

VCC_IO
GND
SDO
SDI
SCK
CSN
GND
DRV_ENN
CLK16
SG_TST

TMC261_BOB_V1.2 D1
R5
C5
C1
C6
R2

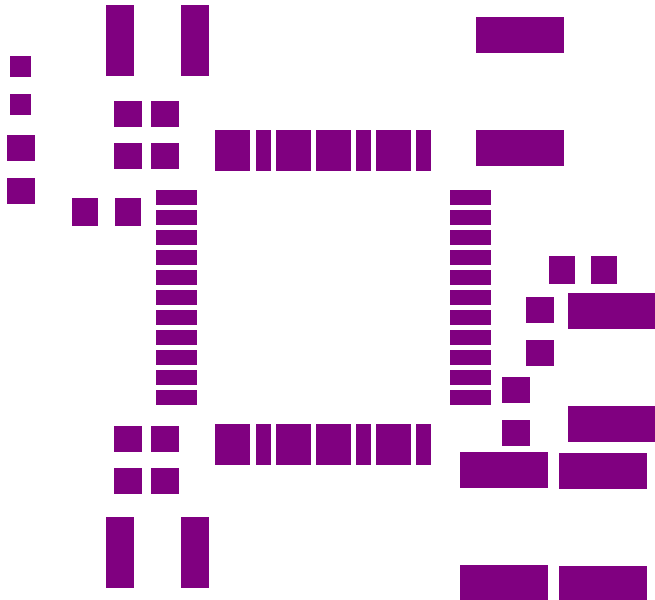
R1
R3
R4

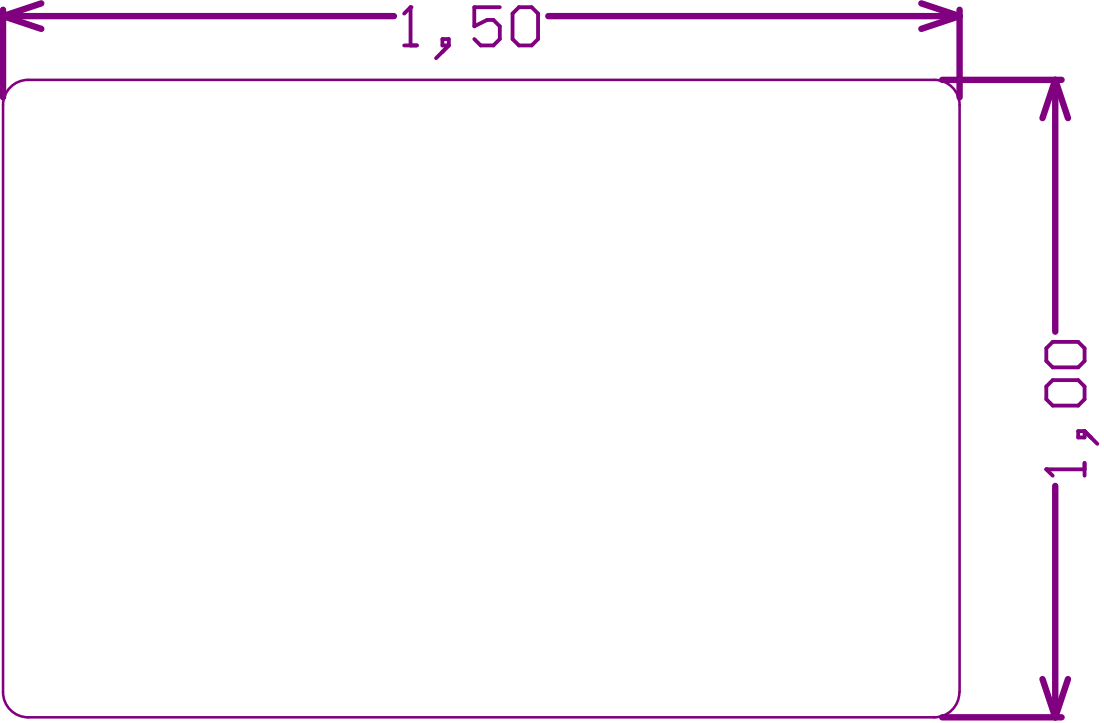
IC1
C8
C11

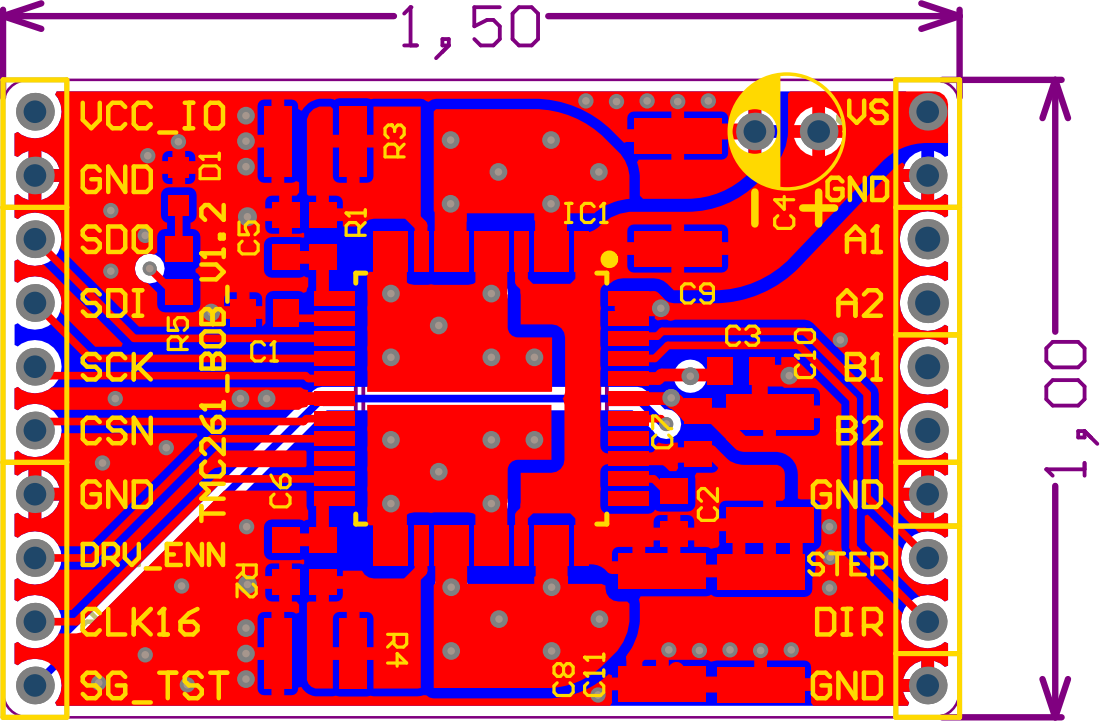
C7
C2
C9
C3

VS
GND
A1
A2
B1
B2
GND
STEP
DIR
GND

VS		VCC_IO
