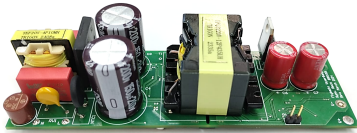


20 V/80 W flyback converter based on VIPERGAN100 for chargers and industrial applications



Fully assembled board developed for performance evaluation only,
not available for sale

Features

- Offline quasi-resonant flyback converter
- Dynamic blanking time and valley synchronization function
- Adaptive synchronous rectification controller to increase the system efficiency
- PWM interface for output current control
- Input voltage: Universal from 90 to 135 V ac with 47 to 63 Hz
- Interface for PWM signal: 3.3 V / 10 kHz
- Output power: 80 W maximum
- Peak efficiency: >92% at max load
- Board dimensions: 39.12 mm x 121.92 mm
- PCB copper thickness: 2oz

Description

The **STDES-VGAN100F1** is an isolated 80 W quasi-resonant SMPS based on **VIPERGAN100**.

This controller is a high-voltage converter designed for medium power flyback converters, capable of providing an output power up to 80 W with output current adjustable via PWM interface.

The device offers protection features that considerably increase the end-product's safety and reliability: output voltage protection, overtemperature protection (OTP), overload protection (OLP), brown-in/out protection. All these protections are in auto-restart mode.

To increase the system efficiency, synchronous rectification based on the **SRK1001** at the secondary side is used.

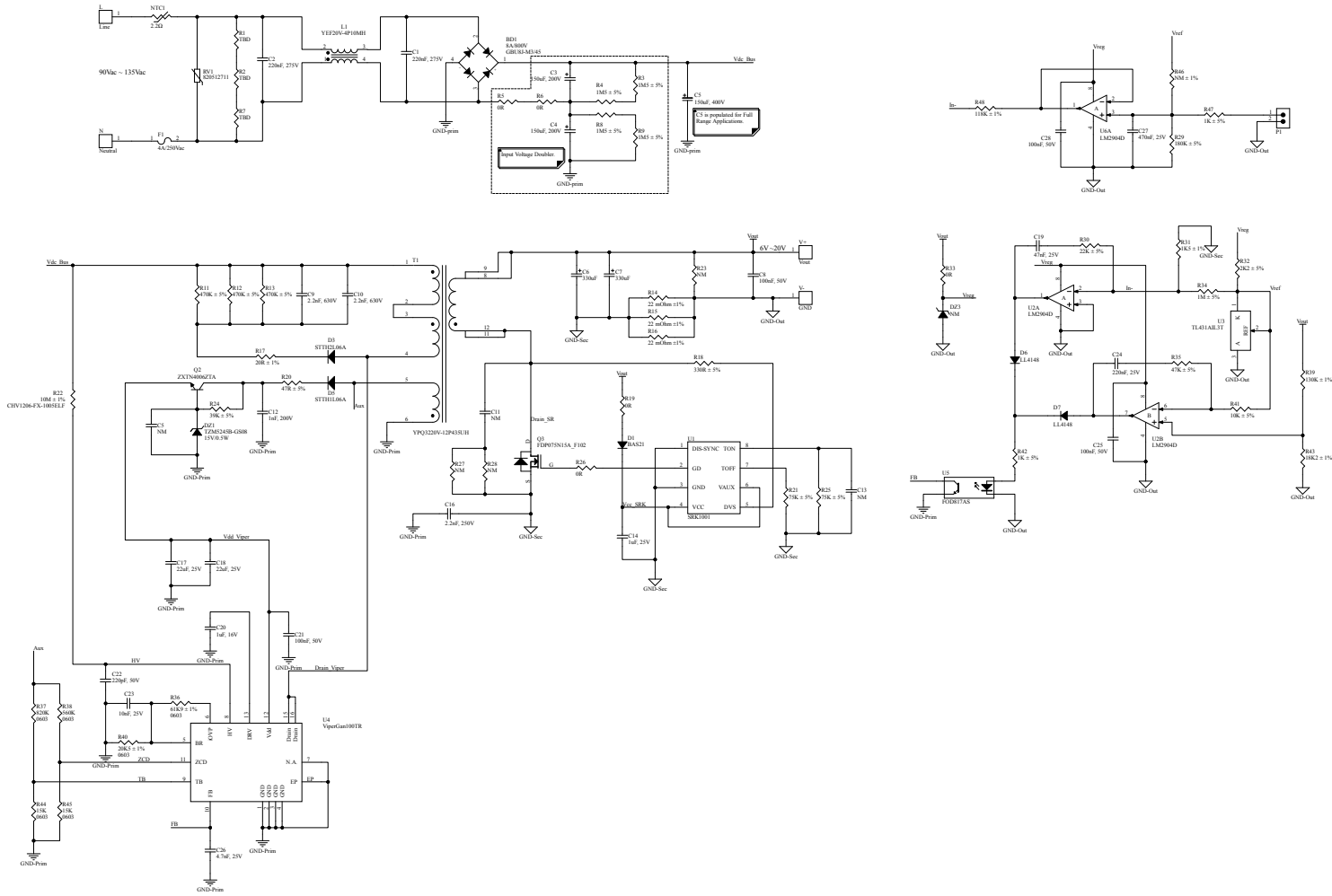
The secondary side also uses an **LM2904** operational amplifier to regulate the output voltage and to limit/control the output current.

The **STDES-VGAN100F1** design helps designers to develop adapters with a short bill of materials to obtain a cost-effective solution and a fast time to market design.

Product summary	
20 V/80 W flyback converter based on VIPERGAN100 for chargers and industrial applications	STDES-VGAN100F1
Advanced quasi-resonant offline high voltage converter with E-mode GaN HEMT	VIPERGAN100TR
Adaptive synchronous rectification controller for flyback converter	SRK1001
Low power, bipolar op-amp	LM2904D
Applications	Flyback converter

1 Schematic diagrams

Figure 1. STDES-VGAN100F1 circuit schematic



Revision history

Table 1. Document revision history

Date	Revision	Changes
05-Nov-2024	1	Initial release.

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