

One-Channel High Power LED Controller

General Description

The OCP8172 is a high power LED driver, non-synchronous boost controller. The OCP8172 can be used for the LED backlight in LCD panels. It is designed for current mode control power converters that require a single drive output, such as boost LED driver and SEPIC topologies.

The OCP8172 is suitable for topologies which require a ground source N-channel FET including boost, SEPIC and various LED driver applications.

The device features include programmable oscillator frequency, power MOSFET over-current protection (OCP), over-voltage protection (OVP), under-voltage lock-out (UVLO), output to ground short-circuit protection (SCP), LED-short protection and Over Temperature protection (OTP). A soft-start feature is provided to minimize in-rush current during start-up.

The OCP8172 is available in SOP-14L and SSOP-10L package, and it is RoHS compliant. Operating temperature range of the OCP8172 is from -40°C to 85°C.

Features

- Wide Supply Voltage Range: 4.0V ~ 25V
- For Boost, SEPIC, LED Driver Applications
- Number of LEDs in series limited by external MOSFETs rating
- External Enable Control
- EN/IFB PWM Dimming Control
- Frequency adjustable: 100KHz ~ 800KHz
- Over-voltage Protection (Open-LED Protection)
- Short-LED Protection
- Output to Ground Short-circuit Protection
- Boost Diode Open Protection
- Power MOSFET Current Limited
- Low in-rush Current Soft-start Function
- Under-voltage Lock-out
- Thermal Shutdown
- Low Standby Current
- T_A = -40 ~ 85 °C
- Available in SOP-14L and SSOP-10L Package

Applications

- LCD White LED Backlighting
- LCD TVs
- Automotive and Infotainment Displays
- Battery Powered Systems
- Industrial Control Systems

Pin Configuration

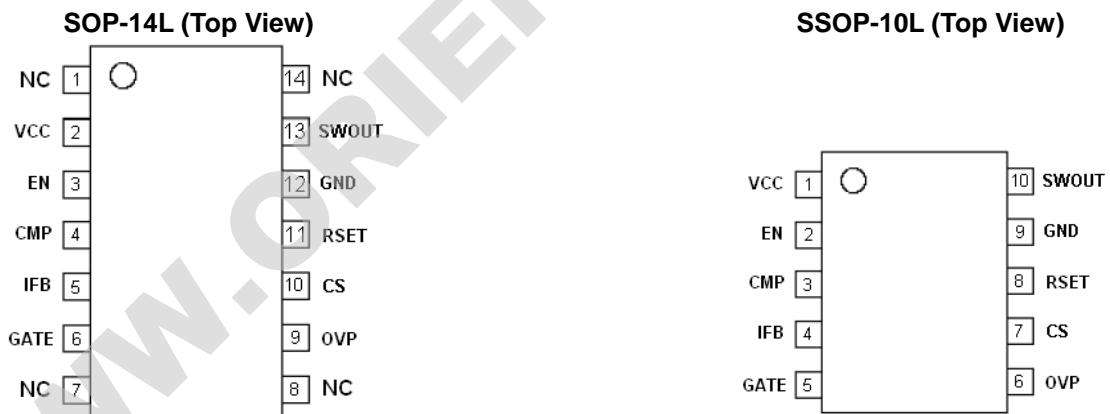


Figure 1, Pin Assignments of OCP8172

Pin Name	Pin No.		I/O	Pin Function
	SOP-14L	SSOP-10L		
VCC	2	1	P	Input Power for controller and internal MOSFET driver
EN	3	2	I	ON/OFF control for the controller
CMP	4	3	I/O	Output of the error amplifier
IFB	5	4	I	LED Current Sense Input
GATE	6	5	O	MOSFET driver control
OVP	9	6	I	Output over-voltage protection sense
CS	10	7	I	Current/Voltage sense pin
RSET	11	8	I/O	Resistor to set operation frequency
GND	12	9	P	Ground
SWOUT	13	10	O	Boost Power MOSFET Drive Output
NC	1/7/8/14	-	-	Not Connected.



Typical Application Circuit

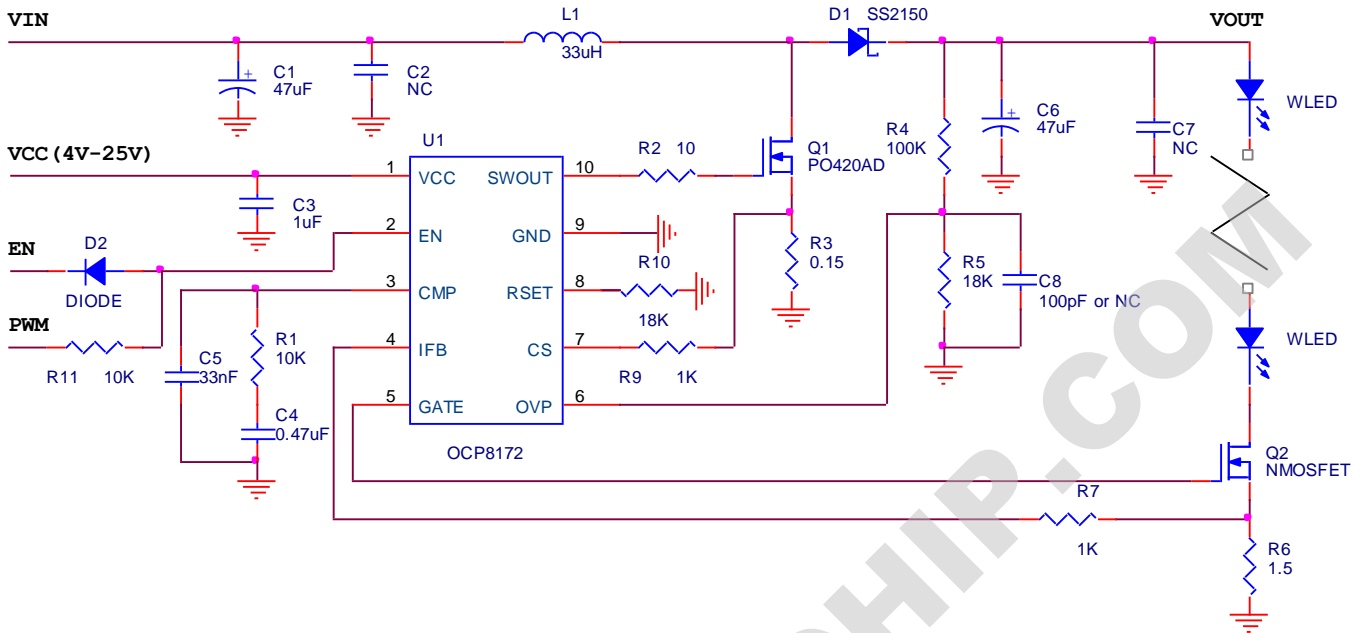


Figure 2, Typical Application Circuit of OCP8172

Ordering Information



Part Number	Package Type	Package Qty	Temperature	Eco Plan	Lead
OCP8172SAD	SOP-14L	13-in reel 2500pcs/reel	-40~85°C	Green	Cu
OCP8172SD	SOP-14L	50pcs/Tube	-40~85°C	Green	Cu
OCP8172SSAD	SSOP-10L	13-in reel 2500pcs/reel	-40~85°C	Green	Cu
OCP8172SSD	SSOP-10L	100pcs/Tube	-40~85°C	Green	Cu

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