



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	Calibration (V)	Digi-Key Part No.	Price Each			Tape and Reel†		STMicroelectronics Part No.
						1	10	100	Qty.	Pricing	
Digital	2	±2/±8	14-LGA	2.16 – 3.6	497-6071-1-ND	8.30	7.35	5.93	5,000	3436.50/M	LIS202DLTR
Analog	2	±2	16-LGA	3.0	497-6343-ND	6.44	5.88	4.65	—	—	LIS244AL
Analog	2	±2/±6	16-LGA	3.3	497-6344-1-ND	10.71	9.49	7.65	3,000	4437.00/M	LIS244ALHTR
Analog	3	±2	14-LGA	3.3	497-5910-1-ND	9.80	8.68	7.00	5,000	4060.00/M	LIS302ALBTR
Digital	3	±2/±8	14-LGA	3.3	497-5911-1-ND	14.08	12.76	10.12	5,000	6710.00/M	LIS302DLTR
Analog	3	±2	14-LGA	3.3	497-6340-ND	9.10	8.06	6.50	—	—	LIS302SG
Analog	3	±3.5	16-LGA	3.0	497-6341-ND	9.36	7.68	6.48	—	—	LIS344AL
Analog	3	±2/±6	16-LGA	3.3	497-6345-1-ND	12.78	11.32	9.13	3,000	5292.50/M	LIS344ALHTR
Analog	3	±2	8-LGA	3.3	497-4917-ND	11.00	10.18	7.70	—	—	LIS3L02AL
Analog	3	±2/±6	44-QFN	2.4 – 3.6	497-6072-1-ND	17.60	15.95	12.65	—	—	LIS3L02AQ3TR
Digital	3	±2/±6	28-QFPN	2.5	497-6346-1-ND	20.80	18.85	14.95	2,300	9100.00/M	LIS3LV02DQ-TR
Analog	1	±2/±6	28-LGA	2.5	497-8230-ND <b>NEW!</b>	11.98	11.09	8.39	—	—	LISY300AL

† 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

### NEW! LIS344ALH Adapter Board

The STEVAL-MKI015V1 is an adapter board designed to facilitate the evaluation of the LIS344ALH three-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.

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

### NEW! 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

### NEW! LIS344AL Adapter Board

The STEVAL-MKI017V1 is an adapter board designed to facilitate the evaluation of the LIS344AL three-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

### NEW! LIS244AL Adapter Board

The STEVAL-MKI018V1 is an adapter board designed to facilitate the evaluation of the LIS244AL two-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

### NEW! 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 an analog signal to an external application.

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

### NEW! LIS302SG Adapter Board

The STEVAL-MKI020V1 is an adapter board designed to facilitate the evaluation of the LIS302SG three-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

### NEW! LIS331AL Evaluation Board

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

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

### NEW! STMPE2403 Demonstration Board

The STEVAL-TCS003V1 is a 24 bit port expander demonstration board with LCD, Keypad and PWM interfaces based on STMPE2403.

- 497-8206-ND (STEVAL-TCS003V1)..... \$122.36

### NEW! STCF03/ST7 Demonstration Board

The STEVAL-TLL005V1, Power Flash Demonstration Board, is based on STCF03.

The STCF03 is a high efficiency power supply solution to drive a single flash LED in a camera phone, PDAs and other hand-held devices.

It is a buck-boost converter to guarantee a proper LED current control over all possible conditions of battery voltage and output voltage.

All the functions of the devices are controlled through I2C interface with microcontroller.

- 497-8207-ND (STEVAL-TLL005V1)..... \$81.13

### NEW! STUSB03/ST72F63B Evaluation Board

The STEVAL-PCC003V1 is designed for a low speed USB evaluation board based on the STUSB03 transceiver and ST72F63B USB microcontroller.

- 497-8208-ND (STEVAL-PCC003V1)..... \$61.18

### NEW! STUSB02E/ST72F63B Evaluation Board

The STEVAL-PCC004V1 is designed for a low speed USB evaluation board based on the STUSB02E transceiver and ST72F63B USB microcontroller.

- 497-8209-ND (STEVAL-PCC004V1)..... \$61.18

**Digi-Reel®** 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.

**More Product Available Online: [www.digikey.com](http://www.digikey.com)**



As a MEMS pioneer, Analog Devices has held a leadership position as a large volume supplier of integrated MEMS accelerometers and gyroscopes. The ADXL products are the foundation for Analog Devices accelerometer family. Available in low-g or high-g sensing ranges iMEMS (Integrated Micro Electro Mechanical

System) accelerometers are used to measure position, motion, tilt, shock, and vibration in a broad array of applications. Analog Devices offer a broad accelerometer portfolio, including high performance, low power consumption and small size.

