



VCC\_IO

GND

CSN

SCK

SDI

SDO

GND

CLK16

DRV\_ENN

REFL

REFR

TMC5130A-TA-BOB-1.2



VS + -

GND

A1

A2

B1

B2

GND

AIN\_REF

ENCA

ENCB

ENCN

TMC5130A-TA\_BOB  
1.2

VCC\_IO

GND

CSN

SCK

SDI

SDO

GND

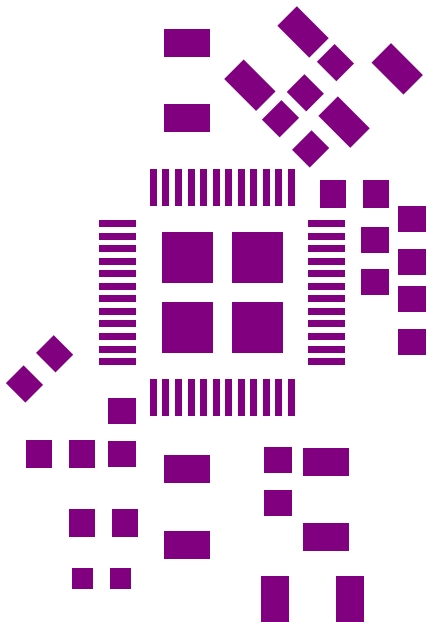
