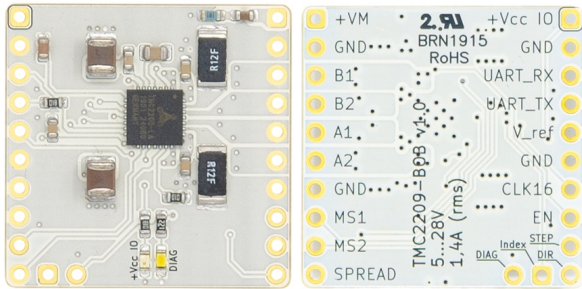# TMC2209 BOB

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Module Top View

Features and additional Resources

- TMC2209-LA stepper motor driver
- Supply voltage 5-28V
- I_{phase} up to 1.5A$_{RMS}$
- Quiet operation with StealthChop™
- Sensorless stall detection StallGuard™4
- Configuration and extended diagnostics via UART
- Control via Step&Dir interface
- Board width 1.0", board height 1.0"
- 2x10 pin 0.1" header rows for pins/connectors
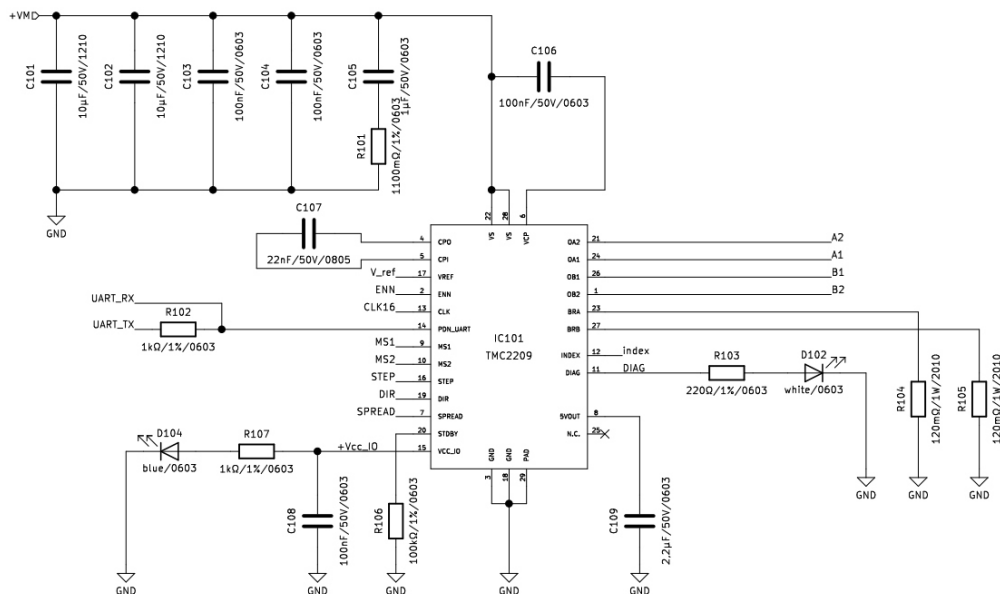- Link to additional information and IC data sheet

Pin List

Left	Signal	Right	Signal
1	+VCC_IO	11	+VM
2	GND	12	GND
3	UART_RX	13	B1 (Motor Phase B)
4	UART_TX	14	B2 (Motor Phase B)
5	VREF	15	A1 (Motor Phase A)
6	GND	16	A2 (Motor Phase A)
7	CLK16	17	GND
8	ENN	18	MS1
9	STEP	19	MS2
10	DIR	20	SPREAD
21	INDEX	22	DIAG

Bill of Materials

Pcs.	Value	Footprint	Description
1	R0603/1R1/1%	0603	Resistor
1	R0603/100k/1%	0603	Resistor
2	R0603/1k/1%	0603	Resistor
1	R0603/220R/1%	0603	Resistor
1	1uF, 50V	0603	Capacitor
2	10uF, 50V	1210	Capacitor
2	R2010/1W/0R12	2010	Resistor
1	2u2/50V	0603	Capacitor
1	22nF/50V	0805	Capacitor
4	100nF, 50V	0603	Capacitor
1	blue/0603	0603	LED
1	white/0603	0603	LED
1	TMC2209-LA	QFN28,5x5mm	Trinamic Stepper Motor Driver

Schematics

TRINAMIC
MOTION CONTROL
Now part of Maxim Integrated