MEMS Accelerometers and Gyroscope

ST offers a portfolio of MEMS-based sensors able to sense acceleration in two or three axis. The mechanical part of linear accelerometer sensor is based on a silicon inter-digitated structure done by fixed and movable fingers. To sense the acceleration in each axis, these structures are packaged in orthogonally groups and the acceleration in each direction is sensed by measuring the change of capacitance between fixed and movable elements correlated to that axis. The changing of capacitance per axis is then translated into an analog or digital output signal in the interface chip. The whole process of design and production of sensors is managed by STMicroelectronics. This guarantees to the customer high volume production, long term security, high precision and reliability since all the devices are tested by Standards and Proprietary Test Systems.

Output	Axis	Acceleration Range (g)	Package	Digi-Key Part No.	Price Each 1	Price Each 10	Price Each 100	Tape and Reel‡ Qty.	Tape and Reel‡ Pricing	STMicroelectronics Part No.
Digital	2	±2/±8	14-LGA	497-6071-1-ND	8.30	7.35	5.69	5,000	2962.50/M	LIS202DLTR
	3	±2/±6	14-LGA	497-6969-1-ND ***NEW!***	9.22	8.36	6.63	5,000	3600.00/M	FC30TR
	3	±2/±8	14-LGA	497-5911-1-ND	12.54	11.37	9.02	5,000	4900.00/M	LIS302DLTR
	3	±2/±6	16-LGA	497-8415-1-ND ***NEW!***	15.84	14.36	11.39	4,000	6311.25/M	LIS3LV02DLTR
	3	±2/±6	16-LGA	497-5531-ND	12.87	12.38	9.41	—	—	LIS3LV02DL
	3	±2/±8	16-LGA	497-8327-1-ND ***NEW!***	13.63	12.36	9.80	4,000	5431.50/M	LIS331DLTR
	3	±2/±6	28-QFPN	497-6346-1-ND	15.37	14.84	11.66	2,300	6625.00/M	LIS3LV02DQ-TR
	3	±2/±8	16-LGA	497-8548-ND ***NEW!***	5.05	4.35	3.66	—	—	LIS33DE
	3	±2/±8	14-LGA	497-8549-ND ***NEW!***	5.05	4.35	3.66	—	—	LIS35DE
Analog	1	±2/±6	28-LGA	497-8230-ND	14.38	13.78	10.49	—	—	LISY300AL
	2	±2	16-LGA	497-6343-ND	4.52	4.22	3.28	—	—	LIS244AL
	2	±2/±6	16-LGA	497-6344-1-ND	9.79	8.88	7.04	3,000	3901.50/M	LIS244ALHTR
	3	±2	14-LGA	497-5910-1-ND	8.96	8.12	6.44	5,000	3500.00/M	LIS302ALBTR
	3	±2	14-LGA	497-6340-ND	6.76	6.50	4.94	—	—	LIS302SG
	3	±3.5	16-LGA	497-6341-ND	5.05	4.70	3.66	—	—	LIS344AL
	3	±2/±6	16-LGA	497-6345-1-ND	10.75	9.75	7.73	3,000	4284.00/M	LIS344ALHTR
	3	±2	16-LGA	497-8333-1-ND ***NEW!***	13.63	12.36	9.80	4,000	5431.50/M	LIS331ALTR

‡ For Tape and Reel part number, change 1-ND to 2-ND.

Tools and Evaluation Boards

The Micro Electro Mechanical System is a new technology that exploits the mechanical properties of silicon to integrate mechanical structures sensitive to vibration, displacement, acceleration and rotation. This new technology opened the door to a new generation of compact, cost effective and sensitive sensors. While conventional microelectronics development focuses on incremental improvements of a well-established technology, MEMS challenge the way designers work, compelling them to think three dimensionally and to acquire a unique blend of multi-disciplinary skills combining electrical, semiconductor and mechanical design.

Features:

• Strategic Cost • Low Power Consumption • Low size and weight • High volumes • High reproducibility • High thermal stability by design • High integration with standard IC devices to build Multi Chip Modules (MCM) or smart sensors.

LIS302DL Evaluation Board

MEMS 3-Axis ±2g/±8g. Digital Output Low Power Linear Accelerometer Evaluation Board based on LIS302DL (EK302DL).

497-6229-ND (STEVAL-MKI006V1)..... **$55.86**

497-6342-ND (STEVAL-MKI013V1)..... **$34.58**

LIS3LV02DQ Evaluation Board

MEMS 3-Axis ±2g/±6g. Digital Output Low Voltage Linear Accelerometer Evaluation Board based on LIS3LV02DQ.

497-6249-ND (STEVAL-MKI004V1)..... **$55.86**

LIS3LV02DL Evaluation Board

MEMS 3-Axis ±2g/±6g. Digital Output Low Voltage Linear Accelerometer.
Evaluation Board based on LIS3LV02DL (EK3LV02DL).

