

6-FET vs 3-FET Motor Features and Design Comparison

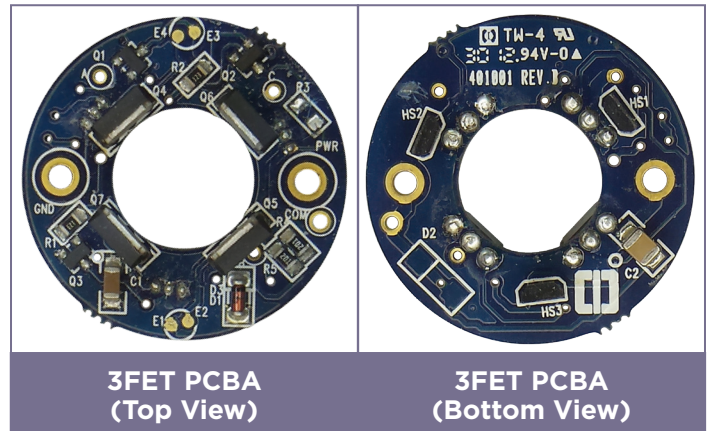
FEATURES OF THE 3-FET MOTOR:

- Robust and reliable design, in production since 2006
- Compact size can be packaged into smaller pumps
- High torque to weight ratio
- Low audible noise
- Brushless operation eliminates spark, leading to a longer lifespan
- Available in 12V and 24V versions
- Reverse polarity protection protects against incorrect connections to the battery
- EMC compliant as per the customer test specification
- 4-pole rotor built from a high-grade Neodymium magnet (N35SH)
- The coils are connected in Y configuration, can be energized independently
- Tear-down analysis takes less time due to circuit simplicity
- The circuit is built from simple components avoiding the issues caused by supply shortages
- ROHS compliant
- Used in the field by these engine and equipment manufacturers:

Perkins
Case New Holland
Cummins

Parker
Caterpillar
BobCat

Donaldson
Hydac
Superpar

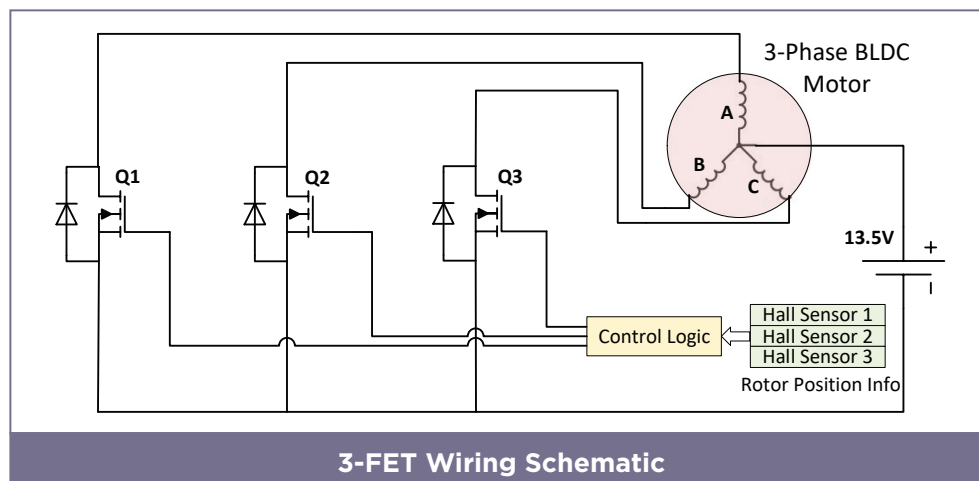


3FET PCBA (Top View)

3FET PCBA (Bottom View)



G1 Motor Images



3-FET Wiring Schematic

6-FET MOTOR FEATURES:

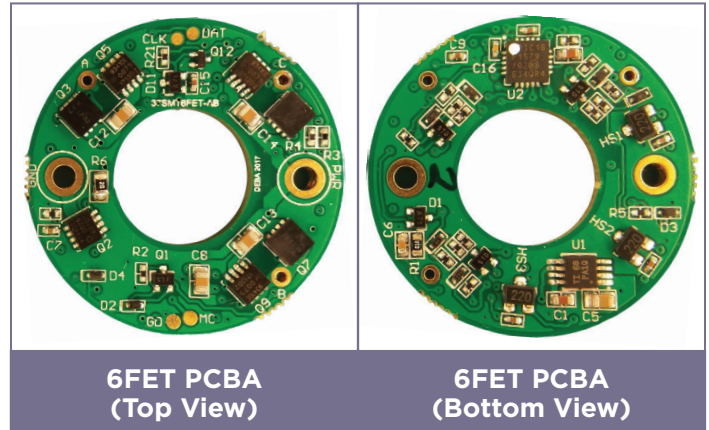
6-FET motor encompasses all the features of 3-FET with the additions of following:

- Lower heat dissipation
- Full Bridge configuration of driving FETs generates higher output torque
- Motor controller can be optimized to drive larger loads
- Active overcurrent protection offers fail-safe operation
- Overvoltage protection
- Lower RF emissions and Improved EMI immunity
- Supports the variable speed control

ADDITIONAL BENEFITS OF THE 6-FET MOTOR:

- Increased efficiency and higher torque to meet higher flow requirements in pump applications
- Active overcurrent protection improves safety, disabling the motor by shutting it off when excess current is detected
- Lower failure rate due to elimination of high voltage spikes generated during commutation
- Improved EMI performance by eliminating the voltage spikes
- The design supports Variable Speed Operation as needed by the customer requirements
- Used in the field by this engine and equipment manufacturer:

Mercury Marine

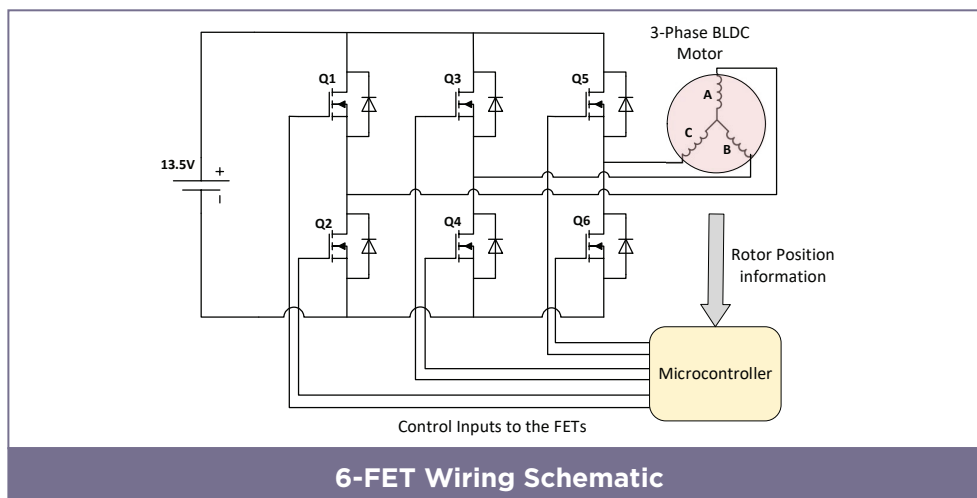


6FET PCBA (Top View)

6FET PCBA (Bottom View)



G1 Motor Images



6-FET Wiring Schematic