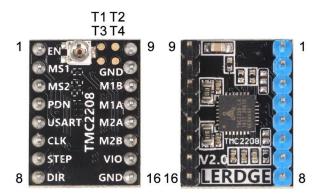
# TMC2208 Lerdge-SilentStepDrive

Document Revision V2.0 • 2019- September-6

### **Module Top View**



#### **Pin List**

T1	Vref	T2	GND
T3	DIAG	T4	INDEX

1	EN	9	VM
2	MS1	10	GND
3	MS2	11	M1B
4	NC (PDN_UART)	12	M1A
5	NC (PDN_UART)	13	M2A
6	NC (CLK)	14	M2B
7	STEP	15	VIO
8	DIR	16	GND

## **Schematics**

5VOUT	INDEX Z VS VS DIAG GND BRA	U1  28 TMC2208-2  22 C3  18 0.1uf/50V 0.1  23 R7 0R11	VM C5C7 uu/50V lul/50V GND	12 VM 1 2 OA2 3 OA1 4 OA1 5 OB1 6 OB2 7 VCC 8 VCC	J1 1 2 3 3 4 5 6 6 7 8 CON8	MS1 J3 PDN UAT	
4.7uf/50V C2 GND   3 VCC   15 R2 20K EN 2 MS1 9 MS2 10	5VOUT BRB  GND OA1	27 R6 OR11  24 OA1 21 OA2 26 OB1 1 OB2  17 4	R4 R5 5VC 20K 20K Vref			I <sub>RMS</sub> =  \[ \frac{325mV}{Rsense + 30mG} \]  Vref 02.5V (default: Rsensor 0.11 Ohm  EN (with pull-up)  GND Enable driver VCC Disable driver	1.25V
PDN UATR 14 STEP 16 DIR 19 CL 13	NC PDN UART CPI STEP DIR CLK F NC  GND	5 22nf/50V 6 20 C6 0.1uf/50V VM	Gnd Test2	V2.0	HC2208 A	MS1 MS2 Steps Intellectual CCC GND 2 256 GND VCC 4 256 GND GND 8 256 VCC VCC 16 256	6

#### **Features and additional Resources**

- TMC2208-LA stepper motor controller & driver
- Supply voltage 4.75-36V
- Continuous Iphase = 1.0A RMS
- Iphase up to 1.4A RMS = 1.97A peak for a short time
- Quiet operation with StealthChop™
- Smooth Running 256 microsteps by MicroPlyer™ interpolation

 $*\frac{1}{\sqrt{2}}*\frac{\text{Vref}}{2.5\text{V}}\approx 0.66*\text{Vref}$ 

1.25V)

- Energy savings with CoolStep™
- Configuration and extended diagnostics via UART
- Control via Step & Dir interface
- Board width 15.5mm, board height 20.5mm
- 2x8 pin 2.54mm header rows for pins/connectors