STDES-SICGPHU3

Data brief

Testing platform of SiC MOSFET for packages HU3PAK

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

Features

- Half Bridge structure assembled by Power SiC MOSFETs in HU3PAK package
- Both Power MOSFETs are driven by STGAP2HS. Isolated gate drive optimized for SiC MOSFETs
- Isolated gate drivers are supplied by isolated fly-buck converter based on L6596I
- Preset 18 V/-3 V supply voltage for output stage of isolated drivers
- Possibility to set a specific gate voltage positive and negative level
- Possibility to set gate resistor
- Low inductance sense resistor
- Prepared for coaxial shunt resistor for higher bandwidth of current measurement
- Working voltage up to 1 kV

Description

The testing board contains a half-bridge (HB) structure based on two high voltage SiC MOSFETs. The MOSFETs are controlled by isolated gate drivers, which are supplied by isolated DC-DC converters. The system requires external connections for an inductor, source, load, auxiliary supply, and PWM signals. It can be used for testing operation in buck or boost configuration. It is possible to use a low inductance shunt or assemble a coaxial shunt to measure current through the low side MOSFET. In this perspective, the board can be used as a tool for double pulse test (DPT).

Product summary	
Testing platform of SiC MOSFET for packages HU3PAK	STDES-SICGPHU3
Galvanically isolated 4 A single gate driver for SiC MOSFETs	STGAP2SICSCTR
38V, 5W synchronous iso-buck converter	L6986ITR
Applications	DC-DC Converters

