

SCHA600

6-DOF XYZ-Axis Gyroscope and
XYZ-Axis Accelerometer
with Digital SPI Interface



Applications

- Advanced Driver Assistant System (ADAS)
- Automated Driving (AD)
- Inertial Navigation for Dead Reckoning
- Lane Keeping Assistant (LKA)
- Motion and Position Measurements
- Platform Stabilization

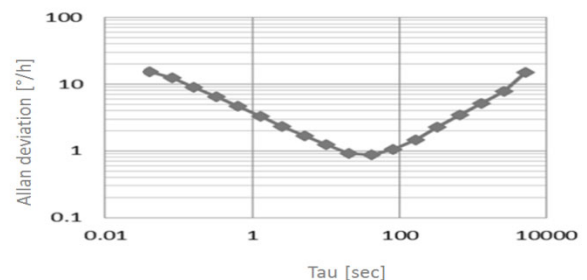
Features

- Single package 6DOF component for safety critical and AD applications
- ISO26262 compliant for systems up to ASIL D
- Excellent vibration robustness
- Extensive self-diagnostics features
- $\pm 125^\circ/\text{s}$ or $\pm 300^\circ/\text{s}$ angular rate measurement range to cover various application needs
- $\pm 6\text{ g}$ acceleration measurement range
- $-40^\circ\text{C} \dots +110^\circ\text{C}$ operating temperature range
- $3.0\text{V} \dots 3.6\text{V}$ supply voltage
- SOIC housing body size $18.7\text{ mm} \times 8.5\text{ mm} \times 4.5\text{ mm}$ (L $\times$ W $\times$ H), 32 pins
- Qualified according to the AEC-Q100 standard

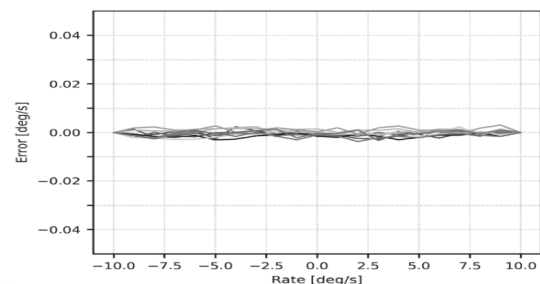
Performance

- Allan variance down to $0.9^\circ/\text{h}$ at room temperature
- Gyro RMS noise level below $0.007^\circ/\text{s}$
- Component-level dynamic cross-axis calibration enables better than 0.3° cross axis error over temperature
- Typical Offset Temperature Dependency
 - Gyro: (Z) $\pm 0.06^\circ/\text{s}$, (XY) $\pm 0.25^\circ/\text{s}$
 - Acceleration: (XYZ) $\pm 3\text{mg}$(± 1 sigma from initial measurement)

Z-Gyro Allan Deviation in $^\circ/\text{h}$

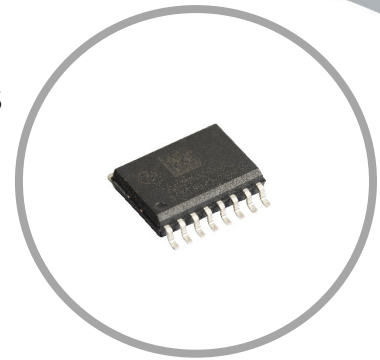


Z-Gyro Linearity error in $^\circ/\text{s}$



SCC3000

Inertial Sensor Family for Safety Critical Applications



Applications

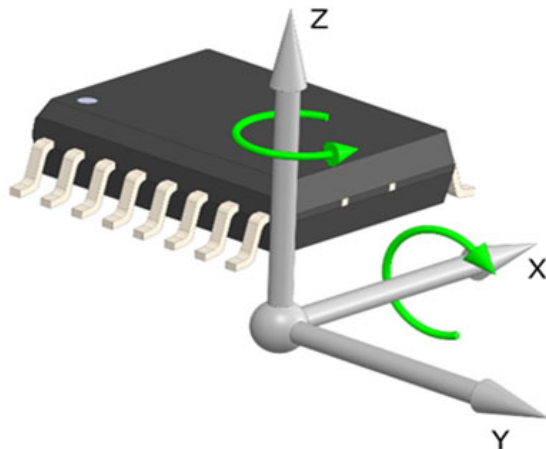
- Electronic Stability Control (ESC)
- Advanced Driver Assistant System (ADAS)
- Lane Keeping Assistant (LKA)
- Active Steering
- ADAS Perception Sensor Dynamic Alignment
- Suspension control

Performance

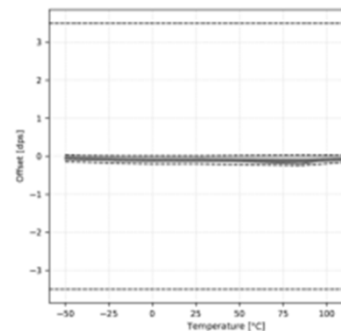
- $\pm 125^\circ/\text{s}$ or $\pm 300^\circ/\text{s}$ angular rate measurement range to cover various application needs
- $\pm 6\text{ g}$ acceleration measurement range
- $\pm 15\text{g}$ auxiliary 3-axis acceleration measurement (XYZ) range
- User selectable filter setting 13, 20, 46, 200, 300Hz to cover different application needs

Features

- Combined gyro and 3-axis accelerometer component for safety critical automotive applications
- Component family with pin-to-pin and SW compatibility
- 4 DOF configuration for cost effective ESC system
- 5DOF configuration for systems requiring roll/pitch & redundant yaw
- ISO26262 compliant for systems up to ASIL D
- Excellent vibration robustness
- Extensive self-diagnostics features
- Qualified according to the AEC-O100 standard



Z-Gyro Temperature dependency



Z-Gyro Linearity error in $^\circ/\text{s}$

