

3-phase BLDC Motor Controller for 3-wire with Built-in Gate Drivers

Features

- Built-in Vector Engine controller
- Built-in 100V Gate driver
- Sensorless Field Oriented Control
- Sensorless Direct Torque Control
- Initial Position Detection
- Initial Speed Detection
- Smart start-up method
- 12-bit ADC converters
- I²C interfaces
- QFN56L 7mm x 7mm x 0.75mm

Brief Description

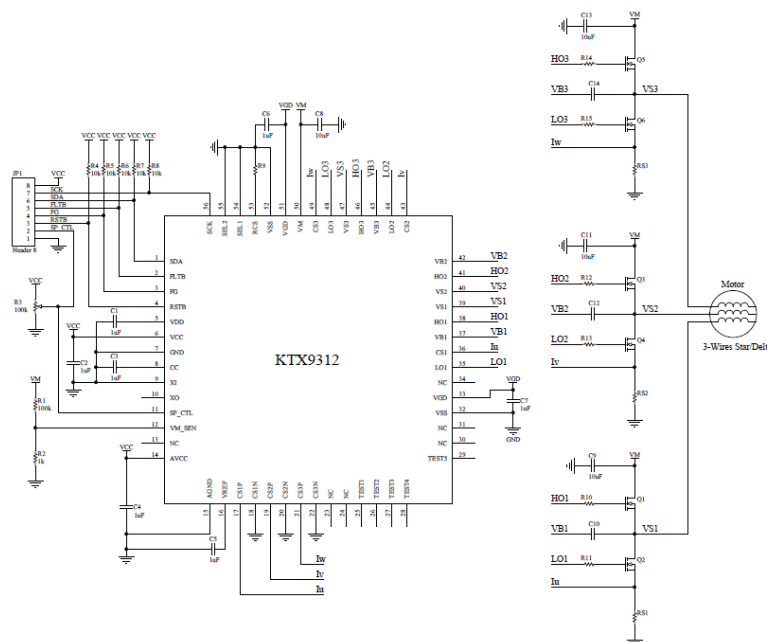
The KTX9312 is a motor driver IC, the third-generation solution in Kinetic's patented PURESINE™ 6-wire technology family. Specifically designed for all standard 3-wire 3 phase BLDC motors, offering the unique benefits of a monolithic hybrid ASIC architecture with advanced control, monitoring, torque, speed and position detection.

The KTX9312 motor driver have built-in vector engine and bridge drivers optimized for PMSM/BLDC applications. Designed for ease of use, the KTX9312 offers simplicity in configuration with state-of-the-art control.

Applications

- Brushless DC Motors
- Home appliance and air-con fans
- Permanent Magnet Synchronous Motor
- Battery Operated devices
 - ▶ Portable vacuum cleaners
 - ▶ Power Tools, etc.
- Drones and aero modeling
- EV non-drivetrain