1 Schematic diagrams

Figure 1. **STDES-SICGPHU3 circuit schematic (1 of 2)**

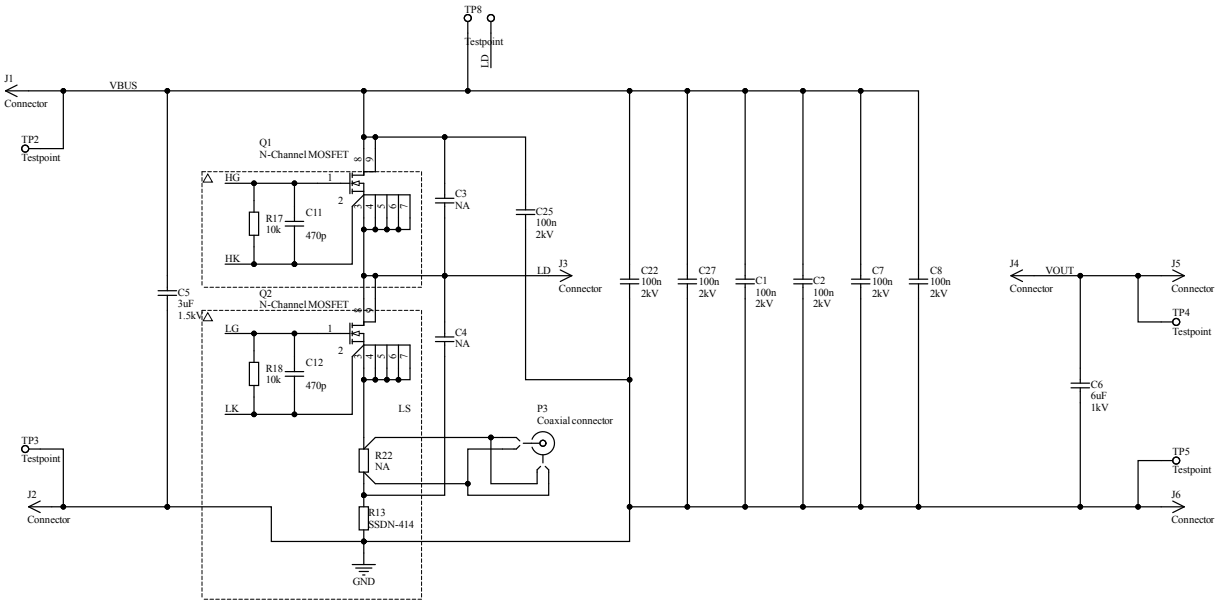


Figure 2. **STDES-SICGPHU3 circuit schematic (2 of 2)**

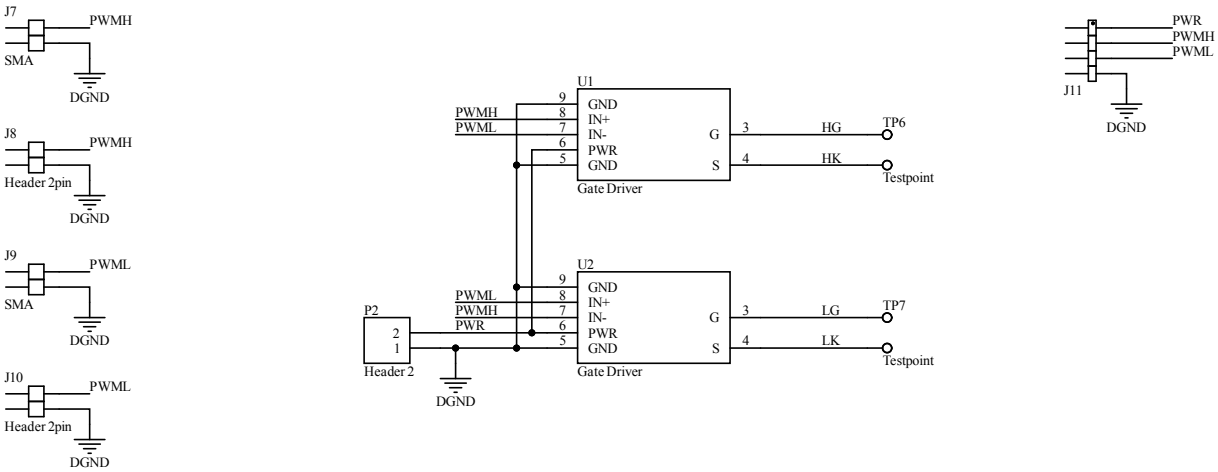


Figure 3. Driver board

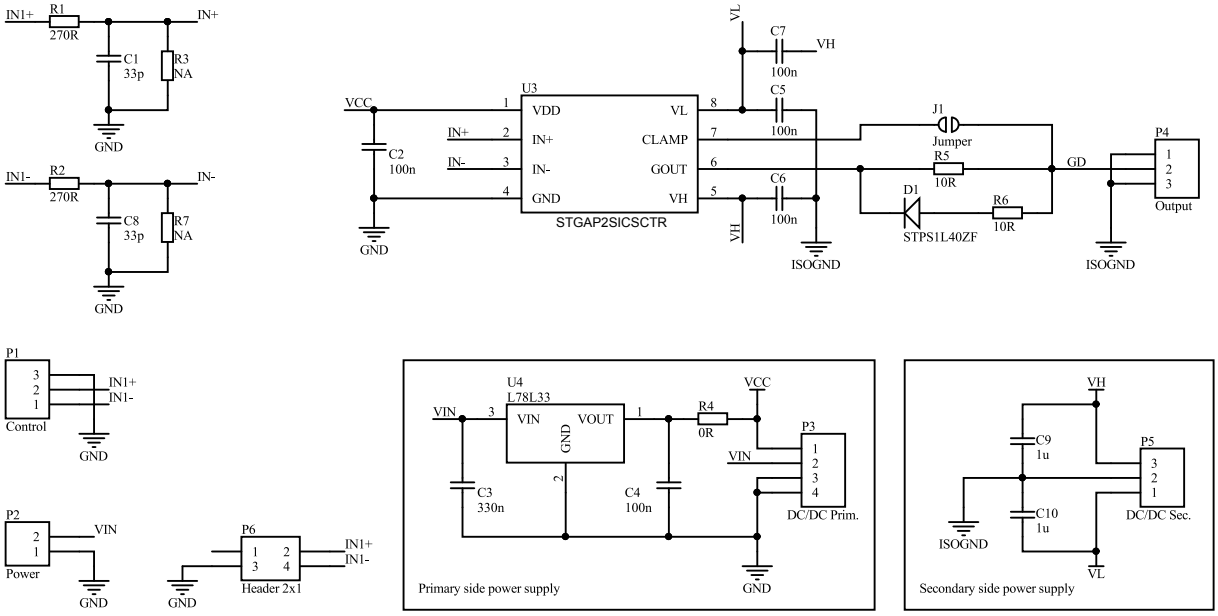
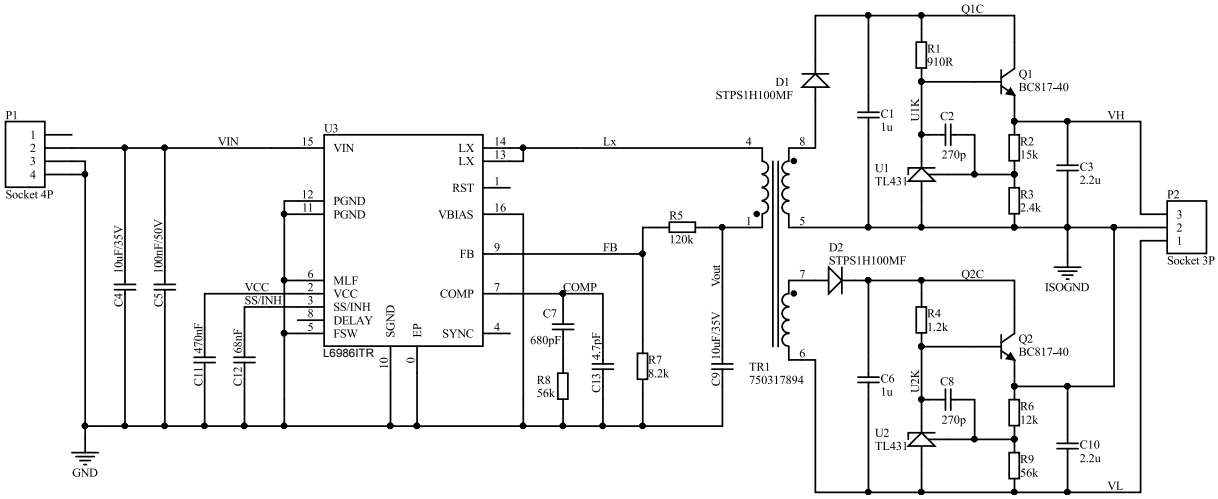


Figure 4. DC-DC isolated converter



Revision history

Table 1. **Document revision history**

Date	Revision	Changes
14-Feb-2024	1	Initial release.