3DM783

Key Features:

❑ The new 32-bit DSP technology

❑ Optically isolated differential inputs

❑ Extra-low noise and vibration

❑ The range is 2-128 and 2.5-50 microsteps

❑ Built 500 high octave microstep (selected microstep value)

❑ Stationary current is automatically halved when stand still

❑ Pulse frequency response up to 250KHz

❑ Overvoltage, undervoltage, short circuit protection

❑ Alarm output function I / O ports

❑ Offline protection input ENA

Introduction

3DM783 is newest digital stepper motor driver launched by Yuhai, using the latest 32-bit DSP control technology, the user can set any segment within 25600 and multi-range current value within rated current,with built-in micro technology,3DM783 driver greatly improved stability and reduced noise under subdivision. Integrating automatic parameter tuning function inside.it also can adjust the optimal operation parameters automatically for different motors to maximize the performance of the motor.

Specifications

Parameters	Min	Typical	Max	Unit
Output Current (Peak)	1.89	-	8.26	Amps
Supply voltage	24	36	70	VDC
Logic Input Current	-	15	-	mA
Pulse input frequency	-	-	250	KHz
Low Level Time	2.5	-	-	µsec

Cooling	Natural Cooling or Forced Convection	
Environment	Space	Avoid dust, oil frost and corrosive gases
	Ambient Temperature	65°C
	Humidity	<80%RH
	Vibration	5.9m/s² Max
Storage Temp.	-10℃ － 80℃	
Weight	Approx. 0.6 Kg	

Microstep Setting
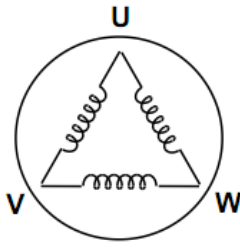
Step/REV	SW1	SW2	SW3	SW4
400	OFF	ON	ON	ON
1600	ON	OFF	ON	ON
3200	OFF	OFF	ON	ON
6400	ON	ON	OFF	ON
12800	OFF	ON	OFF	ON
25600	ON	OFF	OFF	ON
500	OFF	OFF	OFF	ON
1000	ON	ON	ON	OFF
1200	OFF	ON	ON	OFF
2000	ON	OFF	ON	OFF
4000	OFF	OFF	ON	OFF
5000	ON	ON	OFF	OFF
6000	OFF	ON	OFF	OFF
8000	ON	OFF	OFF	OFF
10000	OFF	OFF	OFF	OFF

* SW4: ON=Full current, SW4 : OFF=Half current

P1 Pin Assignment

Signal	Function	Descriptions
PLS+	Input signal positive end	Connected to + 5V power supply, + 5V ~ + 24V can be driven, above 5V need current limiting resistor.
PLS-	Pulse signal	Falling edge, pulse from high to low whenever the motor step. Input resistance 220Ω, requirements; low 0-0.5V, high 4-5V, pulse width <2.5uS.
DIR+	Input signal positive end	Connected to + 5V power supply, + 5V ~ + 24V can be driven, above 5V need current limiting resistor.
DIR-	Direction control signal	Used to change the direction, input resistance 220Ω, requirements; low 0-0.5V, high 4-5V, pulse width <2.5uS.
ENA+	Input signal positive end	Connected to + 5V power supply, + 5V ~ + 24V can be driven, above 5V need current limiting resistor.
ENA-	Motor release signal	Off active (low) when power motor current, the drive stops working, the motor is in a free state.
ALM+	Alarm output positive	Open collector output
ALM-	Alarm output negative	Open collector output

P2 Pin Assignment

Name	Function	Instructions
U V w	Electrical wiring	
+V GND	Input DC voltage	Between DC24~70V，refer to motor specs

Wiring