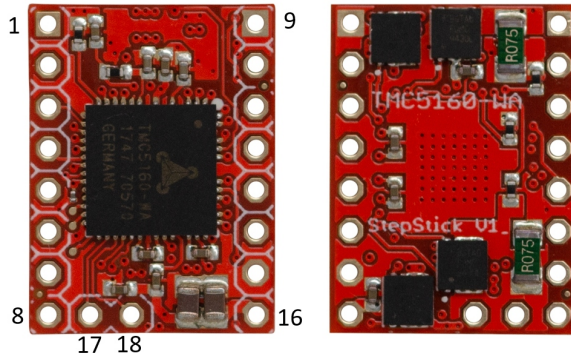# TMC5160 SilentStepStick

Document Revision V1.10 • 2019-May -20

Module Top View

Features and additional Resources

- TMC5160-WA stepper motor controller & driver
- Supply voltage 10-35V (40V MOSFETs are used)
- $I_{phase,RMS}$ up to 3.0A (rms) = 4.2A (peak)
- Configuration & Control via SPI
- Step & direction control mode
- Board width 0.6", board height 0.8"
- 2x8 pin 0.1" header rows for pins/connectors
- Link to additional information and IC data sheet

Pin List

Left	Signal	Right	Signal
1	DIR	9	GND
2	STEP	10	VCC_IO (3.3V or 5V)
3	CLK (pull to GND for internal CLK)	11	B2 (Motor Phase B)
4	SDO (data out)	12	B1 (Motor Phase B)
5	CSN (active low)	13	A1 (Motor Phase A)
6	SCK (up to 6 MHz with external CLK)	14	A2 (Motor Phase A)
7	SDI (data in)	15	GND
8	DRV_ENN (active low)	16	+VM (10-35V)
17	DIAG0	18	DIAG1

Bill of Materials

Pcs.	MPN	Value	Footprint	Description
4	FDMC9430L-F085	Double MOSFET, N-CH, 40V, 12A	8-MLP (3x3)	MOSFET, OnSemi
1	TMC5160-WA	Controller/driver for stepper motor	QFN56 (8x8)	TRINAMIC
4	47R	47R,10%	0402	Resistor
2	10uF	10uF, 36V, 10%	0805	Capacitor
1	22nF	22nF	0402	Capacitor
3	470nF	470nF, 36V	0402	Capacitor
2	ERJ-8BWFR075V	0R075, 1%, 1W or more	1206	Resistor
2	2u2	2u2	0402	Capacitor
1	2R2	2R2,10%	0402	Resistor
7	100nF	100nF, 50V	0402	Capacitor
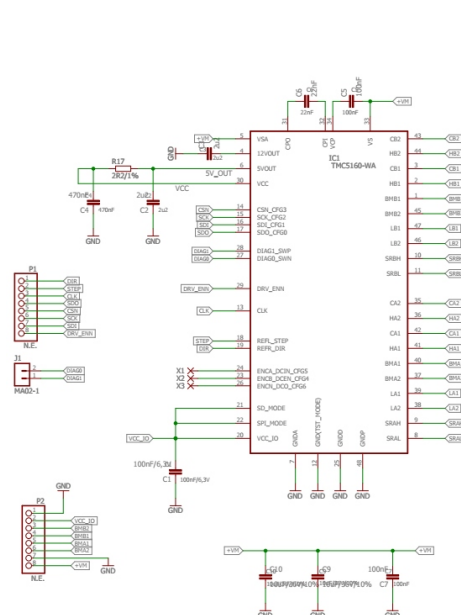
Alternatively, the OnSemi FDMC8030 40V MOSFET can be used.

Schematic
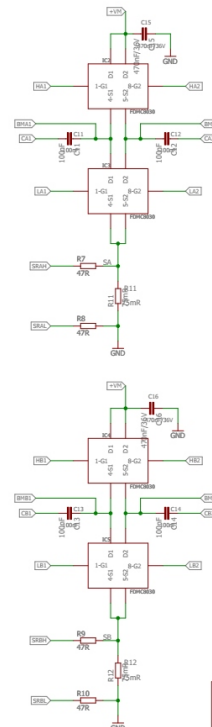
TRINAMIC
MOTION CONTROL