CLK16

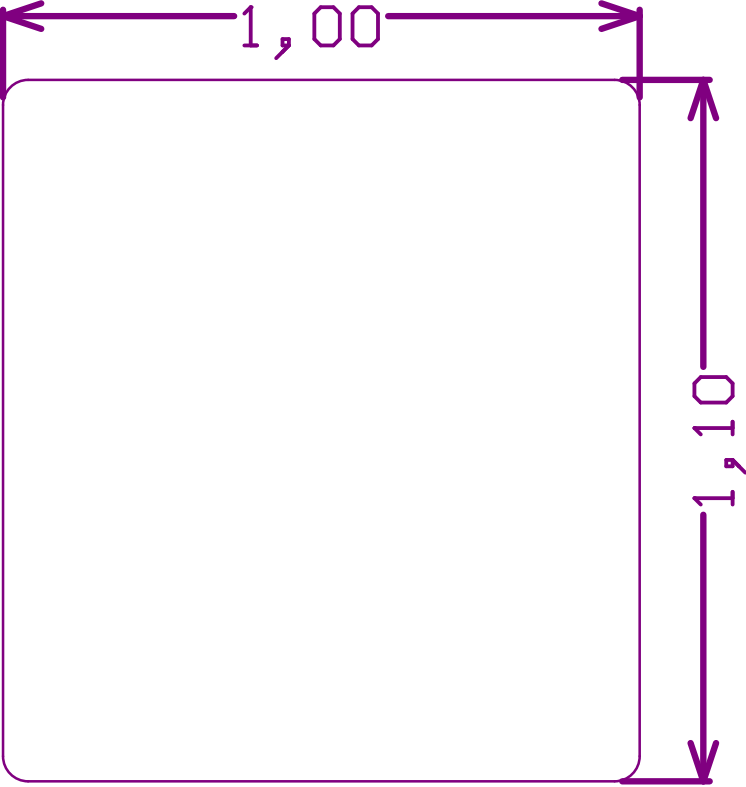
DRV\_ENN

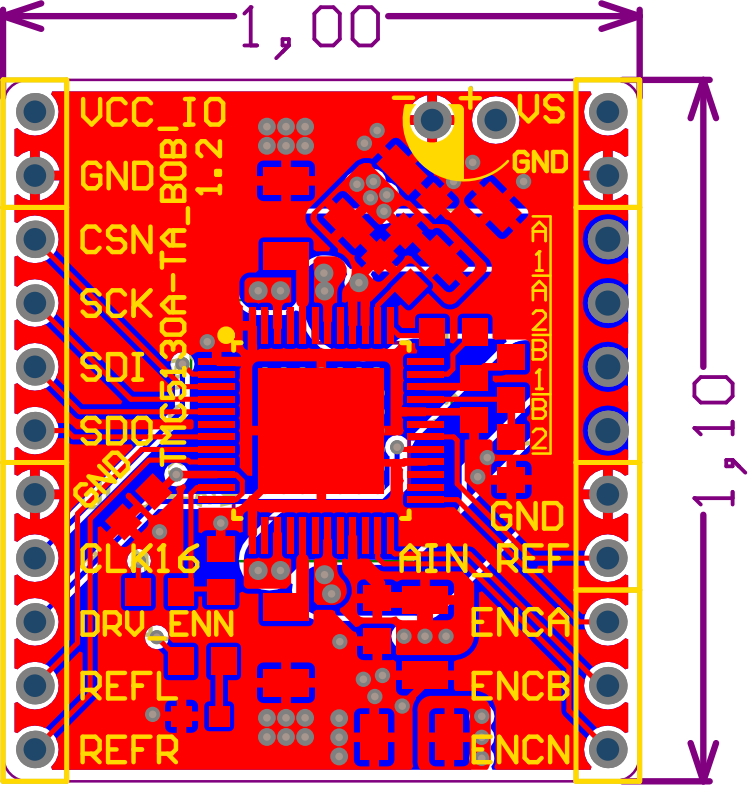
REFL

REFR

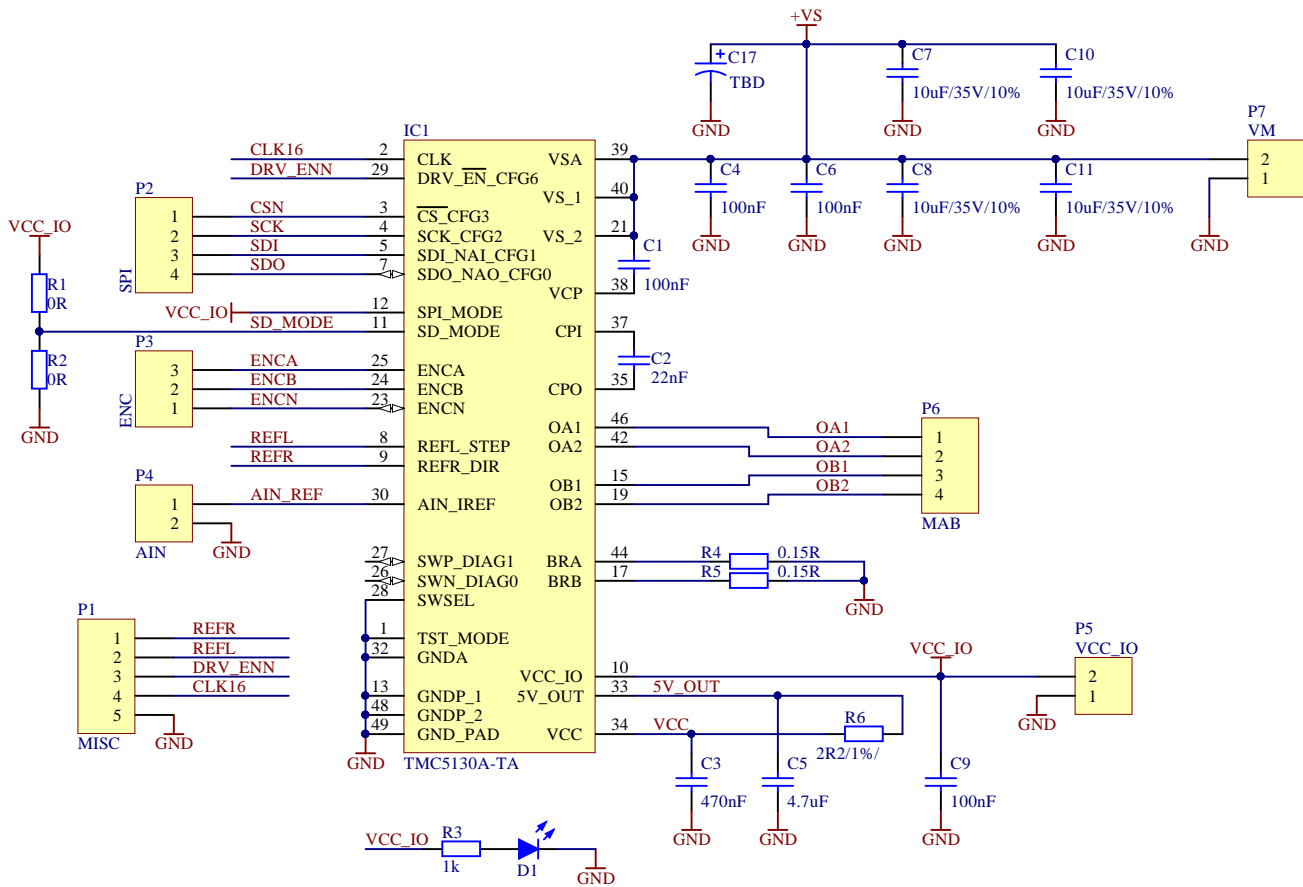
IC name: TMC5130A-TA  
Supply range: VS = 5...46V  
Max. current: IRMS = 1.4A





