reapplied, latch operation is cancelled.

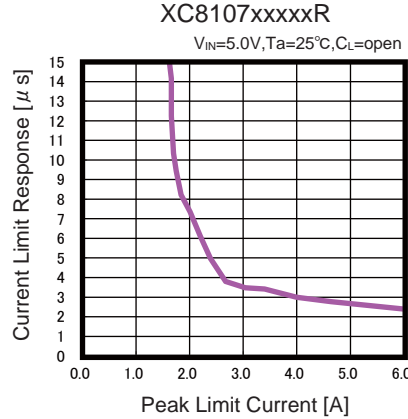
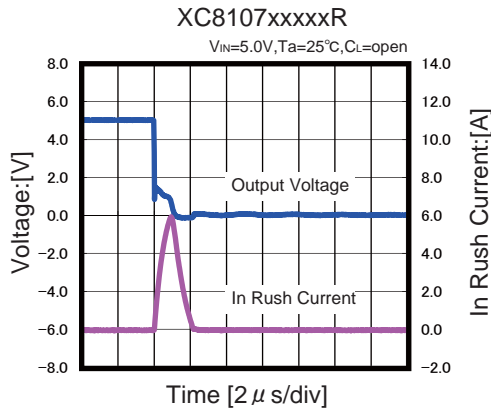
Features			
ON Resistance	85mΩ (VIN=5.0V USP-6C)	Flag Function	Over-current detection, Reverse voltage detection
Input Voltage	2.5V~5.5V(Operation Voltage 6V)		Overheat state detection
Supply Current	40 μA	Protection Circuit	Reverse Current, Soft-start, Over Current
Maximum Recommended Output Current (Current limit set)	XC8107: 0.5A(0.9A), 1.0A(1.4A), 1.5A(1.9A), 2.0A(2.4A)	Functions	Flag Output, CE Pin Input Logic Selectable
	XC8108: 2.0A(0.9A~2.4A)	UVLO Function	Detect Voltage(1.9V), Release Voltage(2.0V)
	XC8109: 0.9A(0.075A~1.3A)	Packages	USP-6C, SOT-25(XC8107 only)



Low ON resistance(85mΩ) High Function Power Switch XC8107/XC8108/XC8109 Series



Current limiting responds quickly (in 2μs) when an output short occurs

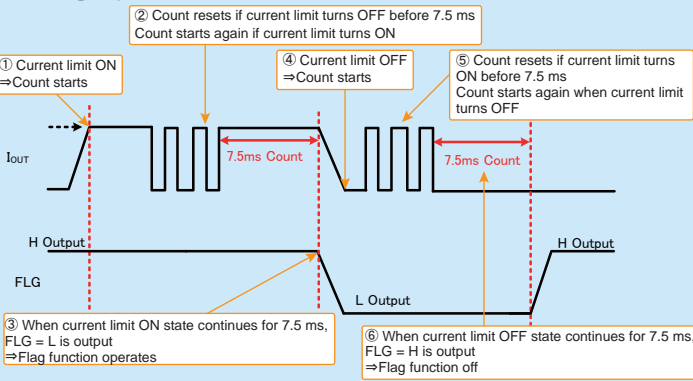


High-speed short-circuit protection reduces effects on the power line



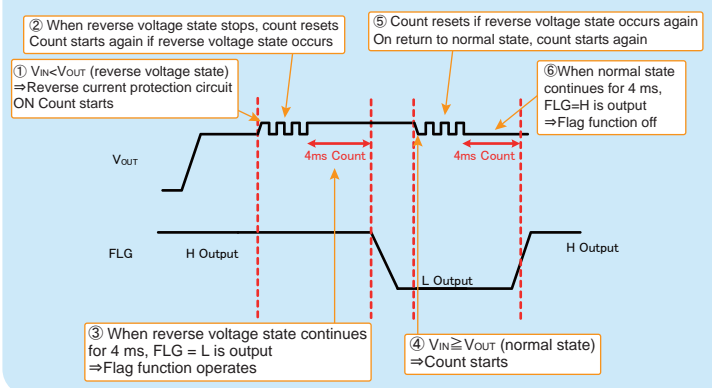
Abnormal system state detection with flag function

Flag operation when overcurrent occurs



When overcurrent state continues for 7.5ms (TYP.), flag pin outputs Low level

Flag operation during reverse current protection

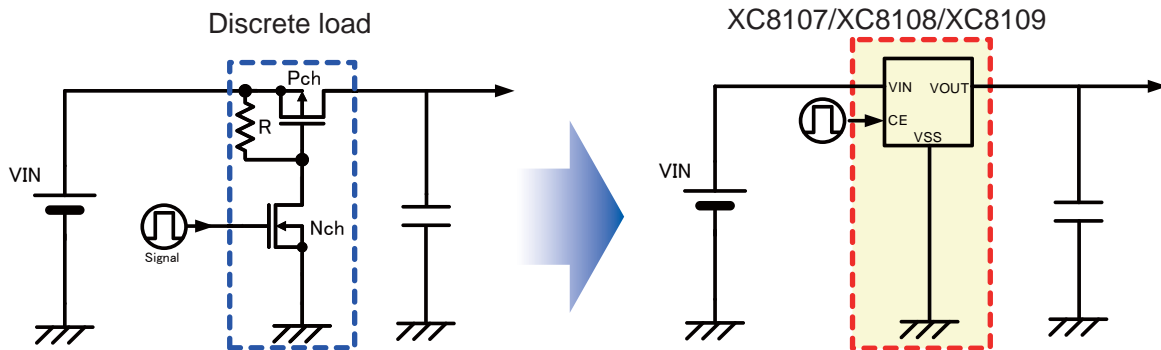


When reverse current state continues for 4ms (TYP.), flag pin outputs Low level

The flag function for detection of abnormal system states contributes to the simplification of sequence control circuit design



Ideal for a low ON resistance (85mΩ) load switch



Low ON resistance Pch FET and integration of peripheral circuits into one chip contribute to space saving and higher device reliability through reduction of the number of components

