

Single-Coil Fan Driver

MLX90418

The MLX90418 is 1-coil BLDC motor driver IC. It can be configured for a wide range of applications and supports replacing legacy sensorless 3-phase motors. Furthermore, it includes dedicated features for high-speed server fan applications. With the MLX90418, 1-coil solutions are extended up to 30 W in 4 cm and 6 cm server fans. The code-free plug-and-play functionality, avoids the need for software validation of MCU-based solutions, freeing up key engineering resources for realizing more projects in less time, and enabling faster production ramp-up.



Key features

- ✓ Open and closed-loop speed control:
 - 40k m-RPM (for 2 pole-pair motors)
 - $\pm 1.5\%$ closed-loop speed accuracy
 - Soft-switching
 - Lead angle control
- ✓ Configurable motor start & stop options:
 - Forward windmilling
 - Reverse windmilling
 - (Universal windmilling)
- ✓ Integrated bridge driver
 - 135 mOhm (HS+LS)
 - Programmable current limit up to 4.0 A
 - 8.0 A braking current
 - Integrated supply clamp
- ✓ Operating range:
 - Supply voltage range from 6.7 V to 18 V
 - Junction temperature from $-40\text{ }^{\circ}\text{C}$ to $150\text{ }^{\circ}\text{C}$
- ✓ Extensive programmability (MTP)
 - Sleep mode option
 - 8-point configurable speed curves
 - Synthesized FG output for easy retrofitting of legacy 3-phase solutions
- ✓ Protections & Diagnostics
 - LRP / UVP / OCP / TSD
 - Hot unplug handling with power loss brake option
 - AC-power loss management
- ✓ Package RoHS compliant
 - DFN10 3.5x3 mm² with exposed pad

1-COIL 12V high-speed code-free fan driver



1 x 30 W
single fan
driver

2 x 15 W
twin fan
driver

Applications

- High speed server cooling fans
- General 12 V fans & pumps up to 30 W



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