

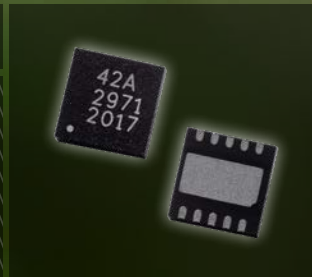
Melexis

INSPIRED ENGINEERING



MLX90412-K

SINGLE-COIL FAN & PUMP DRIVER



The hummingbird's beating wings flap at extremely high frequencies, typically around 50 times per second. This allows it to fly at speeds exceeding 15 m/s, to fly backwards or to seemingly be suspended in the air in perfect balance. What better animal to reflect the motor/control driver and actuator capacities?

LOW NOISE FAN & PUMP DRIVER FOR SMART APPLICATIONS UP TO 35 W

MLX90412-K

The MLX90412-K operates over a supply voltage range from 3.5 V to 32 V, and is robust up to 40 V, making it suitable for any fan, blower or pump applications operating from 12 V and 24 V power supplies, as well as portable applications with up to seven Li-ion cells ~29 V. With a current limit up to 2.2A, the MLX90412 can drive applications up to 35 W in a safe way without risk of overheating the device or the motor coil. The closed-loop speed control and adaptive low noise commutation enable industry standard efficiency with lowest acoustic noise. Additionally the closed loop speed control reduces the design effort to adjust existing fan- and pump-tooling to meet target operating points with high accuracy, and improve the response time to new end-customer requests.



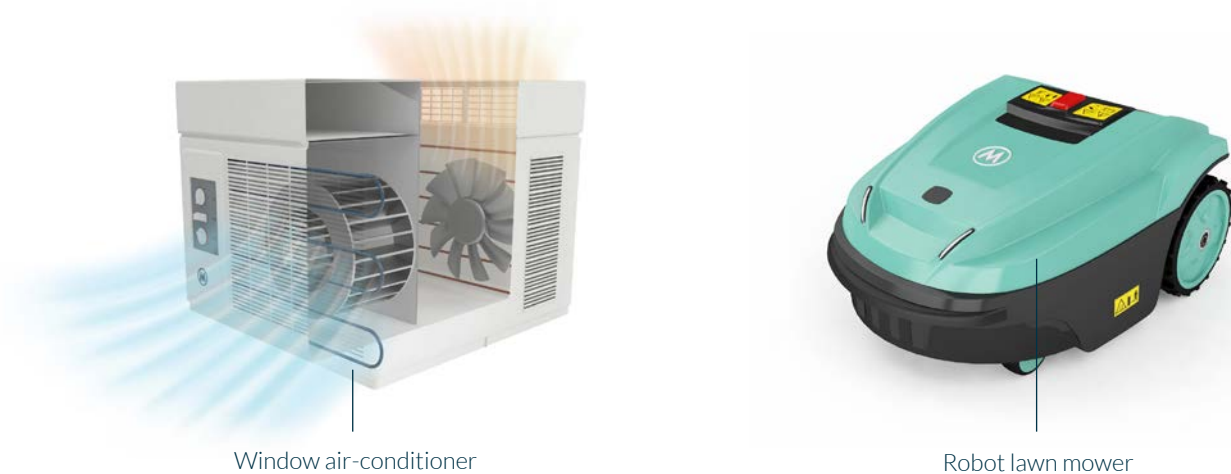
KEY FEATURES

- ✓ All-in-one fan driver, including high-sensitivity Hall-effect sensor
- ✓ Up to 2.2 A motor current
- ✓ Adaptive commutation for best in class efficiency over the full speed range for any fan design
- ✓ Commutation options
 - Maximum torque
 - Very low acoustic noise
- ✓ PWM control input
 - Standby mode
 - Open loop / closed loop speed control (+/-1.5%)
- ✓ Protections and diagnostics
 - Locked Rotor Protection (LRP) (Programmable)
 - Temperature Shutdown (TSD)
 - Over Voltage protection (OVP) (Programmable)
 - Short circuit protection (OCP)
- Current limit (CL)
- FG/RD open drain diagnostics output (Programmable)
- ✓ Certifications
 - UL/VDE/CE ready
 - JEDEC qualified package
- ✓ I2C programming
 - Fast prototyping
 - End-of-line programming
- ✓ Package
 - Exposed pad DFN10 3x3 with wettable flanks
 - small (9mm²) footprint, for minimal PCB size
 - <1mm height

MORE INFORMATION: WWW.MELEXIS.COM/MLX90412-CONSUMER

Melexis

APPLICATION VISUALS



The above information is "as is" and believed to be correct and accurate. Melexis disclaims any and all liability in connection with or arising out of the furnishing, application or use of the information or products; any and all liability, including without limitation, special, consequential or incidental damages; and any and all warranties, express, statutory, implied, or by description, including warranties of fitness for particular purpose, non-infringement and merchantability. Melexis reserves the right to change it at any time and without notice. Users should obtain the latest version of the information to verify it is current. Users must further determine the suitability of a product for its application, including the level of reliability required and determine whether it is fit for a particular purpose. Export control regulations may apply and export might require prior authorization from competent authorities. Melexis' products are intended for use in normal commercial applications. Unless otherwise agreed upon in writing, the products are not designed, authorized or warranted to be suitable in applications requiring extended temperature range and/or unusual environmental requirements. High reliability applications, such as medical life-support or life-sustaining equipment are specifically not recommended by Melexis. Melexis' products are sold under the Melexis' Terms of Sale, which can be found at <https://www.melexis.com/en/legal/terms-and-conditions>.