TMC5130A-BOB Datasheet by Trinamic Motion Control GmbH

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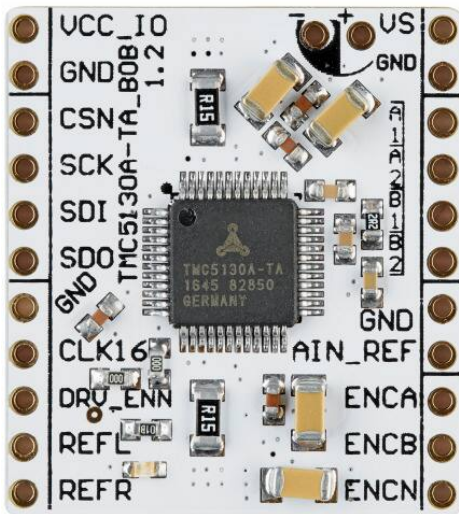**IC BREAKOUT BOARDS**

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_IREF (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

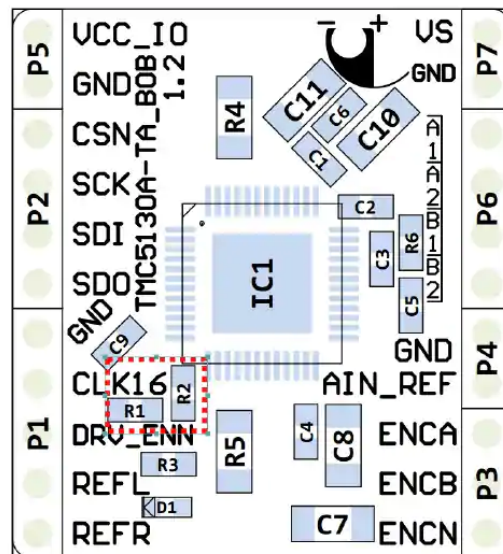| Pcs.	MPN	Value	Footprint	Description
4	MC0603F104M500CT	100nF	0603	Cap, Multicomp
1	MC0603B223K500CT	22nF	0603	Cap, Multicomp
1	MC0603X474K160CT	470nF	0603	Cap, Multicomp
1	MC0603X475K100CT	4.7uF	0603	Cap, Multicomp
4	GRM31CC8YA106KA12L	10uF,35V,10%	1206	Cap, Murata
1		App-specific	THT POL CAP, 2 pins	Optional ELKO
1	LTST-C191TBKT-5A	20mA,2.8V,465nm	0603	LED, Lite-On
1	TMC5130A-TA	TMC5130A-TA	TQFP48,7x7,0.5	cDriver, TRINAMIC
2	MCWR06X000 PTL	0R	R0603	Res, Multicomp
1	MC0063W060311K	1k	0603	Res, Multicomp
2	ERJ-8BSFR15V	0.15R,0.5W,1%	1206	SenseR, Panasonic
1	MC0063W060312R2	2R2,1%	0603	Res, Multicomp

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MOTION CONTROL

BOB Schematics
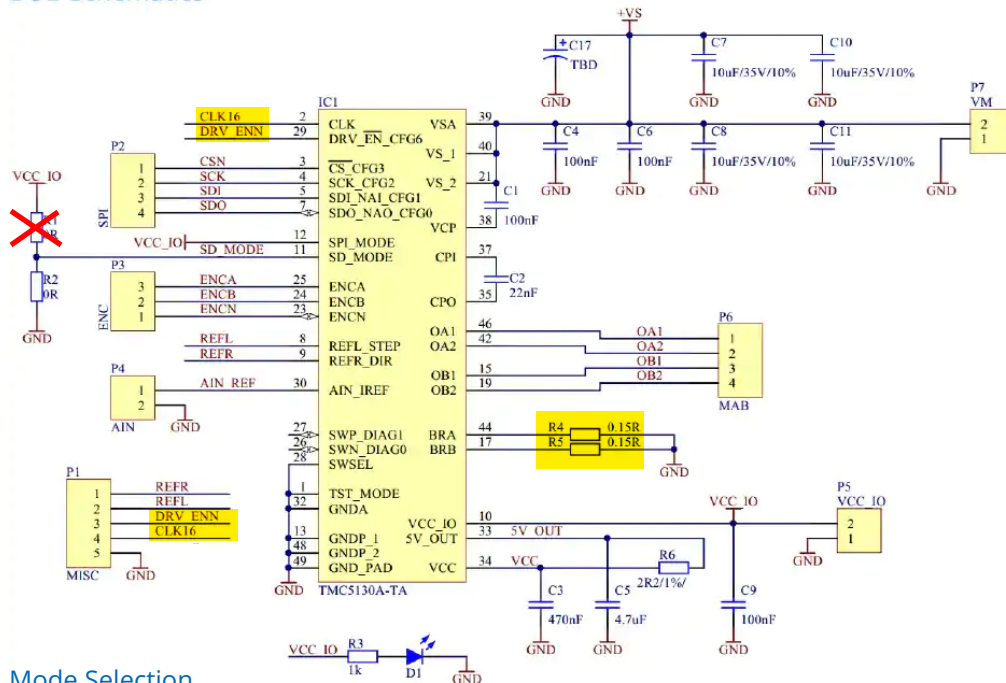
Mode Selection

- 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)