GND		GND
A1		SDO
A2		SDI
B1		SCK
B2		CSN
GND		GND
STEP	TMC261_BOB_V1.2	DRV_ENN
DIR	IC name: TMC261-PA Supply range: VS = 9...60V Max. current: IRMS = 1.4A	CLK16
GND		SG_TST







ChangeLog

V1.0 - Initial design

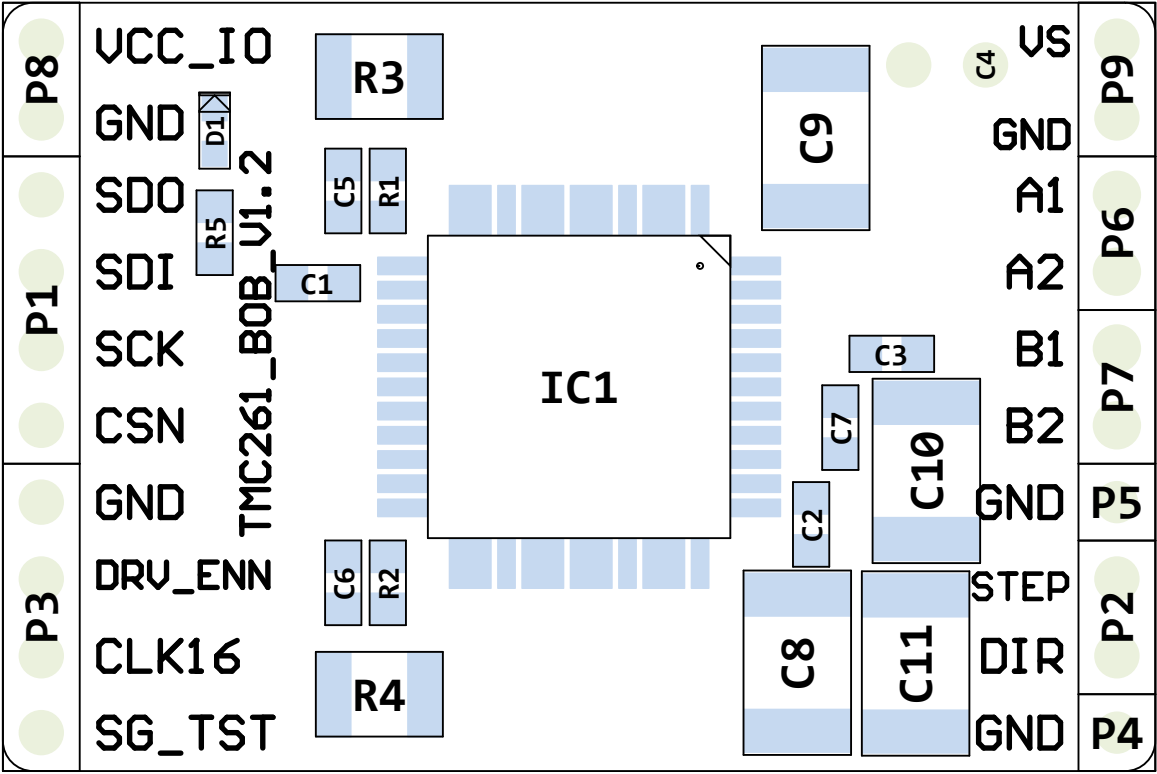
V1.1 - Redesign and Optimization after 1st Round

