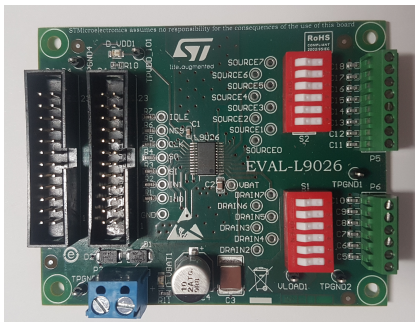## L9026 configurable multi-channel driver evaluation board

Features

- Operating input voltage: 3 V to 18 V
- Two fixed high-side drivers up to 1 A
- Six configurable HS/LS drivers up to 1 A
- Idle mode for reduced current consumption
- Possible Daisy chain configuration
- Two parallel input pins with Input mapping functionality
- SPI communication interface for control and diagnostics
- Configurable dip switch for all available L9026 configurations
- Reference design with optimized bill of materials
- L9026 hosted in HTSSOP24 package
- 4-layer PCB (80 x 65 mm)

Description

The EVAL-L9026-YO is a low-cost tool designed to evaluate L9026, a smart power device designed by STMicroelectronics in advanced BCD technology. The L9026 is an eight channels IC, with 2 fixed HS drivers and 6 configurable HS/LS drivers designed for Automotive applications (LEDs and Relays) and compatible with resistive, inductive, and capacitive loads. The device offers advanced diagnostic and protection functionalities such as: short to GND, open load, overcurrent, over-temperature detections. The 8 output channels can be either driven by SPI or by 2 dedicated parallel inputs that can be associated to different output thanks to a programmable internal multiplexer. Limp home functionality is also featured, which allows using 2 selected drivers in particular, faulty, conditions, such as SPI fault, microcontroller fault or supply UV. Daisy chain compatibility even with 8bit SPI is available. The device is able to guarantee operations under cranking scenario down to VBATT = 3 V and guarantees very low quiescent current under RESET condition. A serial peripheral interface (SPI) is used for control and configuration of the loads as well as of the device; besides, status feedback of all diagnostic functions is provided. For direct control and PWM there are two input pins available: these are connected to two defined outputs by default, but additional or different output mapping can be controlled by SPI. Thanks to the expansion connectors, EVAL-L9026-YO allows the complete control of L9026 communication interface (SPI) and parallel input/output. All the possible configuration on the single channel can be easily managed thanks to dip switches. The evaluation board can be also controlled with Graphical User Interface available on PTSCONNECTUM hardware interface.

Product status link
EVAL-L9026-YO

Product summary	
Order code	EVAL-L9026-YO
Reference	Evaluation board
Order code	PTSCONNECTUM
Reference	Hardware interface

DB4286 - Rev 1 - August 2020
For further information contact your local STMicroelectronics sales office.

www.st.com

1   Electrical characteristics

- Operative input Voltage: 3 V – 18 V
- Output:
    – 2 fixed HS driver up to 1 A
    – 6 configurable HS/LS driver up to 1 A
- Idle input
- IN0 and IN1 configurable parallel input
- SPI communication interface
- Configurable dip switch for all the L9026 available configuration
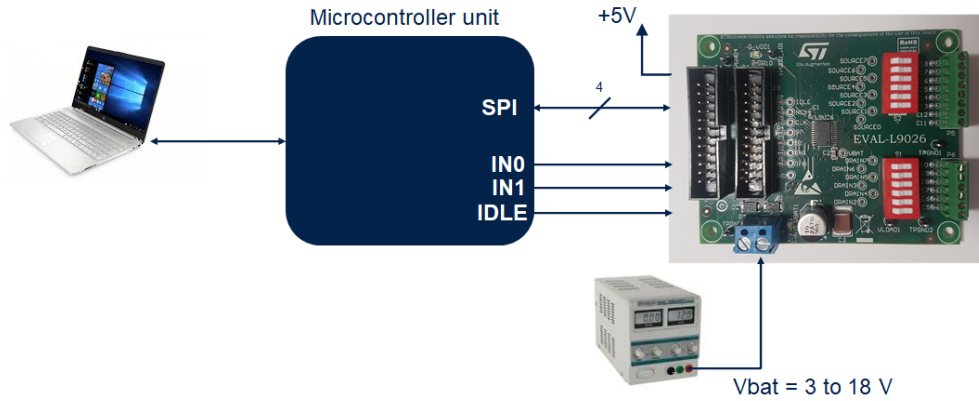- 80x65 mm 4 layers PCB

