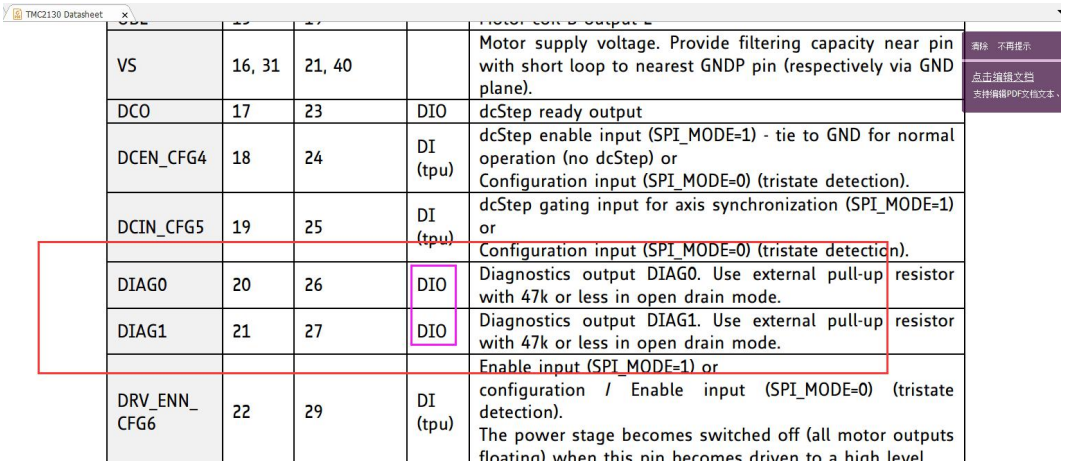
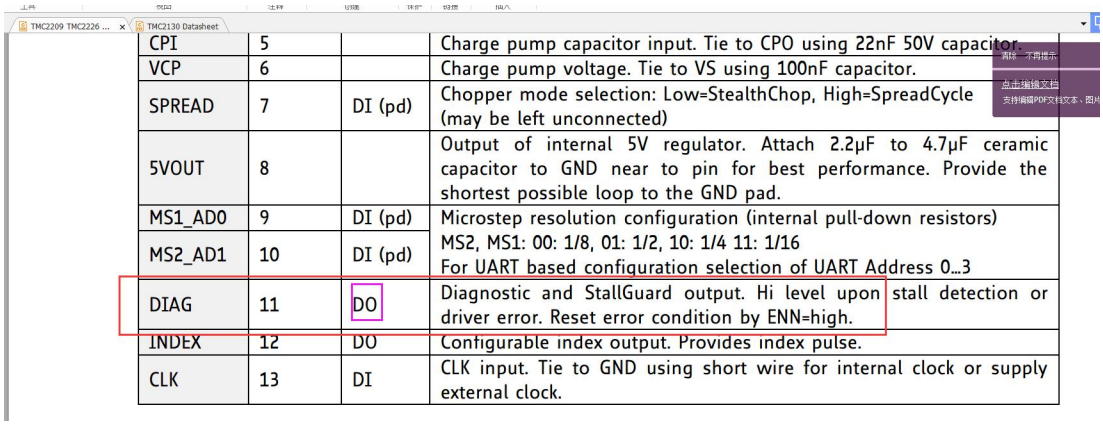
Description of the limit switch function cannot be used after installing the TMC2209:

TMC2130



VS	16, 31	21, 40		Motor supply voltage. Provide filtering capacity near pin with short loop to nearest GNDP pin (respectively via GND plane).
DCO	17	23	DIO	dcStep ready output
DCEN_CFG4	18	24	DI (tpu)	dcStep enable input (SPI_MODE=1) - tie to GND for normal operation (no dcStep) or Configuration input (SPI_MODE=0) (tristate detection).
DCIN_CFG5	19	25	DI (tpu)	dcStep gating input for axis synchronization (SPI_MODE=1) or Configuration input (SPI_MODE=0) (tristate detection).
DIAG0	20	26	DIO	Diagnostics output DIAG0. Use external pull-up resistor with 47k or less in open drain mode.
DIAG1	21	27	DIO	Diagnostics output DIAG1. Use external pull-up resistor with 47k or less in open drain mode.
DRV_ENN_CFG6	22	29	DI (tpu)	Enable input (SPI_MODE=1) or configuration / Enable input (SPI_MODE=0) (tristate detection). The power stage becomes switched off (all motor outputs floating) when this pin becomes driven to a high level