Description	G Range	Axes	Sensitivity	Bandwidth	Voltage	Supply Current	Package	Digi-Key Part No.	Price Each			Tape and Reel\$		
									1	25	100	Qty.	Pricing	
<b>Single Axis Accelerometers — RoHS Compliant</b>														
Low Power, High Precision Low Power, ADXL78	±1.5g ±35g	X	1000mV/g	10Hz	3 – 6	0.7mA	8-CLCC	ADXL103CE-ND	16.01	14.42	12.79	—	—	
Low Power, ADXL78	±50g		55mV/g	400Hz	5	1.3mA	8-CLCC	AD22279-A-R2CT-ND‡	11.80	10.62	9.42	250	2256.75	
Low Power, ADXL78	±70g		38mV/g	400Hz	5	1.3mA	8-CLCC	AD22280-R2CT-ND‡	11.80	10.62	9.42	250	2256.75	
Low Power, ADXL193	±120g		27mV/g	400Hz	5	1.3mA	8-CLCC	AD22281-R2CT-ND‡	11.80	10.62	9.42	250	2256.75	
Low Power, ADXL193	±250g		18mV/g	400Hz	5	1.5mA	8-CLCC	AD22282-A-R2CT-ND‡	12.98	11.69	10.37	250	2483.06	
			8mV/g	400Hz	5	1.5mA	8-CLCC	AD22283-B-R2CT-ND‡	12.98	11.69	10.37	250	2483.06	
<b>Dual Axis Accelerometers — RoHS Compliant</b>														
Low Power, Digital Output Low Power, ADXL78	±2g	X, Y	12.5%/g	6kHz	2.7 – 5	0.5mA	8-LCC	ADXL202AE-ND*	17.67	16.50	15.32	—	—	
Low Power, High Precision Low Power, ADXL78	±2g		12.5%/g	6kHz	2.7 – 5	0.5mA	8-LCC	ADXL202JE-ND*	15.48	14.45	13.42	—	—	
Low Power, Single IC Chip Low Power, ADXL78	±1.7g		1000mV/g	10Hz	3 – 6	0.7mA	8-CLCC	ADXL203CE-ND	22.77	21.26	19.74	—	—	
Low Power, Digital Out	±1.7g		620mV/g	2.5kHz	3 – 6	0.5mA	8-LCC	ADXL204CE-ND	22.77	21.26	19.74	—	—	
	±1.2g		30%/g	60Hz	3 – 6	0.7mA	8-LCC	ADXL213AE-ND	17.67	16.50	15.32	—	—	
Low Power, Small, Thin Low Power	±5g ±18g	X, Y	174mV/g	2.5kHz	2.4 – 5.25	0.45mA	16-Lead LFCSP	ADXL320JCP-ND	8.43	7.59	6.73	—	—	
Low Power	±3g		57mV/g	50Hz	2.4 – 6	0.49mA	16-LFCSP	ADXL321JCP-ND	8.43	7.59	6.73	—	—	
Low Power	±2g		420mV/g	60Hz	2.4 – 6	0.45mA	16-LFCSP	ADXL322JCP-ND	8.43	7.59	6.73	—	—	
Low Power, Small Low Power, ADXL278	±3g ±35g		300mV/g	1600Hz	1.8 – 5.25	320µA	16-LFCSP	ADXL323KCPZ-RLCT-ND‡	9.62	7.70	6.50	4,000	5964.40/M	
Low Power, ADXL278	±50g		55mV/g	400Hz	5	2.2mA	8-CLCC	AD22284-A-R2CT-ND‡	15.95	14.89	13.82	250	3388.31	
Low Power, ADXL278	±70g	38mV/g	400Hz	5	2.2mA	8-CLCC	AD22285-R2CT-ND‡	15.95	14.89	13.82	250	3388.31		
		27mV/g	400Hz	5	2.2mA	8-CLCC	AD22286-R2CT-ND‡	15.95	14.89	13.82	250	3388.31		
<b>Triple Axis Accelerometers — Low Power — RoHS Compliant</b>														
Low Power, Small	±3g	X, Y, Z	300mV/g	1.6(X,Y) 0.55(Z)	2 – 3.6	0.2mA	16-LFCSP	ADXL330KCPZ-RLCT-ND‡	11.71	10.55	9.35	4,000	8541.45/M	