2 System requirements

- 3 V to 28 V power supply with current capability up to 8 A
- Loads: LED, Relay, Solenoids Lamp with a rating of 12 V / 1 A
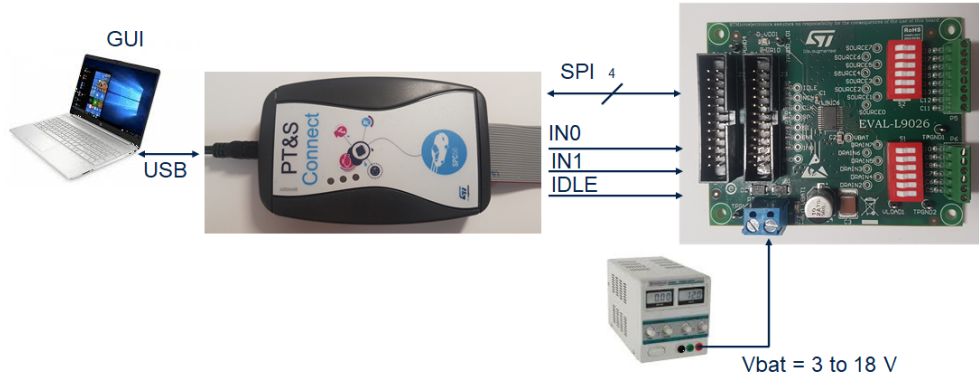- Oscilloscope and/or multimeter

3 External connection

Figure 1. Connection with an arbitrary microcontroller board

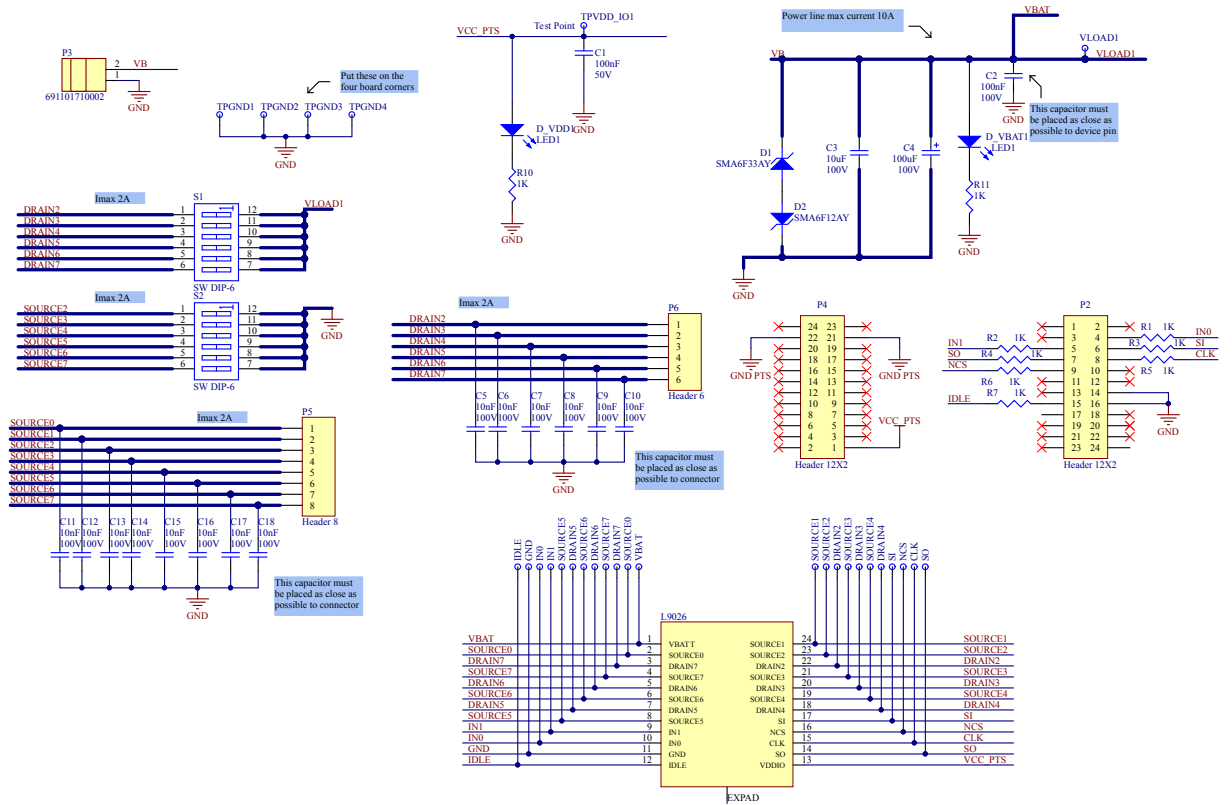*Note:*   *the configuration sequence is available on the EVAL-L9026-YO User Manual.*

Figure 2. Connection using PT&S Connect tool

Note: *the Graphical User Interface is available on PTSCONNECTUM interface.*

4 Evaluation board schematic

Figure 3. Evaluation board schematic

Appendix A Reference documents

Table 1. Reference documents

Doc Name	ID	Title
UM2761	034578	EVAL-L9026-YO Evaluation Board

Revision history

Table 2. Document revision history

Date	Version	Changes
06-Aug-2020	1	Initial release.

Contents

List of figures

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