STEVAL-IFP002V1

High Side Driver - 8 Channel based on VN808

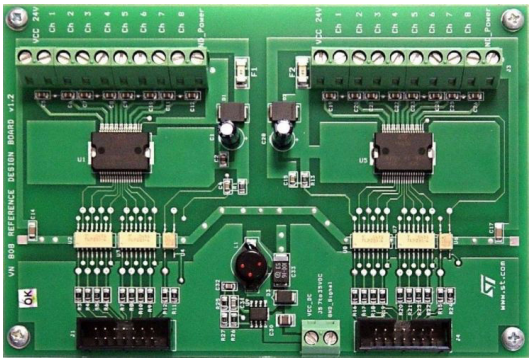
Data Brief

Features

- Application conforms to: IEC 61000-4-4 (4kV), IEC 61000-4-5 (2kV), IEC 61000-4-6 (10kV)
- 16 output channels up to 0.5A per channel
- 16 digital inputs & 2 digital output
- Decoupling power & microcontroller section by optocouplers
- DC/DC converter on boards
- Protection against Surge/Burst by ST Transils
- Operation temperature -25°C to 85°C
- Power supply up to 35V
- Very low stand-by current

Applications

This reference design boards is an industrial application of the ST high side drivers VN808 . The boards respect international standards of the electromagnetic compatibility as well as immunity tests. They have been tested at different typical ambient temperatures. The reference design is suitable for use in Programmable Logic Controllers to produce the related digital outputs according to IEC standards.



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Circuit description

In order to protect the high-side driver (HSD) from the harsh industrial conditions of power supply lines, usually optocouplers and Transil diodes are used to separate the application control circuits from the power supply. The VN808 reference design board uses multi-channel optocouplers suitable for surface-mounted assemblies that consist of a photo transistor optically coupled to a gallium-arsenide infrared emitting diode. The isolation voltage for this type of optocoupler is 2500 V_{RMS}. The clamping function of Transil diodes protect the HSD against transient overvoltages. The reference design board is assembled with uni-directional Transil diodes because they protect the HSD against both positive and negative surge pulses.

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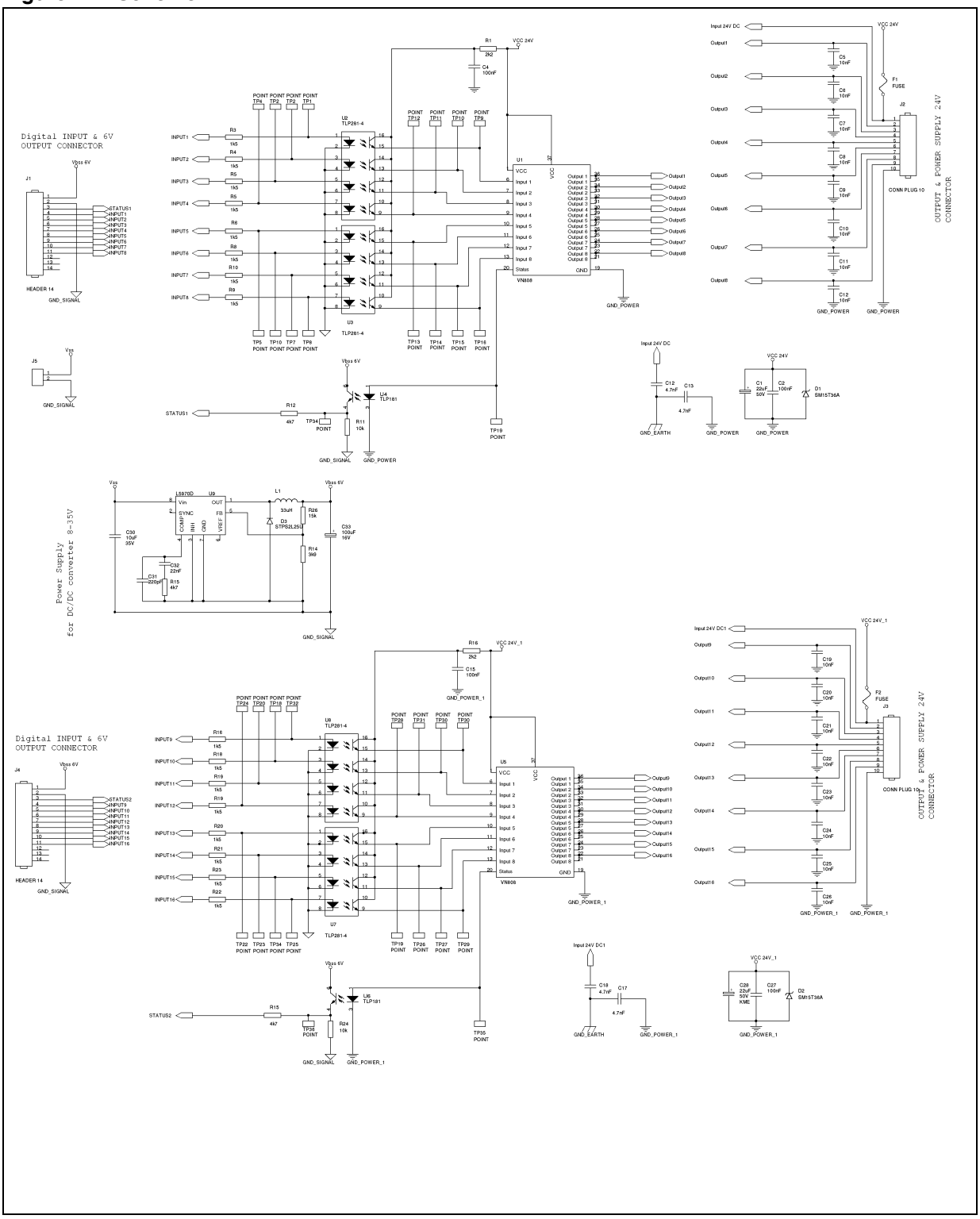
1 Board Schematic

Figure 1. Scheme



2 Revision history

Date	Revision	Changes
31-Jan-2006	1	Initial release.

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