



## L6585DE Combo IC for PFC and Ballast Control

### General Description:

The L6585DE embeds a high performance PFC controller, a ballast controller and all the relevant drivers necessary to build an electronic ballast.

The PFC section achieves current mode control operating in transition mode, offering a highly linear multiplier including a THD optimizer that allows for an extremely low THD, even over a large range of input voltages and loading conditions.

The PFC output voltage is controlled by means of a voltage-mode error amplifier and a precise internal voltage reference.

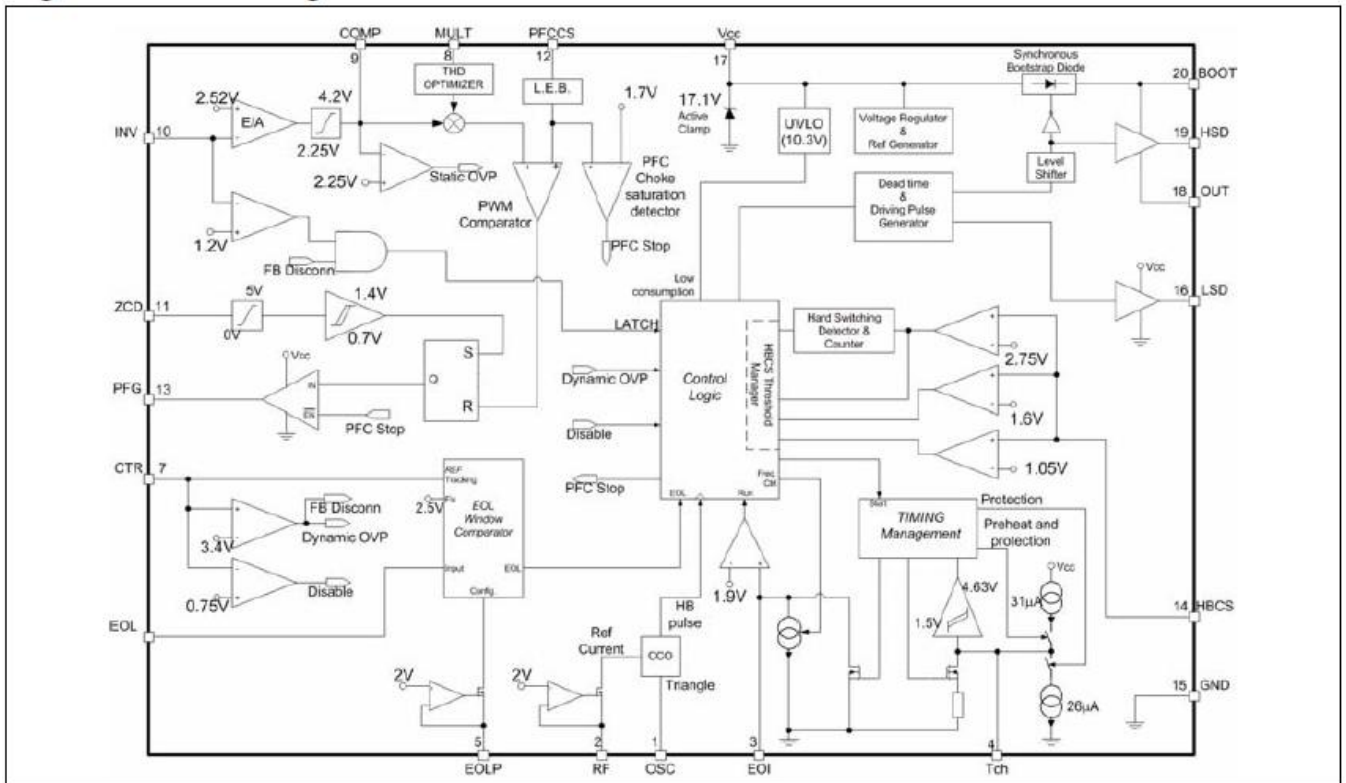
The ballast controller offers the designer a very precise oscillator, a logic that manages all the operating steps and a full set of protection features:

- Programmable end-of-life detection, compliant with both lamp-to-ground and capacitor to-ground configurations
- Over-current protection with either current limiting or choke saturation protection
- Hard switching events detection

High current capability drivers for both the PFC (300 mA source and 600 mA sink) and the half-bridge (290 mA source and 480 mA sink) also allow ballast designs for very high output power (up to 160 W).



Figure 1. Block diagram



## Key Features:

- PFC section
  - Transition mode PFC with over-current protection
  - Over-voltage protection
  - Feedback disconnection
  - Under-voltage lockout
  - PFC choke saturation detection
  - THD optimizer
  
- Half-bridge section
  - Preheating and ignition phases independently programmable
  - 3 % oscillator precision
  - 1.2  $\mu$ s dead time
  - Programmable and precise end-of-life protection compliant with all ballast configurations
  - Smart hard switching detection
  - Fast ignition voltage control with choke saturation detection
  - Half-bridge over-current control

## Applications:

- TM PFC operation
- Leading edge blanking
- THD optimizer feature
- Over-voltage protection
- Disabling the L6585DE
- Feedback disconnection protection
- PFC over-current protection

## Related Products Information:

Mfr Part #	Farnell #	Newark #	Description
L6585DE	1798466	25R7852	L6585DE Combo IC for PFC and ballast control - SOIC-20