



1 FH3D04 2.5x2.5x0.6mm WLCSP with 0.5mm pitch

LZE GmbH

Frauenweiherstr. 15
91058 Erlangen
Germany

Contact:

contact@lze-innovation.de
www.lze-innovation.de



FH3D04

Software Defined Quad 3D Hall Sensor

General Description

The FH3D04 is a quad 3D Hall sensor based on Fraunhofer HallinOne® technology. This versatile magnetic field sensor uses pure Hall effect principle without magnetizable materials.

FH3D04 offers high dynamic magnetic range and accurate 3D magnetic field measurement at four positions with a planar IC in a 2.5x2.5x0.6mm WLCSP package.

Supports stray field robust applications by using magnetic field gradients.

Applications

- 3D up to 6D position measurement (Joystick, Gimbal)
- Current sensing
- Linear position measurement (axial/orthogonal and axial/parallel)
- Angular measurement (on-/off-axis)
- Magnetic field mapping, equidistant arrangement for cameras with 1.5mm pitch

Features

- Quad 3D Hall-Sensor with 1.5mm pitch
- Measurement range full scale from ~10mT up to ~1.5T
- Measurement rate up to 80kHz at 10Bit or 1.8kHz at 16Bit resolution
- Supply voltage 3.0V...3.6V
- Temperature range -40°C ... 125°C
- Temperature sensor for system-level drift tracking
- Software defined sensor:
 - each sensor element can be independently configured concerning measurement range and rate
 - Measurement flow (active sensor elements and measurement order)
- OTP containing electrical trim values, free space for customer data
- Integrated excitation coils
 - Magnetic calibration without need for magnetic setup
 - Magnetic self test during operation
- Diagnostic features for fault detection
- SPI interface