Description	Range (°/s)	Axes	Sensitivity	Bandwidth	Voltage	Supply Current	Package	Digi-Key Part No.	Price Each			Tape and Reel\$		
									1	25	100	Qty.	Pricing	
<b>Gyroscopes</b>														
Single Chip Yaw Rate Gyro	±300	Z	6mV/°/s	2500Hz	4.75 – 5.25	3.5mA	32-CBGA	ADXRS610BBGZ-RLCT-ND‡	50.10	46.76	43.42	500	20875.00	
	±250		7mV/°/s	2500Hz		3.5mA		ADXRS612BBGZ-RLCT-ND‡	50.10	46.76	43.42	500	20875.00	
	±150		12.5mV/°/s	3000Hz		5.0mA		ADXRS613BBGZ-RLCT-ND‡	42.51	39.68	36.85	500	17712.50	
	±50	25mV/°/s	1000Hz	3.5mA	ADXRS614BBGZ-RLCT-ND‡	50.10	46.76	43.42	500	20875.00				
	±150	Z	12.5 ± 10%	40Hz	4.75 – 5.25	6.0mA	32-BGA	ADXRS150ABG-ND	50.10	46.76	43.42	—	—	
	±300		5.0 ± 8%					ADXRS300ABG-ND	50.10	46.76	43.42	—	—	
±75	15.0 ± 15%		ADXRS401ABG-ND					42.51	39.68	36.85	—	—		

‡ For Tape and Reel part number, change CT-ND to TR-ND. † Cut Tape \* Not recommended for new design ♦ RoHS Compliant

**iMEMS® Evaluation Boards**

ADXR150EB-ND	Evaluation Board for the ADXR150, ±150°/s Single Chip Rate Gyro	\$54.40				
ADXL203EB-ND	Evaluation Board for ADXL203	\$32.59	EVAl-ADXR610Z-ND♦	NEW!	Evaluation Board for ADXR610BBGZ	\$63.25
ADXL204EB-ND	Evaluation Board for the ADXL204CE, Dual Axis Accelerometer	\$32.59	EVAl-ADXR612Z-ND♦	NEW!	Evaluation Board for ADXR612BBGZ	\$63.25
ADXL213EB-ND	Evaluation Board for ADXL213	\$32.59	EVAl-ADXR613Z-ND♦	NEW!	Evaluation Board for ADXR613BBGZ	\$63.25
ADXL321EB-ND	Evaluation Board for ADXL321	\$32.59	EVAl-ADXR614Z-ND♦	NEW!	Evaluation Board for ADXR614BBGZ	\$63.25
EVAL-ADXL330Z-ND♦	Evaluation Board for ADXL330	\$69.41				
ADXR401EB-ND	Evaluation Board for ADXR401ABG	\$54.40				

**ANALOG DEVICES** **iSensor™ Intelligent Sensors**

iSensor ADIS Accelerometers/Gyros enhance ADXL/ADXR iMEMS accelerometers with additional performance and functionality, such as embedded signal processing and control. These inertial sensors address special requirements such as calibration/tuning, application specific interfaces, digital I/O, wireless links, embedded intelligence and programmability, power management, and analog signal conditioning.

Description	Sensor Core	Output Type	Sensitivity	Temperature Sensor	Voltage Reference (V)	Supply Voltage (V)	Supply Current (mA)	Temperature Range (°C)	Package (mm/type)	Digi-Key Part No.	Price Each		
											1	25	100
<b>ADIS Accelerometers — RoHS Compliant</b>													
±1.7g Accelerometer	Accelerometer	SPI	820 LSB/g	Yes	3 – 5.25	1.5 (typical)	—	-40 – 125	12 LGA	ADIS16003CCCZ-ND	33.02	30.82	28.62
±5g Accelerometer	Accelerometer	SPI	256 LSB/g	Yes	3 – 5.25	1.5 (typical)	—	-40 – 125	12 LGA	ADIS16006CCCZ-ND	33.02	30.82	28.62
Programmable, ±5g Accelerometer	Accelerometer/Incl.	SPI	2 LSB/mg(101 SB/°)	Yes	3 – 3.6	11 (5 in Standby)	—	-40 – 125	16 LGA	ADIS16201CCCZ-ND	43.95	41.02	38.09
Programmable, Single Axis Inclinometer	360° Inclinometer	SPI	0.025°/LSB	Yes	3 – 3.6	11 (5 in Standby)	—	-40 – 125	16 LGA	ADIS16203CCCZ-ND	43.95	41.02	38.09
Programmable, High-g Sensor/Recorder	Accel./Impact Sensor	SPI	±70g ±37g	Yes	3 – 3.6	12 (5 in Standby)	—	-40 – 105	16 LGA	ADIS16204BCCZ-ND	37.88	35.35	32.83
Digital Dual Axis Accel./Inclinometer	Accel./Inclinometer	SPI	0.025°/LSB	Yes	3 – 3.6	14	—	-40 – 125	16 LGA	ADIS16209CCCZ-ND	63.59	59.35	55.11

