YX2645-Bidirectional Buck Controller EVM Manual

1、Description and Features

This EVM is built to evaluate the performance of YX2645, which is a bidirectional buck controller. It has wide input and output range, compatible to drive GaN or Si FET. This is extremely suitable for wide input voltage range system such as battery powered system and bidirectional USB TYPE-C charger system. The main features of YX2645 are listed in bellow and can be evaluated on the demo board:

- Programmable soft start time
- Adjustable switching frequency and dead time
- 5V Driver supply voltage for Si FET or GaN FET
- Programmable input and output current limits
- Bidirectional power path control

2、Board Specifications

The YX2645 EVM features a two-switch buck-boost converter based on YX2645 wide vin buck controller. This converter is designed to operate from input voltage from 10V to 15V(typical 12V) and provide a 1.5V to 5V regulated output with a load current of up to 10A. The board specifications are listed in Table 1.

Table 1 Board specification

Parameter	Value	Unite
Input Voltage	12	V
Output Voltage	4.2	V
Minimum Output Voltage	1.5	V
Maximum Output Current	10	A
Default Switching frequency	400	kHz
Board Size	60X75	mm