



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of "Quality Parts,Customers Priority,Honest Operation,and Considerate Service",our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



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KXTJ2 Accelerometer

2x2x0.9mm Low-Power Accelerometer



FEATURES

- Ultra-small Package - 2x2x0.9mm LGA
- User-selectable g Range and Output Data Rate
- 8-bit, 12-bit, and 14-bit Resolution
- Low Power Consumption
- Internal voltage regulator
- User-configurable wake-up function
- Digital I²C
- Lead-free Solderability
- Excellent Temperature Performance
- High Shock Survivability
- Factory Programmable Offset and Sensitivity
- Self-test Function

APPLICATIONS

- User Interface
- Power Management
- Active/Inactive Monitoring
- Device Orientation
- Inclination and Tilt Sensing
- Gesture Recognition
- Pedometer/Activity Monitoring

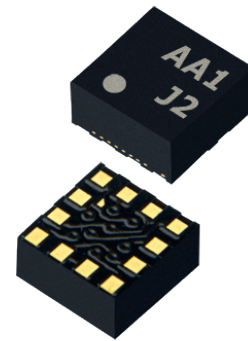
FOR

- Smartphones and Mobile Devices
- Laptops
- Gaming and Virtual Reality
- Health and Fitness

PRODUCT OVERVIEW

The KXTJ2 is one of our smallest tri-axis accelerometers, designed for mobile applications. It offers excellent power performance along with an embedded motion wake-up feature, Fast-mode I²C and up to 14-bit resolution. The KXTJ2 is delivered in a 2 x 2 x 0.9 mm, 12-pin, LGA package with an operating temperature range of -40°C to +85°C.

The KXTJ2 sensor offers improved shock, reflow, and temperature performance, and the ASIC has internal voltage regulators that allow operation from 1.8 V to 3.6 V within the specified product performance.



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The performance parameters below are programmed and tested at 2.6 volts and T = 25°C. The device can accept supply voltages from 1.8V to 3.6V. Due to internal voltage regulators, there should be minimal change with supply voltage variations.

PERFORMANCE SPECIFICATIONS			
PARAMETERS	UNITS	KXTJ2-1009	CONDITION
Range	g	±2.0, ±4.0, ±8.0	User-selectable full-scale output range
Sensitivity ¹	counts/g	64, 32, 16	8-bit
		1024, 512, 256	12-bit
		1024 typical	14-bit ²
0g Offset vs. Temp	mg/°C	0.2	-40°C to +85°C
Sensitivity vs. Temp	%/°C	±0.01 (xy) ±0.03 (z) typical	-40°C to +85°C
Mechanical Resonance ³	Hz	3500 (xy) 1800 (z) typical	-3dB
Output Data Rate (ODR) ⁴	Hz	0.781 min; 50 typical; 1600 max	
Bandwidth (-3dB) ⁵	Hz	800	RES = 0
		ODR/2	RES = 1
Non-Linearity	% of FS	1.0 typical	% of full scale output
Cross-axis Sensitivity	%	2.0 typical	
I ² C Communication Rate	MHz	3.4 max	
Power Supply	V	2.6 typical	1.8V – 3.6V
Current Consumption ⁶	µA	135 typical	High resolution (RES = 1)
		10 typical	Low resolution (RES = 0)
		2 typical	Standby
ENVIRONMENTAL SPECIFICATIONS			
PARAMETERS	UNITS	KXTJ2-1009	CONDITION
Operating Temperature	°C	-40 to 85	Powered
Storage Temperature	°C	-55 to 150	Un-powered
Mechanical Shock	g	5,000, 0.5 ms 10,000, 0.2 ms	Powered or un-powered, halversine
ESD	V	2,000	Human body model

NOTES

- ¹ Resolution and acceleration ranges are user selectable via I2C.
- ² 14-bit Resolution is only available for registers 0x06h – 0x0Bh in the 8g Full Power mode.
- ³ Resonance as defined by the dampened mechanical sensor.
- ⁴ User selectable through I2C.
- ⁵ User selectable; dependent on ODR and RES.
- ⁶ Current varies with Output Data Rate (ODR).