

High Performance MEMS Accelerometer AXO[®]215



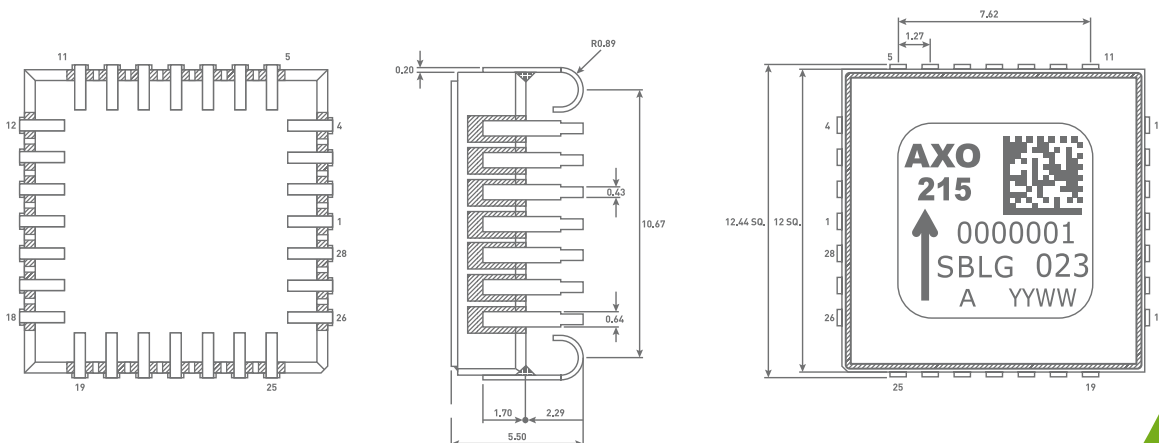
KEY FEATURES

- In-plane linear accelerometer
- Superior non-linearity of 200 ppm over 15 g range thanks to the closed-loop operation
- Excellent bias instability of 3 μ g
- 24 bit output with digital SPI interface
- Low noise
- Embedded temperature sensor for on-chip or external temperature compensation
- Built-in self-test
- 12 x 12 mm hermetic J-Lead ceramic package
- Weight: 1.4 grams
- Full compatibility with GYPRO[®] Products
- REACH and RoHS compliant

GENERAL DESCRIPTION

AXO[®]215 product is ideally complementing the industry-standard GYPRO[®] Product Line. AXO[®]215 consists in a MEMS transducer and an integrated circuit (IC) packaged in a 28-pin J-lead Ceramic Package. The MEMS transducer is manufactured using Tronics' wafer-level packaging technology based on micro-machined thick single crystal silicon.

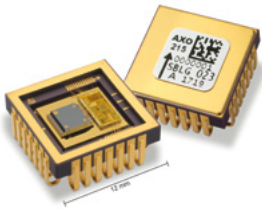
When the sensor is subjected to a linear acceleration, the acceleration acts on the proof-mass which is itself counterbalanced by electrostatic forces (closed-loop operation). The sensor is factory calibrated and compensated for temperature effects to provide high-accuracy digital output over a broad temperature range. Raw data output can be also chosen to enable customer-made compensations.



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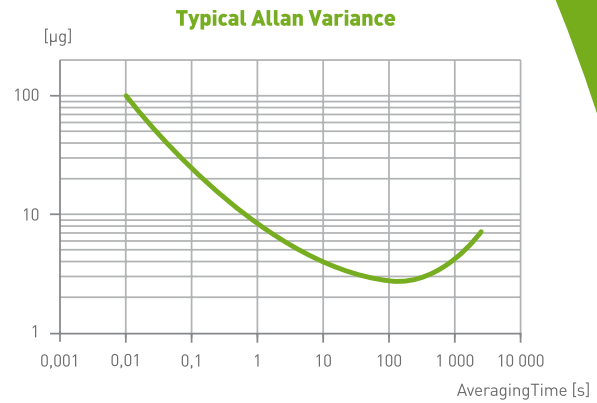
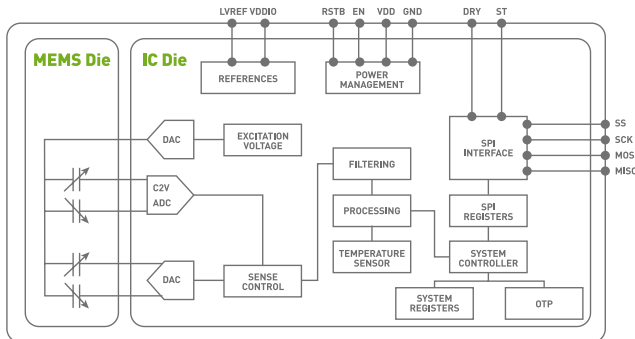
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AXO[®]215

High Performance MEMS Accelerometer



PERFORMANCE

| Parameter | AXO [®] 215 | Unit |
|-------------------------------------|----------------------|--------------------------------|
| Input range | ± 15 | g |
| Non linearity | 200 (<500) | ppm |
| Temperature range | -40 ... 85 | $^{\circ}\text{C}$ |
| Short term bias stability | 10 | μg |
| Bias instability | 3 | μg |
| Bias temperature variations | $<\pm 5$ | mg |
| Scale factor temperature variations | $<\pm 1500$ | ppm |
| Noise density | 15 | $\mu\text{g}/\sqrt{\text{Hz}}$ |
| Axis misalignment | <20 | mrad |
| Bandwidth | >300 | Hz |
| Data rate | 1700 | Hz |
| Latency | <1 | ms |
| Vibration rectification | <100 | $\mu\text{g}/\text{g}^2$ |
| Operating vibration | 8 | g rms |
| Survival shock | 2000/0.3 | g/ms |
| Power supply | 5 | V |
| Current consumption | 25 | mA |

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