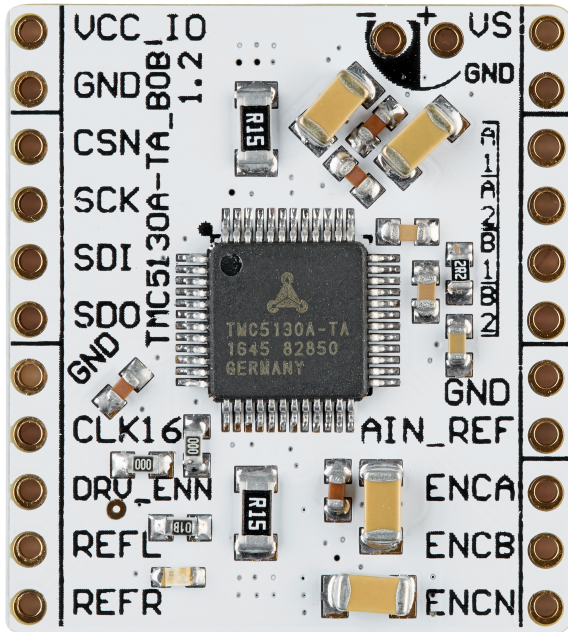


# TMC5130A-TA BOB Description

Document Revision V1.00 • 2017-Oct-16

## Module Top View



## Features and additional Resources

- TMC5130A-TA stepper driver and controller
- Supply voltage 5-46V,  $I_{phase,RMS}$  up to 1.4A
- Solder option to select between internal or external ramp generation (R1/R2)
- Configuration and control via SPI
- Use off-board electrolyte cap with your supply
- Board width 1.0", 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

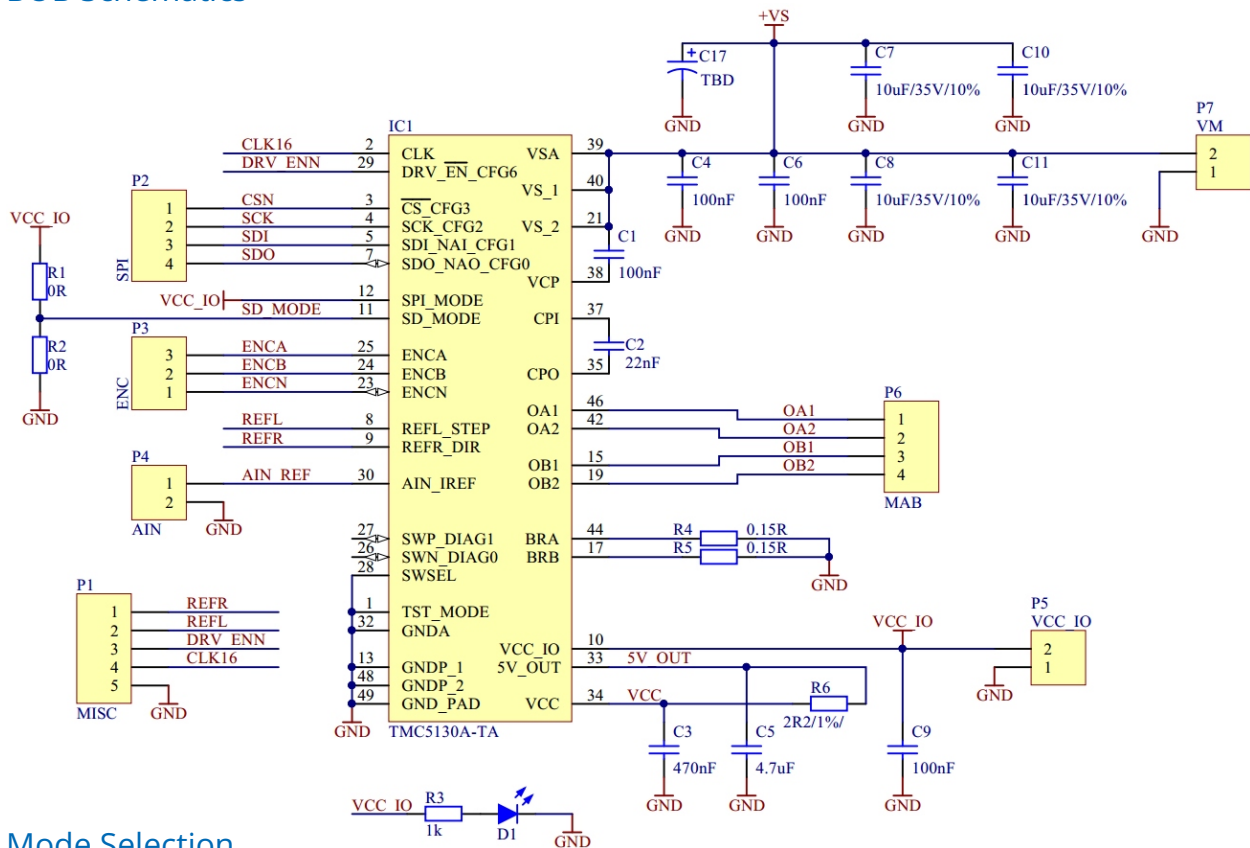
Left	Signal	Right	Signal
1	VCC_IO (3.3V or 5V)	12	VS
2	GND	13	GND
3	CSN (active low)	14	OA1
4	SCK (up to 8MHz with ext. CLK)	15	OA2
5	SDI (data in)	16	OB1
6	SDO (data out)	17	OB2
7	GND	18	GND
8	CLK16 (pull to GND for internal CLK)	19	AIN_REF (see data sheet)
9	DRV_ENN (active low)	20	ENCA (3.3V or 5V)
10	REFL (3.3V or 5V)	21	ENCB (3.3V or 5V)
11	REFR (3.3V or 5V)	22	ENCN (3.3V or 5V)

