da218

MiraMEMS 明皜传感

Intelligent, triaxial acceleration sensor

GENERAL DESCRIPTION

The da218 acceleration sensor is an ultra-low power high performance capacitive three-axis linear accelerometer developed by micro-machined technology. The sensor element is fabricated by single crystal silicon with DRIE process and is protected by hermetically sealed silicon cap from the environment.

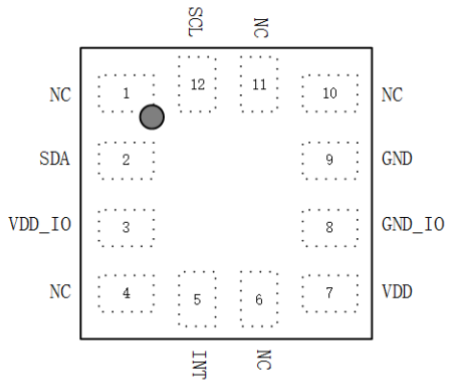
The da218 featuring 12-bit digital resolution. The device features user selectable full scale of ±2g/ ±4g/ ±8g/ measurement range with data output rate from 1Hz to 1000Hz with signal condition, active detection embedded.

TARGET APPLICATIONS

- User interface for mobile phone and PMP
- Display orientation
- User interface for mobile phone and PMP
- Gesture recognition
- Active monitoring
- Power management
- Vibration monitoring

KEY FEATURES

da218 Technical data	
Digital resolution	12-bit
Measurement ranges	±2g,±4g,±8g,±16g
Sensitivity	±2g: 4096LSB/g ±4g: 2048LSB/g ±8g: 1024LSB/g
Zero-g offset	±70mg
Output data rate	1Hz to 1000Hz
Digital inputs/outputs	I2C interface 1 interrupt pins
Supply voltage (VDD)	1.62V to 3.6V
I/0 supply voltage (VDDIO)	1.62V to 3.6V
Temperature range	-40°C to +85°C
LGA package	2x2x0.9mm LGA-12 package
Shock resistance	10000g×200us



Top View

Pin configuration

TECHNICAL SPECIFICATIONS

Pin	Name	Description
1	NC	NO internal connection
2	SDA	I2C serial data
3	VDD_IO	Power supply for I/O pins
4	NC	NO internal connection
5	INT	Interrupt pin
6	NC	NO internal connection
7	VDD	Power supply
8	GND_IO	Ground supply for I/O pins
9	GND	Ground supply
10	NC	NO internal connection
11	NC	NO internal connection
12	SCL	I2C serial clock

SENSOR FEATURES

- **Power consumption**

  Normal mode

  95 µA @ ODR = 125Hz

  Suspend mode

  0.7µA

- **Embedded intelligence**

  New data interrupt

  Active interrupt

SYSTEM COMPATIBILITY

The da218 has been designed for best possible fit into modern mobile consumer electronics and IOT devices.

Besides the very low height and lowest power consumption, the da218 has very wide ranges for VDD and VDDIO supply voltages. The da218 features I2C serial interfaces.

One independent and flexible interrupts provided greatly simplify the algorithm for various motion status detections.