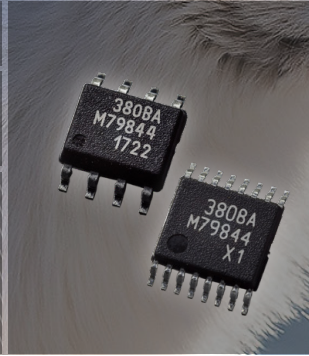


MLX90380

TRIAxis® RESOLVER

MOTOR POSITION
SENSOR



The arctic fox: While hunting, the Arctic fox uses the magnetic north to locate its prey beneath the snow. No wonder it is the perfect metaphor for our wide portfolio of magnetic sensors. In addition the Arctic fox lives in some of the coldest places on earth. Yet, it does not start to shiver until the temperature drops to -70°C . Being able to function in even the most extreme weather conditions is a feat it shares with our products.

HIGH SPEED OPERATION AND FLEXIBLE THROUGH-SHAFT POSITIONING

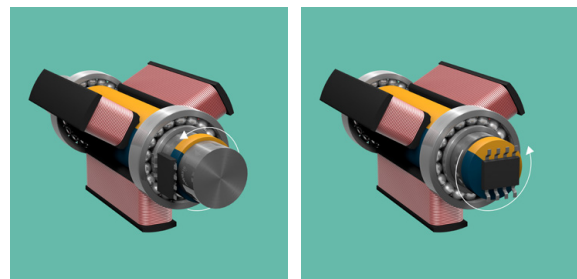
MLX90380

MLX90380 is a fast pre-programmed magnetic resolver IC for brushless motors. It is ideally suited to automotive applications as well as other applications that need fast position readouts. Its ability to measure the absolute angle enables more efficient and safer motor control algorithms such as field oriented control algorithms. Fast in this case means $2\mu\text{s}$ sampling per field component and $4\mu\text{s}$ for two components.

The MLX90380 provides sine and cosine analog ratiometric outputs. Its option code includes the ability to select sensitivity from 10mT to 70mT and five different configurations for the magnetic field axis. Flexible mechanical designs are possible as designers can select the field component to be measured. As such, it is even possible to design off axis magnetic readouts.

KEY FEATURES

- ✓ Sine and cosine analog outputs
- ✓ Output refresh rate: $4\mu\text{s}$
- ✓ Flexible mechanical design enabled by selectable magnetic field axis (X/Y - X/Z - Z/Y)
- ✓ End-of-shaft / through-shaft operation
- ✓ RoHS compliant packages:
 - Single die – SOIC-8
 - Dual die fully redundant – TSSOP-16



MLX90380 is for motor commutation in brushless motors. The magnetic resolver IC can be placed off axis (left) and end-of-shaft (right).

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 a 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>.