

STMICROELECTRONICS Analog ICs



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STMICROELECTRONICS ACCELEROMETERS

ST offers a portfolio of MEMS-based linear accelerometers able to sense acceleration or vibration in one, two and even three axes.

The MEMS sensor of a linear accelerometer is based on a silicon, inter-digitated, comb-like structure composed of fixed and movable fingers. To sense the acceleration in different directions, these structures are packaged in orthogonal groups. The acceleration in each direction is sensed by measuring the displacements of the movable elements correlated to that axis. The motion measured by the sensor is then translated into an analog or digital signal.

STMicroelectronics controls the complete manufacturing chain of linear accelerometers. This guarantees the customer high-volume production, long-term security, high precision and reliability, since all the devices are tested by standard and proprietary test systems. ST low-g linear accelerometers are grouped in subfamilies according to the number of axes (2-axis and 3-axis), the package type (SO24, QFN or LGA) and the IC output (analog or digital).



RoHS Compliant

2-Axis

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	STM Part No.	Package Type	Full Scale Span Min. (G)	Full Scale Span Max. (G)	Supply Voltage (V)	Supply Current Typ/Max (mA)	Price Each		
							1	10	100
511-LIS202DL	LIS202DL	LGA 3X5X1mm	-2	+8	2.16 to 3.6	.40mA	7.36	7.26	6.33
511-LIS244ALH	LIS244ALH	LGA 4X4X1.5mm	-6	+6	2.4 to 3.6	.68 mA	4.72	4.14	3.95

3-Axis

For quantities of 500 and up, call for quote.

MOUSER STOCK NO.	STM Part No.	Package Type	Full Scale Span Min. (G)	Full Scale Span Max. (G)	Supply Voltage (V)	Supply Current Typ/Max (mA)	Price Each		
							1	10	100
511-LIS3LV02DL	LIS3LV02DL	LGA 4.4 x 7.5x1mm	-6	+6	2.16to 3.6	.60mA/.75mA	10.21	9.42	7.49
511-LIS3LV02DQ	LIS3LV02DQ	QFPN 7x7x1.8mm	-6	+6	2.16to 3.6	.60mA/.75mA	16.19	13.71	12.75
511-LIS302DL	LIS302DL	LGA 3x5x1mm	-8	+8	2.16to 3.6	.30mA/.40mA	7.10	6.32	5.87
511-LIS331AL	LIS331AL	LGA 3X3X1mm	-2	+2	3 to 3.6	.65mA	6.98	6.08	6.00
511-LIS331DL	LIS331DL	LGA 3X3X1mm	-8	+8	2.16to 3.6	.30mA/.40mA	9.65	7.92	6.89
511-LIS331DLF	LIS331DLF	LGA 3X3X1mm	-8	+8	2.16to 3.6	.30mA/.40mA	5.20	4.68	4.16
511-LIS331DLH	LIS331DLH	LGA 3X3X1mm	-8	+8	2.16to 3.6	.30mA/.40mA	6.60	5.94	5.28
511-LIS331DLM	LIS331DLM	LGA 3X3X1mm	-2	+8	2.16to 3.6	.30mA/.40mA	6.00	5.40	4.80
511-LIS33DE	LIS33DE	LGA 3X3X1mm	-2	+9.2	2.16to 3.6	.30mA/.40mA	5.05	4.35	3.65
511-LIS344AL	LIS344AL	LGA 3X3X1mm	-	+3.5	2.7 to 3.3	.69mA	4.95	4.17	3.45
511-LIS344ALH	LIS344ALH	LGA 4X4X1.5mm	-6	+6	2.4to 3.6	.68mA	5.88	5.79	5.05
511-LIS352AX	LIS352AX	LGA 3x5x1 mm	-8	+2	2.16to 3.6	.30mA/.40mA	6.29	5.57	4.32
511-LIS35DE	LIS35DE	LGA 3x5x1 mm	-2	+8	2.16to 3.6	.30mA/.40mA	5.05	4.35	3.65

STMICROELECTRONICS FUNCTIONAL SENSORS

ST MEMS functional sensors act as standalone components, automatically detecting events such as screen rotation (portrait/landscape) and providing digital output signals through dedicated interrupt lines to significantly reduce computational effort on external MCUs.