## Bill of Materials

Pcs.	MPN	Value	Footprint	Description
4	MC0603F104M500CT	100nF	0603	Cap, Multicomp
1	MC0603B223K500CT	22nF	0603	Cap, Multicomp
1	MC0603X474K160CT	470nF	0603	Cap, Multicomp
1	MC0603X475K100CT	4.7uF	0603	Cap, Multicomp
4	GRM31CC8YA106KA12L	10uF,35V,10%	1206	Cap, Murata
1		App-specific	THT POL CAP, 2 pins	Optional ELKO
1	LTST-C191TBKT-5A	20mA,2.8V,465nm	0603	LED, Lite-On
1	TMC5130A-TA	TMC5130A-TA	TQFP48,7x7,0.5	cDriver, <a href="#">TRINAMIC</a>
2	MCWR06X000 PTL	0R	R0603	Res, Multicomp
1	MC0063W060311K	1k	0603	Res, Multicomp
2	ERJ-8B5FR15V	0.15R,0.5W,1%	1206	SenseR, Panasonic
1	MC0063W060312R2	2R2,1%	0603	Res, Multicomp

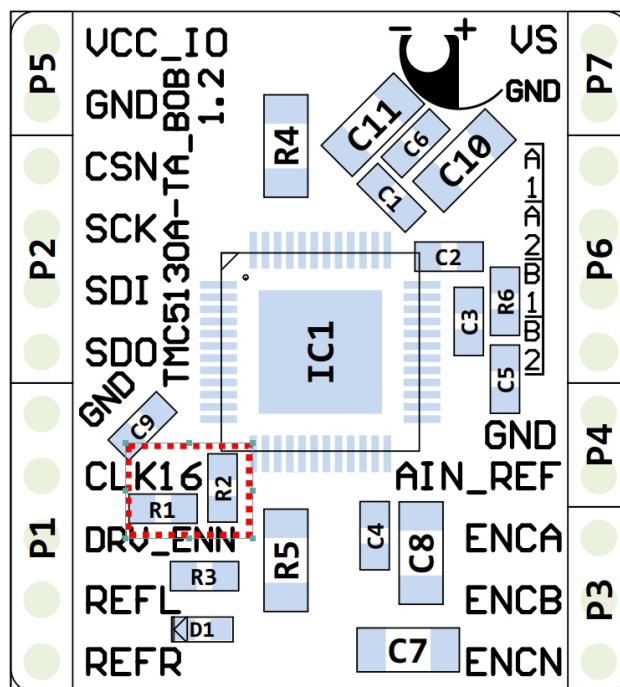


### BOB Schematics



### Mode Selection

- Soldering R2 / not R1 = Internal ramp generator active with Trinamic's 6-point-ramp (default mode)
- Soldering R1 / not R2 = Step/Direction interface active for use with external motion controller (STEP = REFL, DIR = REFR)



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