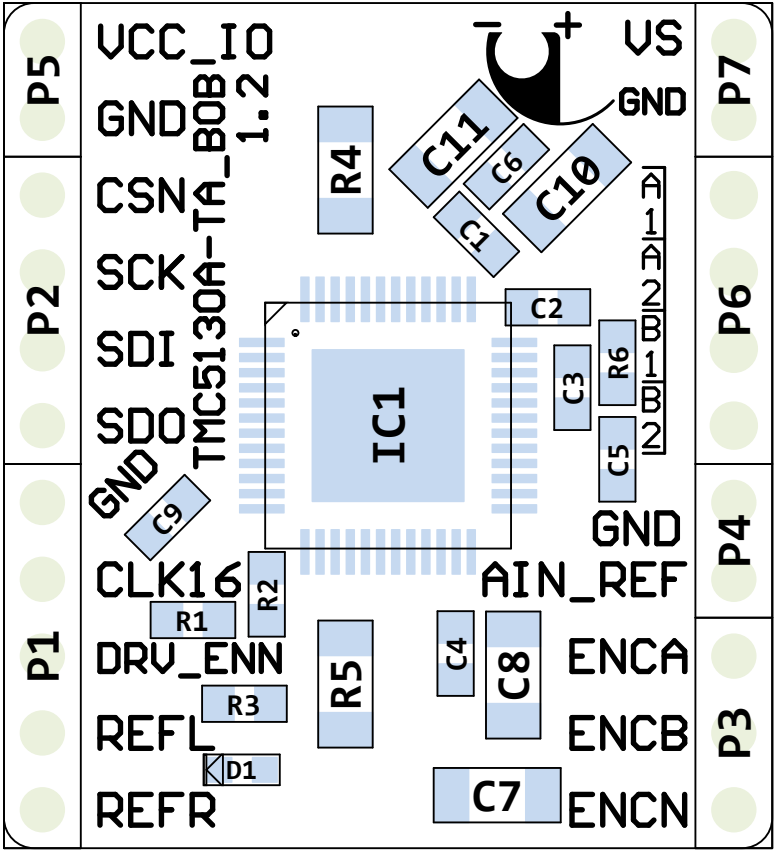




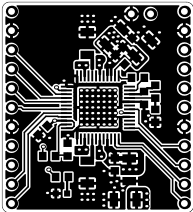


Title		
TMC5130A-TA_BOB		
Size	Number	Revision
A4		1.2
Date:	18.07.2017	Sheet of
File:	C:\Users\...\TMC5130A-TA_BOB_V1_2	By: S. D. D.