ST functional sensors provide many advantages over traditional devices. Negligible friction and wear assure higher reliability over device lifetime, while the integration of 3-dimensional structures in ever-smaller packages makes ST MEMS products extremely attractive for markets and applications where the size is a key factor.

With very low current consumption under normal operation, as well as an external power-down control, ST functional sensors can be used in demanding systems such as battery-operated devices.

Features:

- 3D orientation sensor: 3 orthogonal directions (6 positions)
- Embedded click/double-click functionality
- Power down mode
- High shock survivability
- Testable after assembly without movement
- Halogen-free regulated



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MOUSER STOCK NO.	STM Part No.	Package Type	Supply Voltage (Vcc) Min (V)	Supply Voltage (Vcc) Max (V)	Supply Current	Operating Temperature	Price Each		
							1	10	100
511-FC30	FC30	LGA 3x5x1mm	2.16	3.6	0.4	- 40 to +85	4.80	4.40	4.23

STMICROELECTRONICS GYROSCOPES

Leveraging proprietary robust MEMS technology, ST gyroscopes include miniaturized movable masses able to react in response to angular rotations. Driving and sensing capacitive interfaces together with a dedicated CMOS IC, form a complete system based on the Coriolis force principal.

In addition to consumer and industrial applications, including gaming and smart user interfaces for advanced pointing devices, ST gyroscopes can be used for tilting and angular motion detection in robotics and assisted-GPS navigation systems.

Features:

- Embedded power-down
- ±300°/sec Full Scale
- I²C/SPI digital output interface
- Embedded self-test
- High shock survivability



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MOUSER STOCK NO.	STM Part No.	Package Type	Resonance Frequency	Supply Voltage (min)	Supply Voltage (typ)	Supply Voltage (max)	Price Each		
							1	10	100
511-LISY300AL	LISY300AL	LGA 7x7X1.5mm	4500Hz	2.7	3.3	3.6	10.99	9.01	8.00

STMICROELECTRONICS PRODUCT EVALUATION BOARDS FOR MOTION SENSORS (MEMS)

ST MEMS-based acceleration sensors are all supported by their own evaluation kits that allow system designers to evaluate sensors performances and capabilities.

The kit enables the acquisition, through an analog or digital interface, of acceleration data sensed by accelerometers, with the support of a dedicated software in case of digital solution.

MOUSER STOCK NO.	STM Part No.	Description Type	Price Each
511-STEVAL-MKI004V1	STEVAL-MKI004V1	MEMS 3-Axis ±2g/±8g Digital Output Low Voltage Linear Accelerometer. Board based on LIS3LV02DQ	54.60
511-STEVAL-MKI005V1	STEVAL-MKI005V1	MEMS 3-Axis ±2g/±8g Digital Output Low Voltage Linear Accelerometer. Board based on LIS3LV02DL	54.60
511-STEVALMKI006V1	STEVAL-MKI006V1	MEMS 3-Axis - ±2g/±8g Digital Output Low Power Linear Accelerometer Evaluation Board based on LIS302DL	54.60
511-STEVALMKI009V1	STEVAL-MKI009V1	LIS3LV02DL Adapter Board designed to be plugged into a standard DIL 20 socket	24.70
511-STEVAL-MKI013V1	STEVAL-MKI013V1	LIS302DL Adapter Board designed to be plugged into a standard DIL 24 socket	33.80
511-STEVAL-MKI014V1	STEVAL-MKI014V1	MEMS 3-Axis ±2g/±6g Analog Output Evaluation Board based on LIS344ALH	50.70
511-STEVAL-MKI015V1	STEVAL-MKI015V1	LIS344ALH Adapter Board designed to be plugged into a standard DIL 20 socket	33.80
511-STEVAL-MKI022V1	STEVAL-MKI022V1	MEMS 3-Axis ±2g /±8g Smart Digital Output Evaluation Board	76.70
511-STEVAL-MKI023V1	STEVAL-MKI023V1	Single-Axis ±/-300°/s analog output yaw rate gyroscope Evaluation Board based on LISY300AL	49.40