SCH16T-K20 Gyroscope and Accelerometer

6-DOF Inertial Sensor with New Stable, Low Noise Accelerometer MEMS, and Improved Gyroscope



11.8 mm x 13.4 mm x 2.9 mm
(l x w x h) SOIC-24

Features

- New stable, low noise accelerometer with down to 33 µg/√Hz noise density and ±8 g measurement range
- Improved gyroscope offset over temperature
- Gyro bias instability down to 0.3 °/h
- Advanced self-diagnostic system automatically reports sensor status in every SPI frame, leveraging over 200 internal monitoring signals
- Pin-to pin and software compatibility with other SCH16T series sensors
- SafeSPI2.0 interface with 20-bit data frame

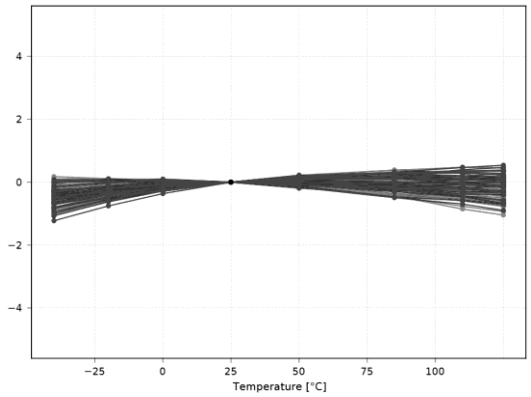
Technology

- The new accelerometer MEMS uses a double-differential measurement principle, familiar from Murata SCA3400 series. The MEMS enables extremely stable offset and sensitivity over time and temperature.
- Groundbreaking SCH16T MEMS gyroscope delivers ultra-low noise density and stability over temperature with improved calibration.

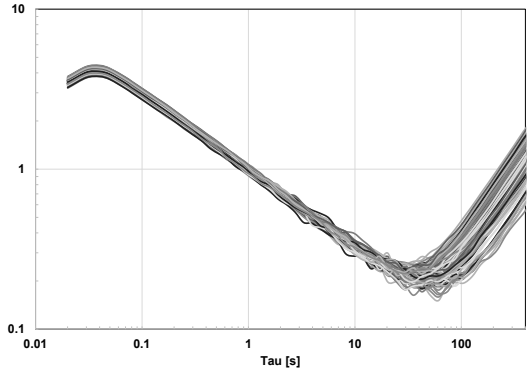
Applications

- Robotic motion control
- Camera image stabilization
- Heavy machine precision control and guidance
- Platform stabilization and levelling

Accelerometer, Offset error over temperature (mg)



Gyroscope, Allan deviation (°/h)



Specifications

Parameter	Ω xyz	Acc xyz
Measurement range	±300 °/s	±8 g
Noise density (typ)	0.0004 (XY) 0.0006 (Z) (°/s)/√Hz	37 (XY) 33 (Z) µg/√Hz
Bias instability (typ) Allan deviation minimum divided by 0.664	0.3 °/h	13 µg
Operating temperature	-40 °C to +110 °C	

More details: SCH16T Website

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