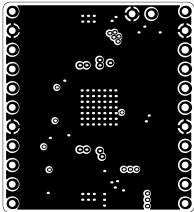
View from Top side (Scale 4:1)



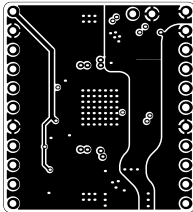
Top (Scale 1:1)



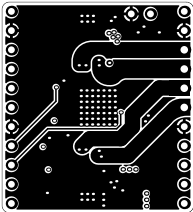
GND (Scale 1:1)



VM (Scale 1:1)



Bottom (Scale 1:1)



# BOM

Project: TMC5130A-TA\_BOB

Version: 1.2

Date: 18.07.2017

#	Quantity	MPN	Comment	Designator	Footprint	Description	Note	MF
1	4	MC0603F104M500CT	100nF	C1, C4, C6, C9	C0603	Ceramic capacitor		Multicomp
2	1	MC0603B223K500CT	22nF	C2	C0603	Ceramic capacitor		Multicomp
3	1	MC0603X474K160CT	470nF	C3	C0603	Ceramic capacitor		Multicomp
4	1	MC0603X475K100CT	4.7uF	C5	C0603	Ceramic capacitor		Multicomp
5	4	GRM31CC8YA106KA12L	10uF/35V/10%	C7, C8, C10, C11	C1206	Ceramic capacitor		MURATA
6	1		Cap Pol1	C17	EXT_POL_CAP_2	Polarized Capacitor (Radial)		
7	1	LTST-C191TBKT-5A	LED, Blue, SMD, 20mA, 2.8V, 465 nm	D1	LED_0603	LED, Blue, SMD, 20mA, 2.8V, 465 nm		Lite-On
8	1	TMC5130A-TA	TMC5130A-TA	IC1	TMC5130_TQFP48-EP_0.5_7.0X7.0	High voltage(up to 46V) controller for two-phase bipolar stepper motor, with SPI, Step/Dir, UART, TQFP48-EP(7x7)		TRINAMIC
9	2	MCWR06X000 PTL	0R	R1, R2	R0603	SMD Chip Resistor, Thick Film, 0 ohm, 0603 [1608 Metric], 100 mW, MCWR Series		MULTICOMP
10	1	MC0063W060311K	1k	R3	R0603	1 kohm, 50 V, 0603 [1608 Metric], 63 mW, ± 1%, MC Series		MULTICOMP
11	2	ERJ-8BSFR15V	0.15R / 0.5W / 1%	R4, R5	R1206	0.15 Ohm ±1% 0.5W, 1/2W Chip Resistor 1206 (3216 Metric) Automotive AEC-Q200, Current Sense Thick Film		Panasonic
12	1	MC0063W060312R2	2R2/1%/	R6	R0603	Resistor		Multicomp

Approved	Notes	27

ChangeLog

V1.0 - Initial design

V1.1 - Redesign and Optimization after 1st Round

+ Rearranged right side connector signals starting from top (Made sure there is sufficient space to have a JST EH 4pin mounted there):

VS / GND / A1 / A2 / B1 / B2

- + Removed solder bridge for SPI\_MODE. Connected permanently to VCCIO.
- + Modified solder bridge for SD\_MODE. Default assembly with a 00hm R connected to GND.
- + Added 2nd option for SD\_MODE to be connected to VCCIO.
- + Added 2x 10uF.
- + Added two solder holes +/- for an optional 470µF Elko.
- + Added bottom side labels (IC Name, supply range, max. current of this BOB):  
TMC5130A-TA, VS = 5...46V, IphaseRMS = 1.4A
- + Changed silkscreen text width from 5mil to 7mil.
- + Changed board name text height to 35mil.

V1.2 - Changed pin hole diameters from 0.9mm to 1mm for header P6 (MAB).

Title			<i>TMC5130A-TA_BOB</i>		
Size	Number		Revision		
A4			<i>1.2</i>		
Date:	18.07.2017		Sheet	of	
File:	C:\Users\...\ChangeLog.SchDoc		Drawn By:		

