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NCP1910GEVB:NCP1910DEMO-B-TLS

Evaluation Board Description

The NCP1910 is a state-of-the-art integrated circuit aimed at powering next generation ATX or flat TV power converters. It integrates a Continuous Conduction Mode Power Factor Correction Controller and a LLC controller with high-voltage gate drivers into a single SOIC-24 package. This demonstration board illustrates how to build a NCP1910 based power supply capable of reaching the Climate Savers Computing Initiative Gold efficiency level for single-output ATX power supply. In order to achieve the stringent efficiency requirements (minimum efficiency of 80% @ 10% load, 88% @ 20 & 80% load, and 92% @ 50% load), the PFC circuit implements an adjustable frequency fold back to reduce switching losses as the load decreases. In addition, secondary side synchronous rectification based on the NCP4303 has been used to improve the efficiency at heavy load.

To cope with the signal sequencing required by ATX and flat TVs specifications, the controller includes several dedicated pins for handshaking between the secondary and the primary sides. These signals include a power-good line and a control pin which turns the controller on and off via an opto coupler. Safety features include a dedicated OVP input, which offers redundant protection in case the main feedback network fails. Finally, a fast fault input immediately reacts in the presence of an over current condition by triggering an auto-recovery soft-start sequence. The standby power supply is based on the NCP1027.



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Features and Applications

Features

- Input voltage range: 90-265 Vrms
- Maximum Output Power: 310 W
- Minimal efficiency @ 10, 20, 50 & 100% of load: 80, 88, 92 88 % (CSC Gold level)

Evaluation Board Information

Evaluation Board	Status	Pb-free	Short Description	Parts Used	Action
NCP1910GEVB	Active		NCP1910DEMO-B-TLS	NCP1027P065G, NCP1910B65DWR2G, NCP4303ADR2G	» Contact Local Sales Office

Technical Documents

Type	Document Title	Document ID/Size	Rev
Eval Board: BOM	NCP1910GEVB Bill of Materials ROHS Compliant	NCP1910GEVB_BOM_ROHS.PDF - 182.0 KB	0
Eval Board: Gerber	NCP1910GEVB Gerber Layout Files (Zip Format)	NCP1910GEVB_GERBER.ZIP - 89.0 KB	0
Eval Board: Schematic	NCP1910GEVB Schematic	NCP1910GEVB_SCHEMATIC.PDF - 200.0 KB	0
Eval Board: Test Procedure	NCP1910GEVB Test Procedure	NCP1910GEVB_TEST_PROCEDURE.PDF - 550.0 KB	0