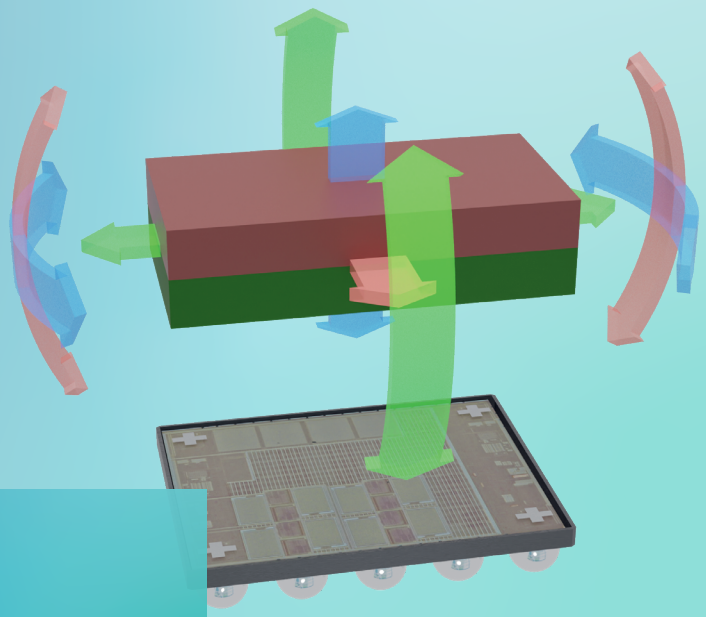
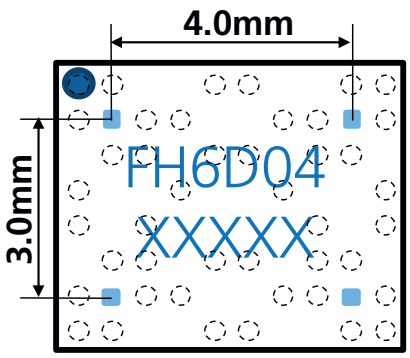
Fraunhofer IIS



Prototype FH6D04

RISC-V powered Quad 3D Hall Sensor



1 *FH6D04 5.0x4.0x0.6mm WLCSP with 0.5mm pitch*

General Description

FH6D04 is a RISC-V powered 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 5.0x4.0x0.6mm WLCSP package.
Supports stray field robust applications by using magnetic field gradients.

Applications

- Position sensor with output of up to all six mechanical degrees of freedom (Joystick, Gimbal)
- Current sensing with detection of interfering magnet field.

Features

- RISC-V based microcontroller with integrated 6D position and current sensing algorithms
- Quad 3D Hall-Sensor with 4x3mm hall pixel distance & temperature sensor
- Measurement range (full scale up to 1.5T), Offset and Sensitivity compensated over temperature
- Dual channel data acquisition path for measurement rates up to 80kHz at 10Bit or 1.8kHz at 16Bit resolution
- Supply voltage 3.0V…3.6V
- Temperature range -40°C … 150°C
- Integrated excitation coils
  - Magnetic calibration without need for magnetic setup
  - Magnetic self test during operation
- Diagnostic features for fault detection
- SPI / I2C / UART interface
- Customer specific programming concerning measurement range, measurement rate and measurement sequence feasible on request

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