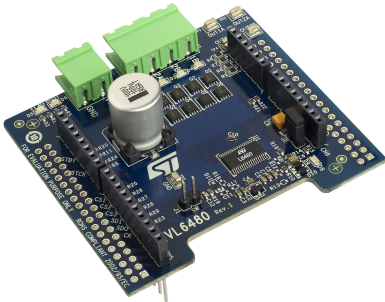# Stepper motor driver evaluation board based on the L6480 device

Features

- Voltage range from 7.5 V to 85 V
- Low R_{dsON} MOSFETs in DPAK package
- Power OK and fault LEDs
- Voltage mode driving
- Fully protected power stage
- Microstepping resolution up to 1/128
- Compatible with Arduino® UNO R3 connector
- Suitable for multi-motor solutions
- RoHS compliant

Description

The EVL6480 is a stepper motor driver evaluation board based on the L6480.

It provides an affordable and easy-to-use solution to drive a stepper motor in your application.

The L6480 device, created using analog mixed signal technology, is an advanced, fully integrated solution suitable for driving two-phase bipolar stepper motors with microstepping. It integrates a dual full bridge gate driver for N-channel MOSFET power stages with embedded non-dissipative overcurrent protection. Thanks to a unique voltage driving mode, which compensates for BEMF, bus voltage, and motor winding variations, the microstepping of a true 1/128-step resolution is achieved. The digital control core can generate user-defined motion profiles with acceleration, deceleration, speed, or target position, which are easily programmed through a dedicated set of registers. All application commands and data registers, including those used to set analog values (that is: current protection trip point, dead time, PWM frequency, etc.) are sent through a standard 5-Mbit/s SPI. A complete set of protections (thermal, low bus voltage, overcurrent, and motor stall) makes the L6480 device "bullet proof," as required by the most demanding motor control applications.
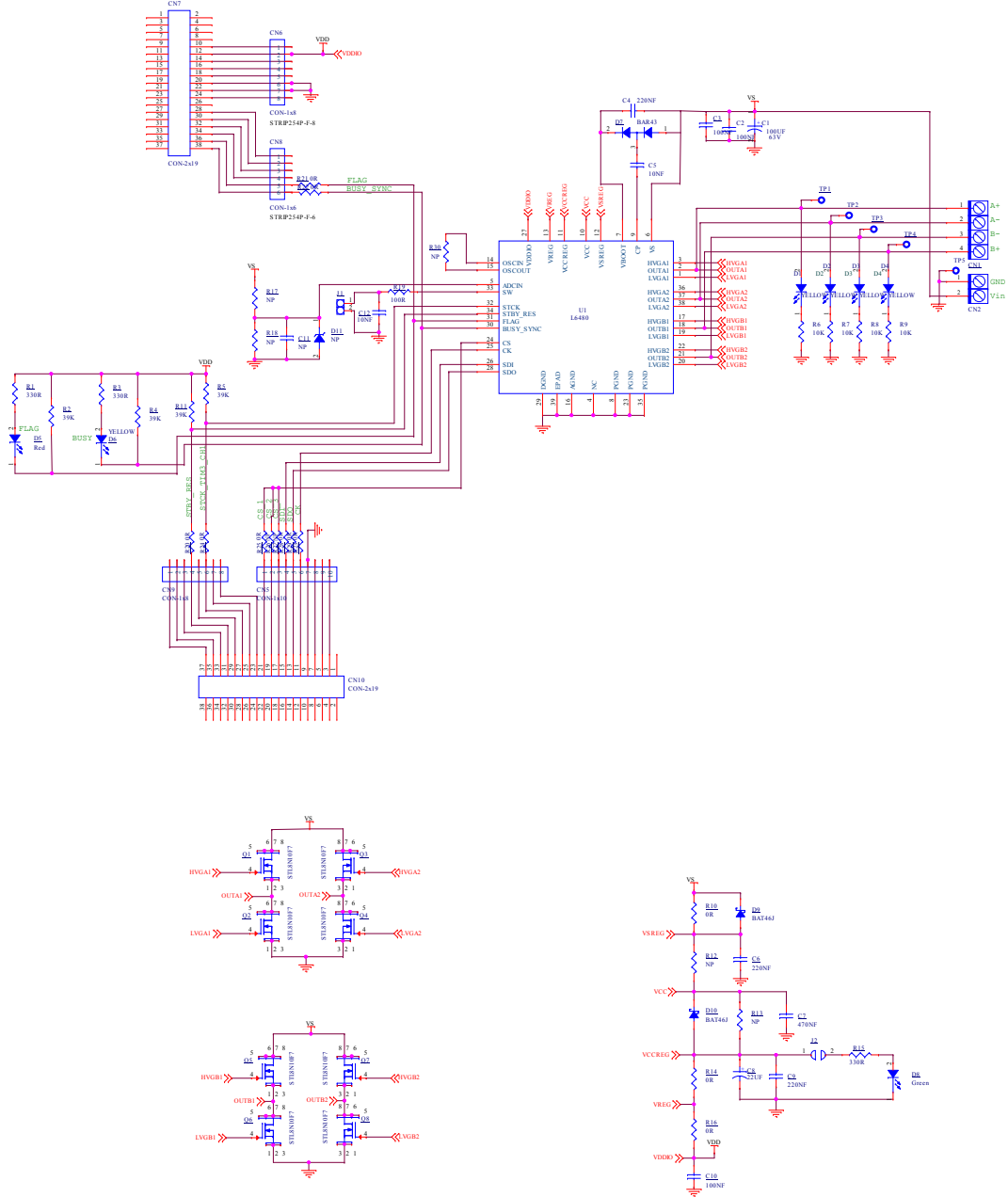
The EVL6480 is compatible with the Arduino® UNO R3 connector and it supports the addition of other boards, which can be stacked to drive up to three stepper motors.

Product status link
EVL6480

DB5203 - Rev 1 - March 2024
For further information contact your local STMicroelectronics sales office.

www.st.com

1   EVL6480 schematic diagram

Figure 1. EVL6480 board schematic

Revision history

Table 1. Document revision history

Date	Version	Changes
18-Mar-2024	1	Initial release.

IMPORTANT NOTICE – READ CAREFULLY