497-6226-ND (STEVAL-MKI005V1)..... **$55.86**

LIS3LV02DL Adapter Board

LIS3LV02DL Adapter Board designed to be plugged into a standard DIL 20 socket.

497-6227-ND (STEVAL-MKI009V1)..... **$25.27**

LIS344ALH Adapter Board

The STEVAL-MKI015V1 is an adapter board designed to facilitate the evaluation of the LIS344ALH 3-axis analog output linear accelerometer. The board offers an effective solution for fast system prototyping and device evaluation directly within the user's own application.

The STEVAL-MKI014V1 is a demonstration kit designed to provide the user with a complete, ready-to-use platform for the evaluation of the LIS344ALH.

497-8199-ND (STEVAL-MKI015V1)..... **$34.58**

497-8231-ND ***NEW!*** (STEVAL-MKI014V1)..... **$51.87**

LIS344AL Demonstration Kit

The STEVAL-MKI016V1 is a demonstration kit designed to provide the user with a complete, ready-to-use platform for the evaluation of the LIS344AL. The LIS344AL is a low-power 3-axis linear capacitive accelerometer that includes a sensing element and an IC interface capable of taking information from the sensing element and providing an analog signal to an external application.

497-8200-ND (STEVAL-MKI016V1)..... **$51.87**

LIS344AL Adapter Board

The STEVAL-MKI017V1 is an adapter board designed to facilitate the evaluation of the LIS344AL 3-axis analog output linear accelerometer. The board offers an effective solution for fast prototyping and device evaluation directly within the user's own application.

497-8201-ND (STEVAL-MKI017V1)..... **$34.58**

LIS244AL Adapter Board

The STEVAL-MKI018V1 is an adapter board designed to facilitate the evaluation of the LIS244AL 2-axis analog output linear accelerometer. The board offers an effective solution for fast system prototyping and device evaluation directly within the user's own application.

497-8202-ND (STEVAL-MKI018V1)..... **$34.58**

LIS302SG Demonstration Kit

The STEVAL-MKI019V1 is a demonstration kit designed to provide the user with a complete, ready-to-use platform for the evaluation of the LIS302SG.
The LIS302SG is a low-power 3-axis linear capacitive accelerometer that includes a sensing element and an IC interface capable of taking information from the sensing element and providing and analog signal to an external application.

497-8203-ND (STEVAL-MKI019V1)..... **$51.87**

LIS302SG Adapter Board

The STEVAL-MKI020V1 is an adapter board designed to facilitate the evaluation of the LIS302SG 3-axis analog output linear accelerometer. The board offers an effective solution for fast system prototyping and device evaluation directly within the user's own application.

497-8204-ND (STEVAL-MKI020V1)..... **$34.58**

LIS331AL Evaluation Board

The STEVEL-MKI021V1 MEMS 3-Axis 2g Analog Output Evaluation Board based on NANO Accelerometer LIS331AL.

497-8205-ND (STEVAL-MKI021V1)..... **$49.21**

NEW! LIS331DL Demonstration Board

The STEVAL-MKI024V1 is a demonstration kit designed to provide the user with a complete, ready-to-use platform for demonstration of the LIS331DL. The LIS331DL is a low-power 3-axis linear accelerometer with digital output. The device includes a sensing element and an IC interface capable of translating information from the sensing element into a measured signal that can be used for external applications.
In addition to the MEMS sensor, the demonstration board utilizes an ST7-USB microcontroller which functions as a bridge between the sensor and the PC, on which it is possible to use the graphical user interface downloadable to the website or dedicated software routines for customized applications.

497-8719-ND (STEVAL-MKI024V1)..... **$78.47**

NEW! LISY300AL Demonstration Board

The LISY300AL is a low-power single-axis yaw rate gyroscope. It includes a sensing element and an IC interface able to provide the measured angular rate to the external world through an analog output voltage.

497-8504-ND (STEVAL-MKI023V1)..... **$50.54**

NEW! STEVAL-IFS012V9 Demonstration Board

Multi device temperature sensor demonstrator based on ST72F65x. Demonstration board features: Evaluation system to demonstrate features of ST's new temperature sensor (digital and analog) family, in standalone mode and USB interfaced Graphical User Interface (GUI) mode. **Features:** Measures and displays temperature • I2C / SMBus / SPI/ADC communication compatible • Displays RTC time and date and its featured through GUI • Easy to use GUI, interfaced through USB. GUI can be used to configure the sensors and RTC • Temperature monitoring, storing in NAND and plotting on graph is supported

497-8923-ND (STEVAL-IFS012V9) Card for 8-TSSOP Package..... **$39.60**

Most SMT cutdown parts are available on a Digi-Reel®. For Digi-Reel part number, change 1-ND to 6-ND or CT-ND to DKR-ND. See Digi-Key® Services on page 2 for additional information.