Range (°/s)	Sensitivity	Output	Bandwidth (Maximum)	Noise Density (°/s / √Hz rms)	Temperature Sensor	Voltage Reference (V)	Supply Voltage (V)	Supply Current (mA)	Temperature Range (°C)	Digi-Key Part No.	Price Each		
											1	25	100
<b>ADIS Gyroscopes</b>													
±80	0.0122 °/s /LSB	SPI	1000Hz	0.04	Yes	4.75 – 5.25	6.5	—	-40 – 105	ADIS16060BCCZ-ND♦	62.09	57.95	53.81
±80	0.098 °/s /LSB	SPI	40Hz	0.05	Yes	4.75 – 5.25	7	—	-40 – 85	ADIS16080ACCZ-ND♦	62.09	57.95	53.81
±300	0.244 °/s /LSB	SPI	40Hz	0.10	Yes	4.75 – 5.25	7	—	-40 – 85	ADIS16100ACC-ND	62.09	57.95	53.81
±300	0.2 °/s /mV	Analog	320Hz	0.015	Yes	4.75 – 5.25	100	—	-40 – 85	ADIS16120AML-ND	1023.51	955.28	887.05
±250	0.000042 °/s /LSB	SPI	320Hz	0.0125	Yes	4.75 – 5.25	73	—	-40 – 85	ADIS16130AMLZ-ND♦	869.00	811.07	753.13
±80 – ±320	0.018 °/s /LSB	SPI	50Hz	0.056	Yes	4.75 – 5.25	18	—	-40 – 85	ADIS16250ACCZ-ND♦	74.76	69.78	64.80
±20 – ±80	0.004 °/s /LSB	SPI	50Hz	0.05	Yes	4.75 – 5.25	18	—	-40 – 85	ADIS16251ACCZ-ND♦	74.76	69.78	64.80
±80 – ±320	0.018 °/s /LSB	SPI	50Hz	0.05	Yes	4.75 – 5.25	18	—	-40 – 85	ADIS16255ACCZ-ND♦	99.24	92.63	86.01
±75 – ±300	0.018 °/s /LSB	SPI	350Hz	0.05	Yes	4.75 – 5.25	35	—	-40 – 85	ADIS16350AMLZ-ND♦	516.12	481.72	447.31
±75 – ±300	0.018 °/s /LSB	SPI	350Hz	0.05	Yes	4.75 – 5.25	33	—	-40 – 85	ADIS16354AMLZ-ND♦	604.17	563.90	523.62
±75 – ±300	0.018 °/s /LSB	SPI	350Hz	0.05	Yes	4.75 – 5.25	33	—	-40 – 85	ADIS16355AMLZ-ND♦	592.02	—	—

♦ RoHS Compliant

**iSensor™ Evaluation Boards**

ADIS16003/PCBZ-ND♦	Evaluation Board for the ADIS16003, ±1.7g, Dual Axis Accelerometer	\$103.31	ADIS16209/PCBZ-ND♦	Evaluation Board for ADIS16209	\$103.31
ADIS16006/PCBZ-ND♦	Evaluation Board for ADIS16006/PCB	\$103.31	ADIS16250/PCBZ-ND♦	Evaluation Board for the ADIS16250	\$103.31
ADIS16060/PCBZ-ND♦	Evaluation Board for ADIS16060	\$103.31	ADIS16251/PCBZ-ND♦	Evaluation Board for ADIS16251	\$103.31
ADIS16080/PCBZ-ND♦	Evaluation Board for ADIS16080	\$103.31	ADIS16255/PCBZ-ND♦	Evaluation Board for the ADIS16255	\$103.31
ADIS16100/PCB-ND	Evaluation Board for the ADIS16100, ±300°/Sec. Yaw Rate Gyro	\$103.31	ADIS16350/EVALZ-ND♦	Tri Axis Inertial Sensor Evaluation Kit	\$654.64
ADIS16120/PCB-ND	Evaluation Board for the ADIS16120	\$1350.00	ADIS16350/EVALZ-ND♦	Evaluation Board for Tri Gyro Accelerometer	\$527.44
ADIS16201/PCBZ-ND♦	Evaluation Board for the ADIS16201, Programmable, Dual-Axis Inclinometer/Accelerometer	\$103.31	ADIS16354/EVALZ-ND♦	Tri Axis Inertial Sensor Evaluation Kit	\$795.81
ADIS16203/PCBZ-ND♦	Evaluation Board for the ADIS16203	\$103.31	ADIS16354/PCBZ-ND♦	Evaluation Board for ADIS16354	\$616.31
ADIS16204/PCBZ-ND♦	Evaluation Board for ADIS16204/PCB	\$103.31	ADIS16355/PCBZ-ND♦	Evaluation Board for ADIS16355	\$674.25
			ADISEVALZ-ND♦	iSensor PC Evaluation System	\$320.81

Digi-Reel® 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.

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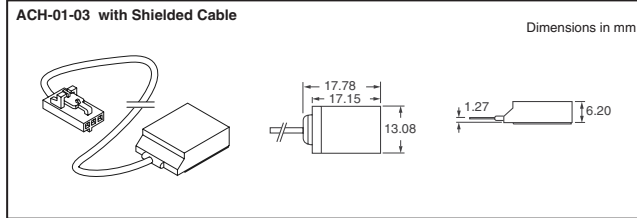
(T091) 2509

## ACH-01 Accelerometers

The ACH-01 Accelerometer is a robust, general purpose, linear single axis accelerometer featuring buffered electronic output.