- + Added 2 additional 10uF ceramic caps.
- + Added two solder holes +/- for an optional 470µF Elko
- + Added bottom side labels (IC Name, Supply range, Max. current):
TMC261-PA, VS = 9...60V, IphaseRMS = 1.4A
- + Changed sense Rs to 150mOhm for 2A peak
- + Changed left connector: pin 1 = VCCIO, pin 2 = GND
STEP and DIR had to be moved to the right connector.
- + Changed right connector: signals starting from top: VS / GND / A1 / A2 / B1 / B2.
- + Changed silkscreen text width from 5mil to 7mil.
- + Changed board name text height to 35mil.
- + Made sure that all components are good for 60V supply.

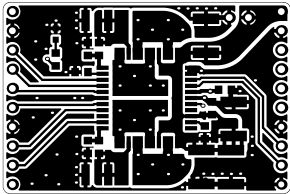
V1.2 - Changed pin hole diameters from 0.9mm to 1mm for headers P6 (OA) and P7 (OB).

Title <i>TMC261_BOB</i>		
Size A4	Number	Revision <i>1.2</i>
Date:	18.07.2017	Sheet of
File:	C:\Users\...\ChangeLog.SchDoc	Drawn By:

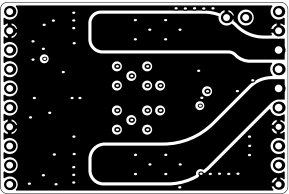
View from Top side (Scale 4:1)



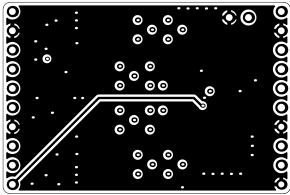
Top (Scale 1:1)



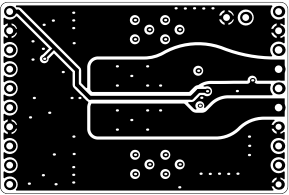
GND1 (Scale 1:1)



Bottom (Scale 1:1)



GND2 (Scale 1:1)



BOM

Project: TMC261_BOB

Version: 1.2

Date: 18.07.2017

#	Quantity	MPN	Comment	Designator	Footprint	Description	Note	MF
1	1	MC0603X474K160CT	470nF/16V/10%	C1	C0603	Ceramic capacitor		Multicomp
2	2	GRM188R72A104KA35D	100nF/100V/10%	C2, C7	C0603	SMD Multilayer Ceramic Capacitor, 0603 [1608 Metric], 0.1 µF, 100 V, ± 10%, X7R, GRM Series		MURATA
3	1	MC0603F104M500CT	100nF/50V/20%	C3	C0603	Ceramic capacitor		Multicomp
4	2	MC0603B103K101CT	10nF/100V/10%	C5, C6	C0603	Ceramic capacitor		MULTICOMP
5	4	CKG45NX7S2A106M500JH	10uF/100V/20%	C8, C9, C10, C11	CKG45NX7S2A106M500JH	SMD Multilayer Ceramic Capacitor, 1812 [4532 Metric], 10 µF, 100 V, ± 20%, X7S, CKG Series		TDK
6	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
7	1	TMC261-PA	TMC261	IC1	TMC26x_PQFP44_0.8_10X10_TMC236	coolStep™ driver with Step/Dir Interface and SPI, up to 30V, internal MOSFET for up to 4 A, PQFP-44		TRINAMIC
8	2	MCMR06X10R0FTL	10R / 100mW / 1%	R1, R2	R0603	0.1 Ohm ±1% 1W Chip Resistor 1210 (3225 Metric) Automotive AEC-Q200, Current Sense, Moisture Resistant Thick Film		MULTICOMP
9	2	RCWE1210R150FKEA	.15R / 1W / 1%	R3, R4	R1210	0.15 Ohm ±1% 1W Chip Resistor 1210 (3225 Metric) Automotive AEC-Q200, Current Sense, Moisture Resistant Thick Film		Vishay
10	1	MC0063W060311K	1k	R5	R0603	1 kohm, 50 V, 0603 [1608 Metric], 63 mW, ± 1%, MC Series		MULTICOMP

Approved	Notes	26
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