

### General Characteristics

- Operating Principle: Fluid Rotor Inertial Angular Displacement Sensor
- Application: Spacecraft and Terrestrial Angular Sensing
- Size and Mounting: Per Outline Drawing (see pg 2)
- Weight: 165g (estimated)
- Input Power:  $\pm 15V$ , 30 mA Maximum

### Performance Characteristics

- Range:  $\pm 100\mu\text{Rad}$  ( $\pm 10 V$ )
- Voltage Scale Factor (VSF): 100,000 V/Rad
- VSF Temperature Coefficient: 0.09% per  $^{\circ}\text{C}$
- Threshold:  $< 1 \text{ nrad}$
- Null Output: 30 mV
- Noise: 50 nRad RMS Maximum, 2 Hz to 200 Hz
- Frequency Range: 2 Hz to 2000 Hz
- Frequency Response Flatness: 10%, 2 Hz to 70 Hz; 3.5%, 70 Hz to 500 Hz
- Phase Response Tolerance: 6.0 Degrees, 70 Hz; 4.0 Degrees, 140 Hz to 500 Hz
- Damping Ratio: 0.5 to 0.9
- Alignment: 17 mRad (1 degree)
- Linear Acceleration Sensitivity: 200  $\mu\text{rad/g}$ , 2 Hz (decreases at 12dB/octave)
- Cross Axis Sensitivity: 0.2%
- Output Impedance: 200  $\Omega$ , Maximum
- Insulation Resistance: 1000 M $\Omega$ , 50 VDC
- Overload Recovery: 7 seconds

### Environmental Capability

- Operating Temperature:  $-18$  to  $+70^{\circ}\text{C}$
- Storage Temperature:  $-54$  to  $+74^{\circ}\text{C}$
- Vacuum:  $10^{-11}$  Pa
- Vibration: 30g RMS, 20 Hz to 2000 Hz
- Linear Acceleration: 100g (any direction)
- Shock: 100g (11 ms half sine)

Approved for general release

## INERTIAL SENSOR DATA SHEET