### Specifications:

- Sensitivity: 10mV/g • Lower Frequency Limit (-3dB): 2Hz • Upper Frequency Limit (+3dB): 20kHz
- Dynamic Range: ±150g • Linearity: 0.1% • Resonant Frequency: 35kHz • Operating Temperature: -40°C ~ 85°C • Maximum Shock Level: 1000g



Description	Digi-Key Part No.	Price Each	1	10	100	Measurement Part No.
ACH-01-03 Sensor Accelerometer with 40" Single Coax Cable and Female Connector	MSP1001-ND	45.00	40.00	35.50		1-1001220-0
ACH-01-04 Sensor Accelerometer with Wires	MSP1002-ND	37.50	33.75	30.00		1-1001497-0

## Amplifier Box

For use with ACH-01-03 and ACH-01-04

- Characteristics:** • Gain: 10X • Power Supply: 9V Battery • Supply Current: 4.0mA • Input Interface: FET for ACH-01 • Output Impedance: 100Ω • Output Connector: BNC

Description	Digi-Key Part No.	Price Each	1	10	100	Measurement Part No.
IB-ACH-01 — Amplifier Box	MSP1003-ND	250.00	225.00	202.50		0-1003058-0

## Basic Design Kit

This kit demonstrates the use of MSI piezo film sensors as microphones, speakers, switches and acoustic pickups. All components and film samples in the kit can be used for experimentation.

- Kit Includes:** • Seven sensor elements • One piezo cable • One PCB for ACH-04-08 • Application/instruction specifications • Technical manual

Description	Digi-Key Part No.	Price Each	1	10	100	Measurement Part No.
Basic Design Kit	MSP1010-ND	200.00				0-1004308-0

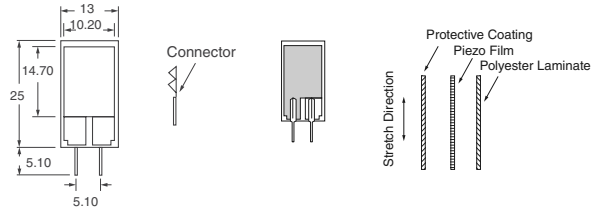
## LDT Vibration Sensors



Typically, a 0.005" (125µm) polyester layer is laminated to a 28µm piezo film element. When used in a "bending" mode, laminated film elements develop much higher voltage output when flexed than non-laminated elements. The piezo film is off the neutral axis in the laminate, and is strained more when flexed.

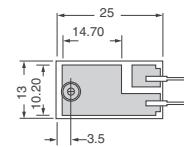
### LDT0-028K High Sensitivity

Dimensions in mm

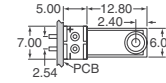


### LDTM

Also available with a mass (M) which provides higher output (mv/g) for higher sensitivity applications.



### MiniSense



Description	Cap (nF)	Digi-Key Part No.	Price Each	1	10	100	Measurement Part No.
LDT0-028K, with Solder Tabs	500	MSP1006-ND	2.40	2.00	1.80		1002794-0
LDTM-028K, with Mass and Solder Tabs	420	MSP1007-ND	2.85	2.38	2.14		0-1005447-1
MiniSense 100 (Horizontal)	—	MSP6914-ND	4.00	3.38	2.75		1005939-1
MiniSense 100 (Vertical)	—	MSP6915-ND	4.00	3.38	2.75		1005940-1

## Pressure Sensors

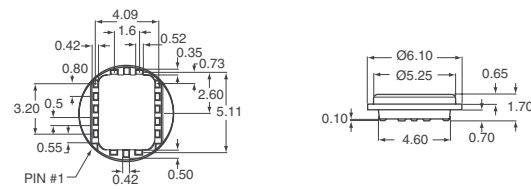


The SCP1000 performs almost complete data processing on-chip. The communication between the SCP1000 and its host micro-controller (µC) is based on a serial interface, an interrupt line and specialized pins used to trigger special functions. Two different serial interfaces are available: SPI and TWI (TWI is very similar to I2C bus). The appropriate communication interface is pre-programmed in the factory.

The SCP1000 pressure demonstrator is designed to give a quick access and understanding on the performance and capabilities of the SCP1000 pressure component. The demo kit supports SCP1000-D01 and SCP1000-D11 sensors.

