

広帯域ODRで様々な振動検出可能/大容量FIFOで低消費電力実現

Broadband ODR Detects Vibrations / The Large-Capacity FIFO Reduces Power Consumption



3軸デジタル加速度センサ

3-Axis Digital Acceleration Sensor

KX122 / KX123

Features

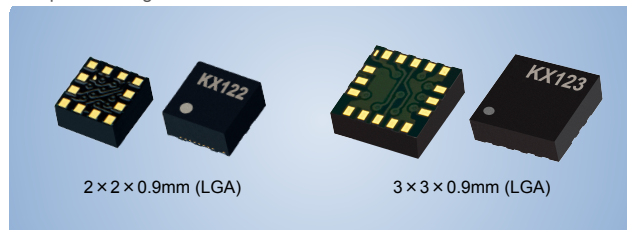
- 分解能16ビット、ODR最大25.6KHz
2048バイトFIFO
16-bit resolution, maximum 25.6 KHz ODR,
2048-byte FIFO
- 高性能/小型/低消費、I²C/SPI通信方式
Highly effective, compact, low power consuming
I²C/SPI transmission method
- 内蔵の動作検出アルゴリズムによる多様な機能搭載
The embedded operation detection algorithm enables
various functions.

Applications

- スマートフォン、モバイルデバイス
Smartphone, Mobile device
- ヘルスケア、フィットネス
Healthcare, Fitness
- マシンヘルスマニタリング
Machine health monitoring

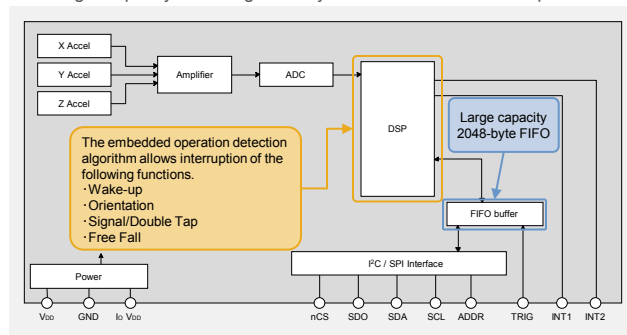
小型パッケージ

Compact Package



大容量FIFOで低消費電力を実現

The Large-Capacity FIFO Significantly Reduces Power Consumption



高性能なスペック

High-Performance Specifications

Parameter	Unit	Specifications	Conditions
Range	g	±2.0, ±4.0, ±8.0	User-selectable full-scale output range
Sensitivity ¹	counts / g	16384, 8192, 4096	16-bit
		64, 32, 16	8-bit
0g Offset vs. Temp	mg / °C	0.2	-40°C to +85°C
Sensitivity vs. Temp	% / °C	0.01	-40°C to +85°C
Mechanical Resonance ²	Hz	3500 (xy), 1800 (z) typical	-3dB
Output Data Rate (ODR) ³	Hz	0.781 Min. ; 50 typical ; 25600 Max.	Detects various types of vibrations.
Non-Linearity	% of FS	0.6 typical	% of full scale output
Cross-Axis Sensitivity	±%	2.0 typical	
Noise ⁴	mg	0.75 typical	High-speed transmission
I ² C Communication Rate	MHz	3.4 Max.	
SPI Communication Rate	MHz	10 Max.	
Power Supply	V	1.71-3.6	
Current Consumption ⁵	µA	145 typical	High resolution
		10 typical	Low power
		0.9 typical	Standby

The accelerometer performance parameters below are programmed and tested at 2.5 volts and T=25°C. The device can accept supply voltages from 1.7V to 3.6V. Due to internal voltage regulators, there should be minimal change with supply voltage variations.

Notes

1 Resolution and acceleration ranges are user selectable via I²C or SPI.

2 Resonance as defined by the dampened mechanical sensor.

3 User selectable through I²C or SPI.

4 RMS at 50Hz with low-pass filter = ODR/9.

5 Current varies with Output Data Rate (ODR).