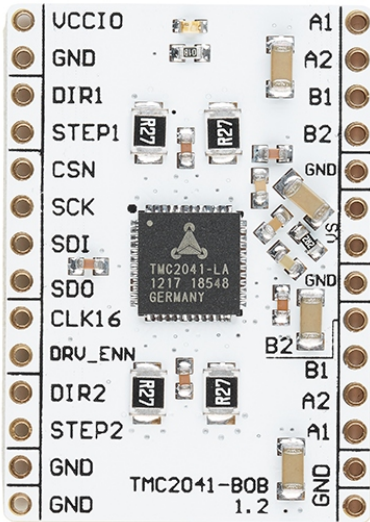


TMC2041-LA BOB Description

Document Revision V1.10 • 2019-Jan-17

Module Top View



Features and additional Resources

- TMC2041-LA stepper driver
- Supply voltage 5-26V, $I_{phase,RMS}$ up to 2x1.1A
- Config via SPI, control via step/direction
- Use off-board electrolyte cap with your supply
- Optional cooling using bottom side with gap pad
- Board width 1.0", board height 1.4"
- 2x14 pin 0.1" header rows for pins/connectors
- Link to [additional information and IC Datasheet](#)
- Link to [Evaluation Kit](#)

Pin List

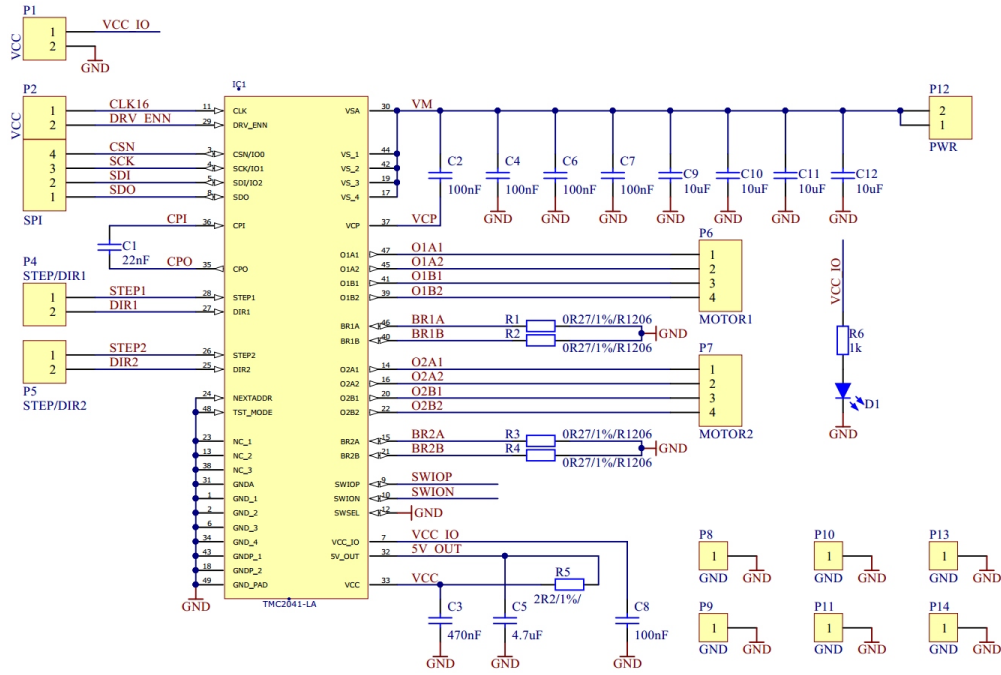
| Left | Signal | Right | Signal |
|------|--|-------|---------------------|
| 1 | VCCIO (3.3V or 5V) | 15 | O1A1 (Motor Axis 1) |
| 2 | GND | 16 | O1A2 |
| 3 | DIR1 | 17 | O1B1 |
| 4 | STEP1 | 18 | O1B2 |
| 5 | CSN (active low) | 19 | GND |
| 6 | SCK (up to 6MHz with external CLK) | 20 | VS (5-26V) |
| 7 | SDI (data in) | 21 | VS (5-26V) |
| 8 | SDO (data out) | 22 | GND |
| 9 | CLK16 (pull to GND for internal CLK) | 23 | O2B2 (Motor Axis 2) |
| 10 | DRV_ENN (active low) | 24 | O2B1 |
| 11 | STEP2 (on V1.2 this is labelled wrong as DIR2) | 25 | O2A2 |
| 12 | DIR2 (on V1.2 this is labelled wrong as STEP2) | 26 | O2A1 |
| 13 | GND | 27 | GND |
| 14 | GND | 28 | GND |

Bill of Materials

| Pcs. | MPN | Value | Footprint | Description |
|------|------------------|-----------------|---------------|-----------------|
| 1 | MC0603B223K500CT | 22nF | 0603 | Cap, Multicomp |
| 5 | MC0603F104M500CT | 100nF | 0603 | Cap, Multicomp |
| 1 | MC0603X474K160CT | 470nF | 0603 | Cap, Multicomp |
| 1 | MC0603X475K100CT | 4.7uF | 0603 | Cap, Multicomp |
| 4 | MC1206X106K250CT | 10uF | 1206 | Cap, Multicomp |
| 1 | LTST-C191TBKT-5A | 20mA,2.8V,465nm | 0603 | LED, Lite-On |
| 1 | TMC2041-LA | TMC2041-LA | QFN48,7x7,0.5 | Driver,TRINAMIC |
| 4 | RCWE1206R270FKEA | 0R27,1%R1206 | 1206 | Res, Vishay |
| 1 | MC0063W0603110K | 2R2,1% | 0603 | Res, Multicomp |
| 1 | MC0063W060311K | 1k | 0603 | Res, Multicomp |



BOB Schematics



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