- SCP1000 Demo Kit Includes:** SCP1000-D01 sensor soldered on chip carrier PCB, USB interface card inside the demo box, USB cable, CD-ROM with documentation, drivers and GUI software running on PC

### Dimensions in mm



Description	Supply Voltage	Average Supply Current (µA)	Measuring Range (kPa)	Temperature Range	Package	Digi-Key Part No.	Cut Tape Price Each			Digi-Key Part No.	Tape and Reel		VTI Part No.
							1	10	25		Qty.	Pricing	
Absolute Pressure Sensor	2.4 ~ 3.3V	25	30 ~ 120	-20°C ~ 70°C	SPI Interface	551-1046-1-ND	29.73	28.32	26.97	551-1046-2-ND	100	2446.20	SCP1000-D01
Absolute Pressure Sensor	2.4 ~ 3.3V	25	30 ~ 120	-20°C ~ 70°C	I <sup>2</sup> C Interface	551-1043-1-ND	29.73	28.32	26.97	551-1043-2-ND	100	2446.20	SCP1000-D11
SCP1000-D01 on PCB	2.4 ~ 3.3V	25	30 ~ 120	-20°C ~ 70°C	SPI Interface	551-1042-ND†	57.08	56.06	55.04	—	—	—	SCP1000 PCB1
SCP1000-D11 on PCB	2.4 ~ 3.3V	25	30 ~ 120	-20°C ~ 70°C	I <sup>2</sup> C Interface	551-1044-ND†	57.08	56.06	55.04	—	—	—	SCP1000 PCB3
Sealing Gasket for SCP1000 Series Sensors						551-1049-ND	.40	.23	.19	—	—	—	SCP1000 GA/1K
Demo Kit for SCP1000						551-1045-ND	407.70	—	—	—	—	—	SCP1000-D01 DEMO

† Bulk

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## Accelerometers and Inclinometers

VTI Technologies is a forerunner in motion and pressure sensors and the world's leading designer and producer of acceleration sensors. VTI develops and produces silicon based capacitive sensors with unique 3D-MEMS (MicroElectroMechanical System) technology, with application areas in acceleration, inclination, shock, vibration and pressure measurement.

