

## [LDO-57STH86-3004A](#)

### Stealthchop

We set stealthchop motion because its quieter, and we set it from moves as slow as 5mm/s so that we don't get whiplash from switching between stealthchop (voltage-controlled) to maxspread (pwm-controlled) output at high speeds.

### [Stall Detection](#)

Stall detection gives us virtual endstops on the maximum X and Y, and protection if a toolhead gets stuck on something.

Note! I am not sure if the rated torque should be 3.0A, or  $3.0A * 2$  because there are two phases in the motor

A rough figure for the minimum speed in full steps per second (M915 H parameter) for which you should be able to get reliable stall detection is given by this formula:

```
min_full_steps_per_second_for_reliability =  
    steps_per_full_rotation * rated_current  
    * (actual_current/(sqrt(2) * pi * rated_torque_nm))  
  
steps = 400  
rated = 3  
actual = 0.8 Amp  
pi = 3.142  
sqrt(2) = 1.414  
torque = 2.4 N/m (from 24.5Kg-cm)  
  
actual / (sqrt(2) * pi * torque) = 0.075  
  
steps * rated * 0.075 = 90
```