TMC2209



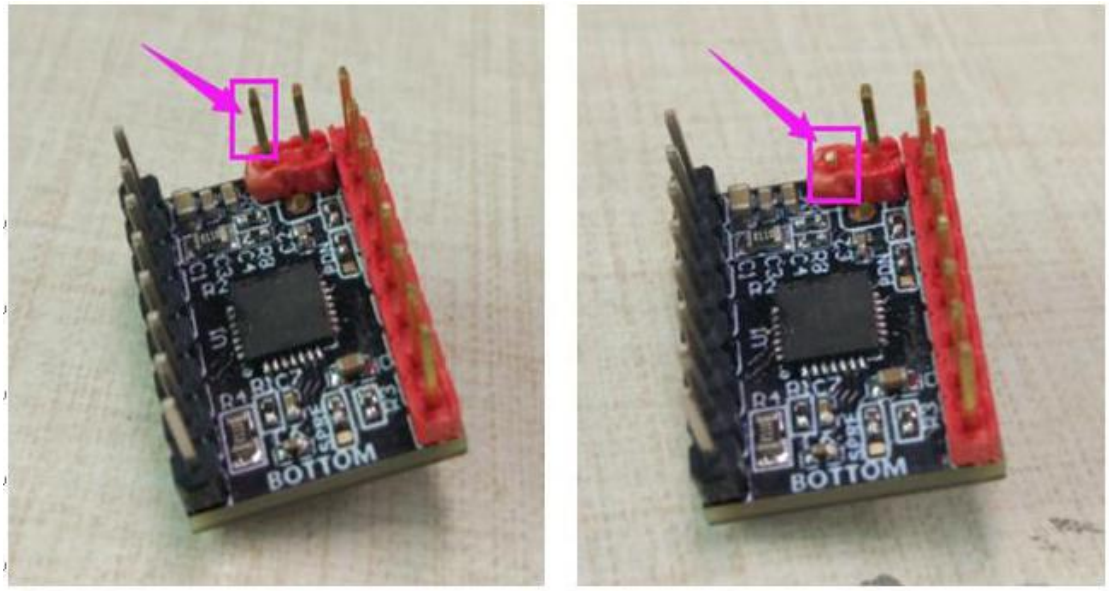
CPI	5		Charge pump capacitor input. Tie to CPO using 22nF 50V capacitor.
VCP	6		Charge pump voltage. Tie to VS using 100nF capacitor.
SPREAD	7	DI (pd)	Chopper mode selection: Low=StealthChop, High=SpreadCycle (may be left unconnected)
5VOUT	8		Output of internal 5V regulator. Attach 2.2µF to 4.7µF ceramic capacitor to GND near to pin for best performance. Provide the shortest possible loop to the GND pad.
MS1_AD0	9	DI (pd)	Microstep resolution configuration (internal pull-down resistors) MS2, MS1: 00: 1/8, 01: 1/2, 10: 1/4 11: 1/16 For UART based configuration selection of UART Address 0...3
MS2_AD1	10	DI (pd)	
DIAG	11	DO	Diagnostic and StallGuard output. Hi level upon stall detection or driver error. Reset error condition by ENN=high.
INDEX	12	DO	Configurable index output. Provides index pulse.
CLK	13	DI	CLK input. Tie to GND using short wire for internal clock or supply external clock.

A comparison of the TMC2209 and TMC2130 chip manuals shows that:

The DIAG pin of the TMC2130 can be used as an input/output, but the DIAG of the TMC2209 can only be used as an output. Therefore, it should be noted when using TMC2209 on the board with DIAG function :(such as SKR E3 DIP V1.0, BTT002 V1.0, SKR Pro V1.1, etc.)If you use the TMC2209 but needn't use the

DIAG function, you have to cut the DIAG pin on the TMC2209 driver, otherwise the limit switch function will not work properly.

As shown below:



If you encounter other problems while using, please contact us, we will answer you scrupulous; if you have any good comments or suggestions for our products, pls feel free to inform us, we will carefully consider your comments or suggestions, thank you!