Dimensions in mm

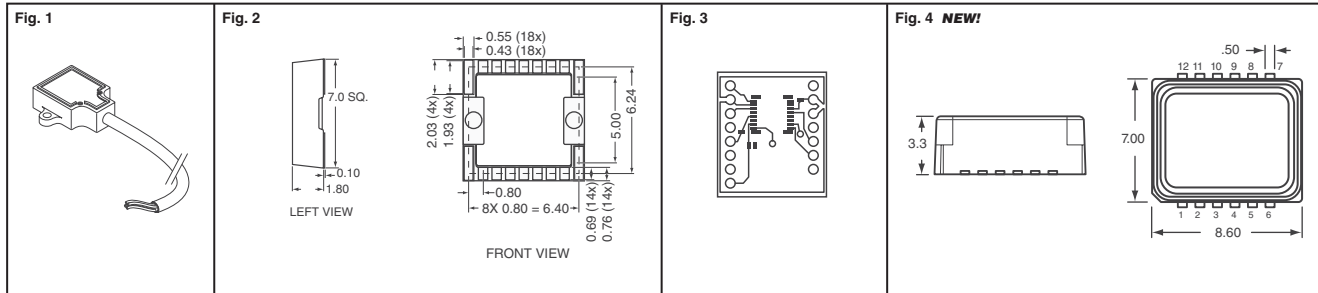


Fig.	Description	Supply Voltage (V)	Current Consumption	Measuring Range	Sensitivity	Frequency Response (Hz)	Temperature Range (°C)	Package	Digi-Key Part No.	Price Each			Tape and Reel		VTI Part No.	
										1	10	25	Qty.	Pricing		
<b>Inclinometers — RoHS Compliant</b>																
—	Single Output, 1g	4.75 - 5.25	2.5mA	±90°	2V/g	8 - 28	-55 - 125	8-DIL SMD	551-1005-1-ND	49.16	46.82	44.60	100	4044.60	SCA61T-FA1H1G	
	Single Output, 0.5g	4.75 - 5.25	2.5mA	±30°	4V/g	8 - 28	-55 - 125	8-DIL SMD	551-1004-1-ND	49.16	46.82	44.60	100	4044.60	SCA61T-FAHH1G	
	Dual Output, 0.5g	4.75 - 5.25	4mA	±30°	4V/g	8 - 28	-55 - 125	12-DIL SMD	551-1002-1-ND	64.62	61.55	58.62	100	5316.80	SCA100T-D01	
	Dual Output, 1g	4.75 - 5.25	4mA	±90°	2V/g	8 - 28	-55 - 125	12-DIL SMD	551-1003-1-ND	64.62	61.55	58.62	100	5316.80	SCA100T-D02	
	Single Output, 0.26g	4.75 - 5.25	4mA	±15°	16V/g	8 - 28	-55 - 125	12-DIL SMD	551-1000-1-ND	64.62	61.55	58.62	100	5316.80	SCA103T-D04	
	Single Output, 0.5g	4.75 - 5.25	4mA	±30°	8V/g	8 - 28	-55 - 125	12-DIL SMD	551-1001-1-ND	64.62	61.55	58.62	100	5316.80	SCA103T-D05	
<b>Accelerometers — RoHS Compliant</b>																
—	Dual Output	4.75 - 5.25	5mA	±1.7g	1.2V/g	50±30	-55 - 125	12-DIL SMD	551-1007-1-ND	52.33	49.85	47.47	100	4304.90	SCA1000-D01	
	Dual Output	4.75 - 5.25	5mA	±1.7g	1.2V/g	50±30	-55 - 125	12-DIL SMD	551-1008-1-ND	55.31	52.68	50.17	100	4550.00	SCA1020-D02	
	Dual Output	4.75 - 5.25	4.5mA	±4g	.55V/g	115±55	-55 - 125	12-DIL SMD	551-1025-1-ND	89.21	84.97	80.92	100	7339.70	SCA1000-N1000070	
	Single Output	4.75 - 5.25	2mA	±0.5g	4V/g	18±10	-55 - 125	8-DIL SMD	551-1009-1-ND	45.36	43.10	40.94	600	18001.20	SCA610-CAHH1G	
	Single Output	4.75 - 5.25	2mA	±1g	2V/g	18±10	-55 - 125	8-DIL SMD	551-1010-1-ND	49.16	46.82	44.60	600	18001.20	SCA610-CA1H1G	
	Single Output	4.75 - 5.25	2mA	±1.5g	1.33V/g	400±150	-55 - 125	8-DIL SMD	551-1026-1-ND	37.80	34.02	32.33	—	—	SCA610-C13H1A	
	Single Output	4.75 - 5.25	2mA	±1g	2V/g	50±30	-55 - 125	8-DIL SMD	551-1027-1-ND	37.80	34.02	32.33	—	—	SCA610-C21H1A	
	Single Output	4.75 - 5.25	2mA	±1.5g	1.333V/g	50±30	-55 - 125	8-DIL SMD	551-1011-1-ND	37.80	34.02	32.32	—	—	SCA610-C23H1A	
	Single Output	4.75 - 5.25	2mA	±3g	.75V/g	115±55	-55 - 125	8-DIL SMD	551-1028-1-ND	37.80	34.02	32.33	—	—	SCA610-CC5H1A	
	Single Output	4.75 - 5.25	2mA	±1.7g	1.2V/g	50±30	-55 - 125	8-DIL SMD	551-1012-1-ND	39.62	37.73	35.94	100	3260.40	SCA610-C28H1A	
	Single Output	4.75 - 5.25	2mA	±1.7g	1.2V/g	50±30	-55 - 125	8-DIL SMD	551-1013-1-ND	47.57	45.31	43.15	600	17612.40	SCA620-CF8H1A	
	<b>Stand Alone Inclinometers and Accelerometers</b>															
	1	Dual Axis	7 - 35	5mA	±90°	2V/g, 70mV/°≥4V/g	18	-40 - 85	Module	551-1017-ND◆	159.82	130.47	110.90	—	—	SCA121T-D03
		Dual Axis	4.75 - 5.25	5mA	±90°	2V/g, 70mV/°≥4V/g	18	-40 - 85	Module	551-1029-ND◆	159.82	130.47	110.90	—	—	SCA121T-D05
Dual Axis		7 - 35	5mA	±30°	2V/g, 70mV/°≥4V/g	18	-40 - 85	Module	551-1018-ND◆	159.82	130.47	110.90	—	—	SCA121T-D07	
Dual Axis		7 - 35	20mA	±30°	0.035°/LSB	10 - 28	—	Module	551-1015-ND	216.00	183.60	162.01	—	—	SCA125T-D08-A	
2	Triple Axis Digital	2.35 - 3.6	480µA	±2g	1333/g	45	-40 - 85	SPI Interface	551-1033-1-ND◆	29.73	28.32	26.97	1,000	11897.00	SCA3000-D01	
