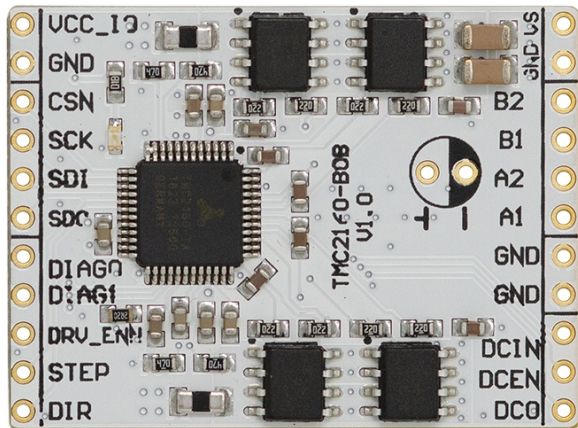


# TMC2160 BOB Description

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## Module Top View



## Features and additional Resources

- TMC2160-TA smart stepper pre-driver
- Supply voltage 9-36V (**limited by the MOSFETs**)
- $I_{phase,RMS}$  up to 3.0A
- Configuration via SPI
- Control via Step/Direction interface
- Use with optional lowESR ELCO, ca. 150uF
- Board width 1.5", board height 1.1"
- 2x11 pin 0.1" header rows for pins/connectors
- Link to [additional information and IC data sheet](#)
- Link to [evaluation kit](#)

## Pin List

Left	Signal	Right	Signal
1	VCC_IO (3.3V or 5V)	12	V5 (9-36V)
2	GND	13	GND
3	CSN (active low)	14	B2 (Motor Phase B)
4	SCK (up to 6MHz with external CLK)	15	B1 (Motor Phase B)
5	SDI (data in)	16	A2 (Motor Phase A)
6	SDO (data out)	17	A1 (Motor Phase A)
7	DIAGO (Diagnosis out)	18	GND
8	DIAG1 (Diagnosis out)	19	GND
9	DRV_ENN (active low)	20	DCIN
10	STEP	21	DCEN
11	DIR	22	DCO

## Bill of Materials

Pcs.	MPN	Value	Footprint	Description
4	MC0603F104M500CT	100nF	0603	Cap, Multicomp
2	GRM188R61E225KA12D	2u2	0603	Cap, Murata
1	MC0603X474K160CT	470nF	0603	Cap, Multicomp
1	MC0603B223K500CT	22nF	0603	Cap, Multicomp
2	GRM31CR61H106MA12L	10uF,50V,10%	1206	Cap, Murata
4	GCM188R71H224KA64D	220nF	0603	Cap, Murata
2	C1608X7R1H474K080AC	470nF, 50V	603	Cap, TDK
1	EEU-FR1H151B	150uF,50V,lowESR	THT	ELCO, Panasonic
1	LTST-C191TBKT-5A	20mA,2.8V,465nm	0603	LED, Lite-On
1	TMC2160-TA	TMC2160-TA	TQFP48-EP, 7x7	<a href="#">TRINAMIC</a>
4	AO4882	AO4882	SOP-8L	FET, Alpha&Omega
8	MCWR06X22R0FTLV	22R, 100mW, 1%	0603	Res, Multicomp
4	MCSR06X47R0FTL	47R, 1%	0603	Res, Multicomp
2	ERJ-8BWF075V	0R075, 1W, 1%	1206	Res, Panasonic
1	MC0603W060312R2	2R2, 1%	0603	Res, Multicomp
1	MC0603W060311K	1k	0603	Res, Multicomp



## BOB Schematics

