

YX5311 6-48V Input, 12V Output Isolated Power EVB Manual

1 Description and Features

This EVM is built to evaluate the performance of YX5311, which is an isolated flyback converter. It has high efficiency over a wide input voltage range of 6V to 48V. It directly measures output voltage from the primary side flyback waveform and no needs opto-coupler or third winding for regulation. Only a single resistor required to set the output voltage. Internal compensation and soft-start functions decreases the number of external components. The YX5311 provides 5.5V gate drive voltage to drive external N-channel MOSFET or GaN. To maintain the high efficiency and minimize the output voltage ripple, the YX5311 operates in Burst Mode at light load. The main features of YX5311 can be concluded as bellow and can be evaluated on the demo board :

- Internal compensation
- Low input quiescent current
- Shut down and Enable control
- High efficiency at light load mode (DCM)
- Build-In UVLO and short circuit protection
- Over current and over temperature protection
- Gate driver with 5.5V gate drive voltage for N-channel MOSFET or GaN

2 Board Specifications

Table 1 Board specification

| Parameter | Value | Unite |
|---------------------------|---------------------------|-------|
| Input Voltage | 6 to 48 | V |
| Output Voltage | 12 | V |
| Maximum Output Current | 1(Vin=6V) 2(48≥Vin≥12) | A |
| Rated switching frequency | 175 @12Vin,2A Load | kHz |
| Board Size | 7.0x6.5 | cm |