



L6462A

6-pin TM PFC controller with current mode control



Industry-first 6 pins current mode transition mode PFC: Optimized for cost-sensitive, energy-efficient solutions

L6462A simplifies the design of high-performance PFC converters in a wide range of applications up to 300 W.

No input voltage sensing or auxiliary windings are required: L6462A's proprietary current-mode control manages inductor peak current directly and ensures top-tier efficiency and low THD across the entire load range.

KEY FEATURES AND BENEFITS

- Extremely Low standby consumption
- No input voltage sensing
- Maximum frequency limitation with valley skipping, valley lock
- Very low THD in all operating conditions
- Demagnetization sensing via gate driver, no aux winding needed, simpler and cheaper inductor
- Overvoltage and feedback failure protections
- Inductor saturation detection
- Very deep burst-mode threshold

KEY APPLICATIONS

- LED lighting
- High end battery chargers
- TV power supply
- Adapter up to 240 W



Best in class

Performance

L6462A is the industry's first current-mode PFC controller in a 6-pin package, providing a turnkey solution for SMPS up to 300 W. It ensures exceptionally low Total Harmonic Distortion (THD) across a broad load range by using a proprietary current reference generator (CRG) and current reference shaper (CRS). These circuits maintain a sinusoidal input current during both transition mode (TM) and Discontinuous Conduction Mode (DCM) operations.

Compact

Designed to minimize the system footprint, this device enables highly compact PCB layouts by utilizing a miniaturized SOT23-6L package. Its advanced architecture eliminates the need for input voltage sensing and removes the requirement for an auxiliary winding by sensing demagnetization directly via the gate driver, significantly reducing the overall solution size.

Cost saving

L6462A is engineered for cost-sensitive applications like AC-DC adapters and LED luminaires. By removing the classical analog multiplier and reducing the external component count, it simplifies the bill of materials (BOM). This streamlined 6-pin approach provides a high-performance PFC pre-regulator while maintaining a competitive price point for mass-market power supplies.

Robust and flexible

The controller offers a comprehensive suite of safety features, including overvoltage, feedback failure, and inductor saturation protections. It's highly flexible, supporting wide-range mains operation (90 VAC to 264 VAC) and providing a -300/+600 mA totem-pole gate driver. Valley Skipping with Valley Lock function ensure stable operation and prevent audible noise during load variations.

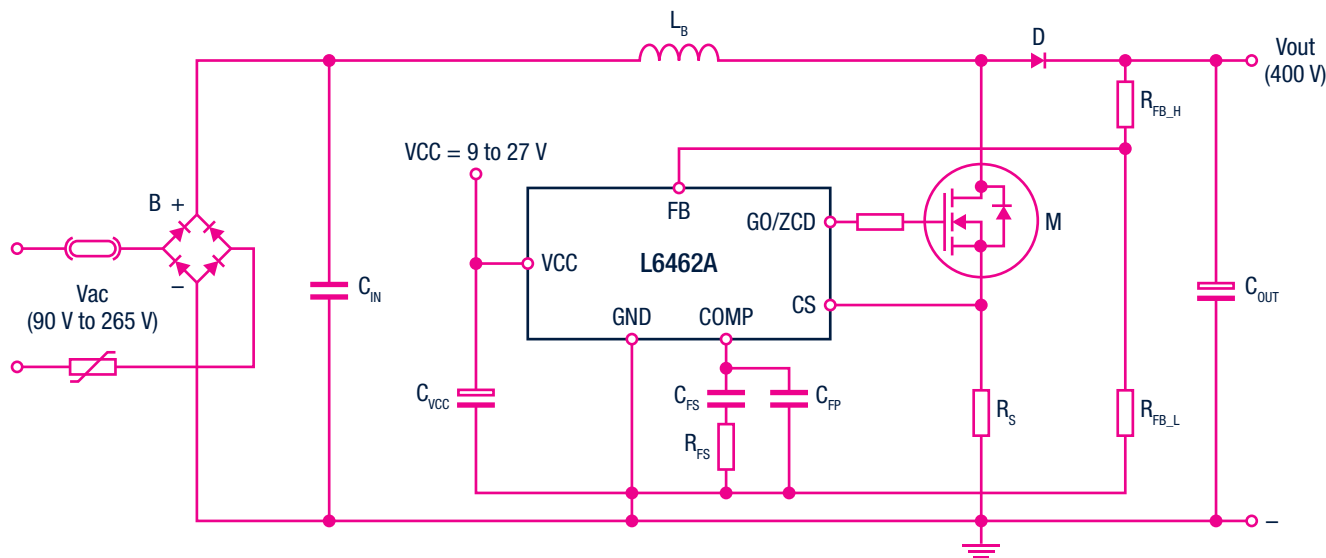
Power consumption

Optimized for high-energy efficiency and sustainability standards, the device features a very low start-up current (<60 μ A) and a reduced quiescent current (<1.1 mA). An automatic burst-mode function is implemented for light-load conditions, drastically reducing power consumption and helping designs comply with the strictest global energy regulations.



EVL6462A-250W-M
250W TM PFC Based on L6462A (with MOSFET)

Block diagram



Main characteristics

Part number	Description	Package	Topology	Evaluation board order code
L6462A	Current mode six-pin boost PFC controller	SOT23 6L	Current-mode TM PFC controller	EVL6462A-250W-M



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