	Triple Axis Digital	2.35 - 3.6	650µA	±2g	1333/g	45	-40 - 85	I <sup>2</sup> C Interface	551-1035-1-ND◆	29.73	28.32	26.97	1,000	10973.00	SCA3000-D02	
	Triple Axis Digital	2.35 - 3.6	120µA	±3g	1000/g	35	-40 - 85	SPI Interface	551-1037-1-ND◆	29.73	28.32	26.97	1,000	11897.00	SCA3000-E01	
	Triple Axis Digital	2.35 - 3.6	200µA	±3g	1000/g	40	-40 - 85	I <sup>2</sup> C Interface	551-1039-1-ND◆	29.73	28.32	26.97	1,000	11897.00	SCA3000-E02	
	Triple Axis Digital	2.35 - 3.6	120µA	±6g	500/g	38	-40 - 85	SPI Interface	551-1047-1-ND◆	29.73	28.32	26.97	1,000	11897.00	SCA3000-E04	
	Triple Axis Digital	2.35 - 3.6	120µA	±18g	160/g	Selectable	-40 - 85	SPI Interface	551-1048-1-ND◆	23.33	21.70	20.07	100	1633.00	SCA3000-E05	
—	Dual Axis Subassembly	7 - 35	4.5mA	±10°	200mV/°	3	-40 - 85	PC Board	551-1020-ND◆	105.70	94.59	81.54	—	—	SCL1700-D01	
	Dual Axis Subassembly	4.75 - 5.25	4.5mA	±15°	150mV/°	3	-40 - 85	PC Board	551-1032-ND◆	105.70	94.59	81.54	—	—	SCL1700-D31	
3	SCA3000 Demo w/D01 on PWB	—	—	±1.7g	1.2V/g	20	—	Demo Kit	551-1041-ND◆	407.70	—	—	—	—	SCA3000-D01DEMO	
	SCA3000-D01 on PWB	2.35 - 3.6	480µA	±2g	1333/g	45	-40 - 85	SPI Interface	551-1034-ND◆	57.08	56.06	55.04	—	—	SCA3000-D01 PWB	
	SCA3000-D02 on PWB	2.35 - 3.6	650µA	±2g	1333/g	45	-40 - 85	I <sup>2</sup> C Interface	551-1036-ND◆	57.08	56.06	55.04	—	—	SCA3000-D02 PWB	
	SCA3000-E01 on PWB	2.35 - 3.6	120µA	±3g	1000/g	35	-40 - 85	SPI Interface	551-1038-ND◆	57.08	56.06	55.04	—	—	SCA3000-E01 PWB	
	SCA3000-E02 on PWB	2.35 - 3.6	200µA	±3g	1000/g	40	-40 - 85	I <sup>2</sup> C Interface	551-1040-ND◆	57.08	56.06	55.04	—	—	SCA3000-E02 PWB	
	SCA3000-E04 on PWB	2.35 - 3.6	120µA	±6g	500/g	38	-40 - 85	SPI Interface	551-1047-ND◆	57.08	56.06	55.04	—	—	SCA3000-E04 PWB	
4	Single Z-Axis Digital	3.3	5mA	±2g	900/g	80	-40 - 125	SPI Interface	551-1051-1-ND◆ <b>NEW!</b>	39.27	36.00	32.73	100	2617.70	SCA820-D04	
	Single Y-Axis Digital	3.3	5mA	±2g	900/g	80	-40 - 125	SPI Interface	551-1052-1-ND◆ <b>NEW!</b>	37.56	34.44	31.31	100	2504.30	SCA830-D06	
	Single Y-Axis Digital	3.3	5mA	±1g	32000/g	6.25	-40 - 125	SPI Interface	551-1053-1-ND◆ <b>NEW!</b>	53.20	48.77	44.34	100	3546.60	SCA830-D07	
	Dual XY-Axis Digital	3.3	3mA	±2g	900/g	55	-40 - 125	SPI Interface	551-1054-1-ND◆ <b>NEW!</b>	49.82	45.67	41.52	100	3321.40	SCA2100-D02	
	Triple XYZ-Axis Digital	3.3	3mA	±2g	900/g	55	-40 - 125	SPI Interface	551-1055-1-ND◆ <b>NEW!</b>	61.22	56.12	51.02	100	4081.40	SCA3100-D04	
—	SCA820-D04 on PCB	3.3	—	±2g	900/g	80	-40 - 125	SPI Interface	551-1057-ND◆ <b>NEW!</b>	85.62	78.49	74.21	100	—	SCA820-D04 PCB	
	SCA830-D06 on PCB	3.3	—	±2g	900/g	80	-40 - 125	SPI Interface	551-1058-ND◆ <b>NEW!</b>	85.62	78.49	74.21	100	—	SCA830-D06 PCB	
	SCA830-D07 on PCB	3.3	—	±1g	32000/g	6.25	-40 - 125	SPI Interface	551-1059-ND◆ <b>NEW!</b>	85.62	78.49	74.21	100	—	SCA830-D07 PCB	
	SCA2100-D02 on PCB	3.3	—	±2g	900/g	55	-40 - 125	SPI Interface	551-1060-ND◆ <b>NEW!</b>	85.62	78.49	74.21	100	—	SCA2100-D02 PCB	
	SCA3100-D04 on PCB	3.3	—	±2g	900/g	55	-40 - 125	SPI Interface	551-1061-ND◆ <b>NEW!</b>	85.62	78.49	74.21	100	—	SCA3100-D04 PCB	
	SCA3100 Demo w/D04 on PCB	—	—	—	—	—	—	Demo Kit	551-1056-ND◆ <b>NEW!</b>	570.78	—	—	—	—	SCA3100 Demo Kit	

† For Tape and Reel part number, change 1-ND to 2-ND. ◆ RoHS Compliant

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