



## NXP 75 to 400 W resonant controller with PFC SSL4120T

# Combo PFC/HBC for efficient & cost-effective high-power LEDs

This Greenchip solution, combining a PFC and an HBC, delivers high efficiency ( $>93\%$ ), low THD ( $<10\%$ ), and high PF ( $>0.97$ ) in high-power LED applications from 75 to 400 W.

### Key features

- ▶ Integrated PFC and HBC
- ▶ Universal mains operation: 90 to 305 V
- ▶ High efficiency due to valley/zero voltage switching
- ▶ PFC in boundary mode operation with on-time control
- ▶ HBC burst mode switching
- ▶ Constant-current or constant-voltage configurations
- ▶ Fully protected (OVP, SCP, OTP)
- ▶ Dimmable

### Key benefits

- ▶ High efficiency for high-power lighting
- ▶ Low THD and high PF to meet lighting regulations
- ▶ Compact design
- ▶ Cost-effective solution

### Applications

- ▶ Indoor and outdoor high-power LED lighting
- ▶ Office panel lighting
- ▶ High-bay and low-bay lighting
- ▶ Parking garages and area lighting
- ▶ Street lighting

The NXP SSL4120T is a highly efficient LED power supply solution for designs ranging from 75 to 400 W. It integrates a power factor correction (PFC) controller and a controller for an LLC resonant half-bridge converter (HBC) for powers up to 400 W. The maximum PFC frequency of 380 kHz enables compliance with THD regulations.

The SSL4120T enables efficient direct start-up from rectified true universal mains voltage from 90 to 305 V.

Enabling a topology that includes a PFC circuit and a resonant converter, the SSL4120T is a flexible solution that can be used in a broad range of applications that operate in the wide mains voltage range. In particular, combining PFC and HBC controllers in a single IC makes the SSL4120T ideal for use in power supplies that support high-power LED applications.

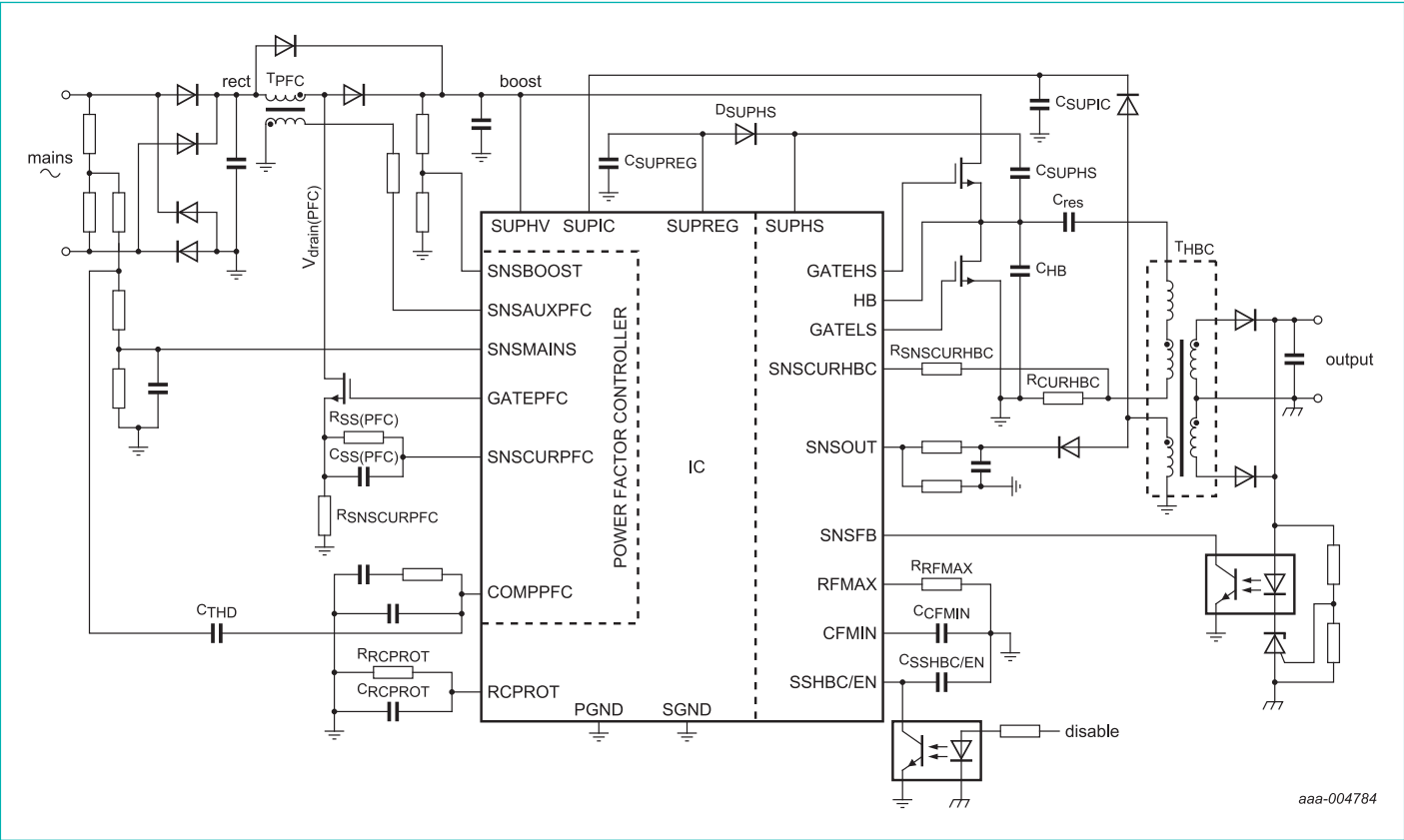
It is a cost-effective, efficient solution for high- and low-bay lighting, parking garages, area lighting, street lighting, and other high-power LED applications. It is an excellent choice for any LED lighting application that requires very efficient, low total harmonic distortion (THD), high power factor, true universal input voltage, and cost-effective operation.



The long life time of LED lamps, in combination with their impressive energy savings, results in a significant reduction in energy use (supporting a greener environment at very low energy cost), and low maintenance costs.

The SSL4120T joins NXP's other ICs for high-power LED applications, including the award-winning SL4101T, a PFC and flyback controller for power ranges of 25 to 150 W.

SSL4120T basic application diagram



Type number	Mains	Lamp power	MOSFET	Package
SSL4120T	90 to 305 V	75 to 400 W	external	SQ24

