

STNRG012

Digital multimode PFC and LLC resonant controller



New digital combo PFC&LLC controller featuring DC source management for LED lighting and industrial applications

STNRG012 is the ideal controller for 90 W to 300 W power converters in compliance with the most stringent energy saving requirements. The controller features patented logic to ensure very high PF and best-in-class THD, even at low loads. The ability to immediately transition between AC and DC voltage inputs makes it highly suitable for LED lighting applications with battery pack backup supplies.

KEY FEATURES & BENEFITS

- PFC + Resonant controllers embedded
- Management both AC and DC input line
- 800V HV start up circuit embedded
- Advanced THD optimizer manages critical THD for lighting applications
- High parameter configurability in NVM memory
- Enhanced burst mode at low load
- S020 package

KEY APPLICATIONS

- LED lighting
- Emergency lighting
- Industrial and medical equipment



The STNRG012 delivers sophisticated control of various blocks to ensure efficient conversion and highly regulated output across all loads, as well as smooth transition between AC and DC voltage inputs. The device features a multiple (transition and discontinuous conduction) mode PFC controller, a high voltage double-ended time shift controller for LLC resonant half-bridge, and an 800 V start up generator.

The STNRG012 can manage a wide range of AC and DC (for battery connection) input voltages. It is highly suitable for SMPS applications in the 90-300 W power range, which may

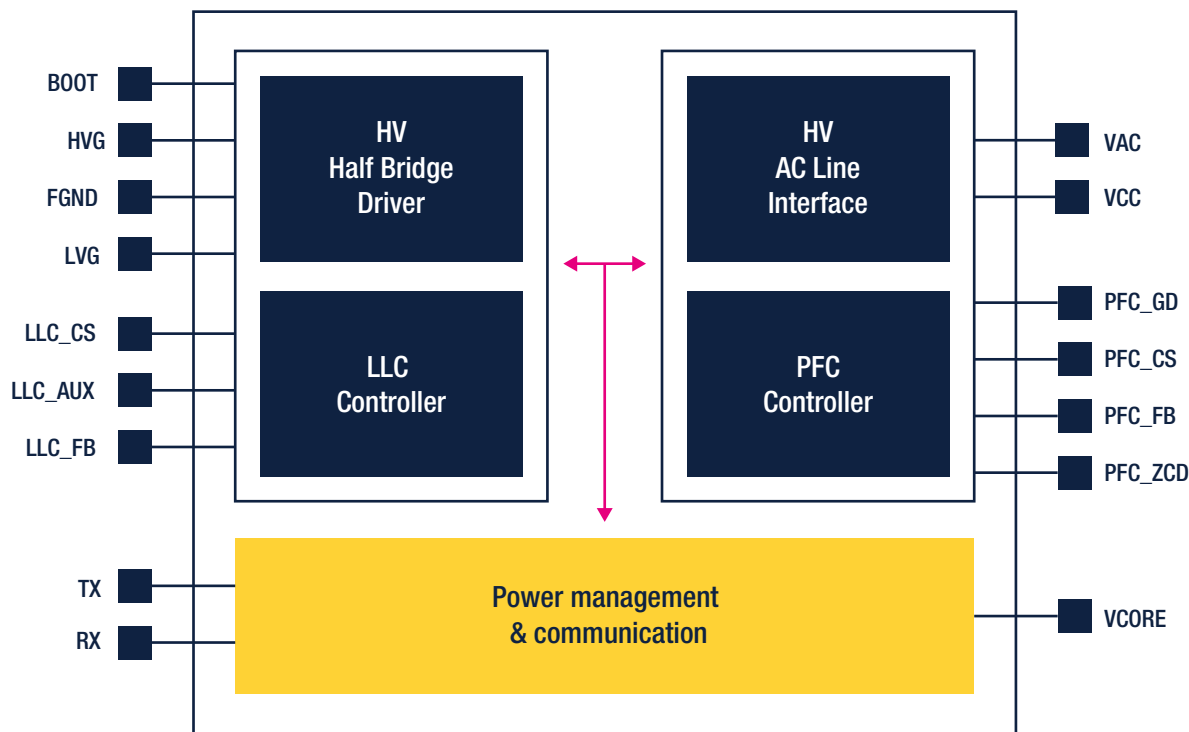
require rapid transition between AC mains and DC battery supplies, such as emergency lighting.

A proprietary THD algorithm ensures tight distortion control and very high conversion efficiency for compliance with the most stringent energy saving regulations.

An 8-bit core with dedicated peripherals manages the logic engines stored in internal ROM, together with key parameters that can be fully programmed during the production phase for maximum configurability and flexibility.

The device can also communicate via UART for monitoring purposes, access to black box data regarding operation history, software patching, and test modes.

The STNRG012TR represents a highly competitive strategy in terms of time to market and overall costs. It presents power supply designers with customizable performance and operation, along with the opportunity to deliver more compact solutions featuring lower BoM counts and less complexity.



Order code	Package	Packing	Evaluation board	Documentation
STNRG012	S0-20	Tube	EVL012LED, STEVAL-PCC020V2	AN5674, UM2837, UM2945
STNRG012TR		Tape & Reel		



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