Typical Application



Ordering Information

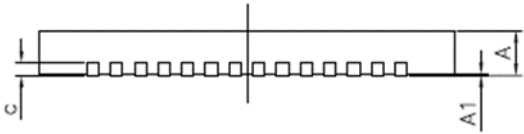
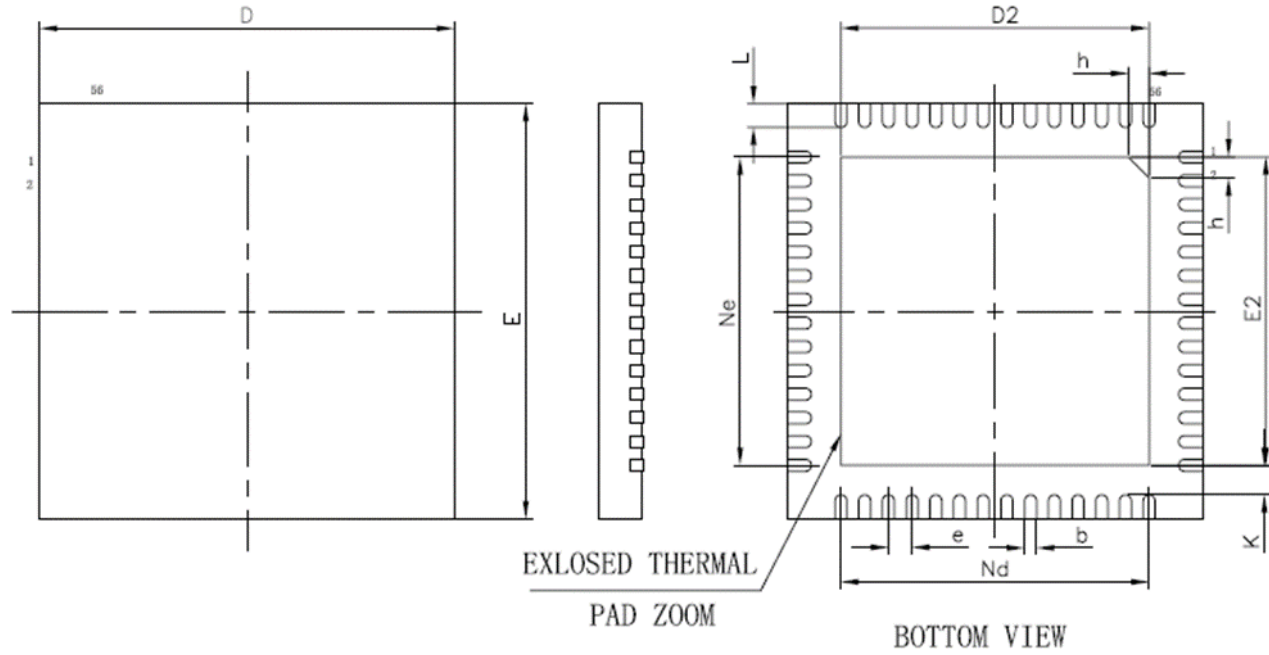
Part Number ¹	Marking ²	Operating Temperature	Package
KTX9312GUAN-AA-TE	YYWWVXXX	-40°C to +125°C	QFN56L

1. Will be qualified to a minimum MSL3.

2. YY = Year Code, WW = Week Code, V = Factory Code, XXX = Lot Sequence #.

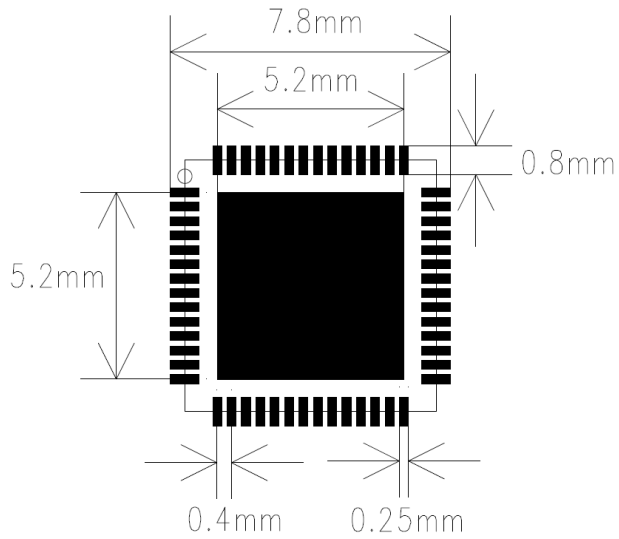
Packaging Information

QFN56L (7mm x 7mm x 0.75mm)



SYMBOL	MILLIMETER		
	MIN	NOM	MAX
A	0.70	0.75	0.80
A1	—	0.02	0.05
b	0.15	0.20	0.25
c	0.18	0.20	0.25
D	6.90	7.00	7.10
D2	5.10	5.20	5.30
e	0.40BSC		
Nd	5.20BSC		
Ne	5.20BSC		
E	6.90	7.00	7.10
E2	5.10	5.20	5.30
K	0.20	—	—
L	0.35	0.40	0.45
h	0.30	0.35	0.40

Recommended Footprint



Kinetic Technologies cannot assume responsibility for use of any circuitry other than circuitry entirely embodied in a Kinetic Technologies product. No intellectual property or circuit patent licenses are implied. Kinetic Technologies reserves the right to change the circuitry and specifications without notice at any time.