



EDITION 6

# Sensor Solutions Guide

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Part Number	Sensing Range (g)	Sensing Axis	Sensitivity Typ. (mV/g)	Zero-g Offset (V)	Bandwidth Typ. (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>KXTC9-2050</b>	±2*	X, Y, Z	660	1.65	50*	3.3	0.24	-40 to +85	LGA-10 3 x 3 x 0.9
<b>KX220-1071</b>	±20*	X, Y, Z	66	1.65	8000 (x,y)* 5100 (z)*	3.3	0.24	-40 to +85	LGA-10 3 x 3 x 0.9
<b>KX220-1072</b>	±40*	X, Y, Z	33	1.65	8000 (x,y)* 5100 (z)*	3.3	0.24	-40 to +85	LGA-10 3 x 3 x 0.9
<b>KXR94-2050</b>	±2*	X, Y, Z	660	1.65	800*	3.3	0.95	-40 to +85 (+125 Optional)	DFN-14 5 x 5 x 1.2
<b>KXR94-2283</b>	±2*	X, Y, Z	1000	2.5	800*	5.0	0.95	-40 to +85 (+125 Optional)	DFN-14 5 x 5 x 1.2
<b>KXD94-2802</b>	±10*	X, Y, Z	200	2.5	800*	5.0	1.2	-40 to +85 (+125 Optional)	DFN-14 5 x 5 x 1.2

\*Factory Programmable



Part Number	Sensing Range (g)	Sensing Axis	Sensitivity Typ. (mV/g)	Zero-g Offset (V)	Bandwidth Typ. (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SCA610-E23H1A</b>	±1.5	X, Y	1.33V/g	±125mg*	50	5.0	—	-40 to +125	11.33 x 15.58 x 5.08
<b>SCA610-E28H1A</b>	±1.7	X, Y	1.2V/g	±125mg*	50	5.0	—	-40 to +125	11.33 x 15.58 x 5.08
<b>SCA620-EF1V1B</b>	0 to +2	Z	2V/g	±125mg*	50	5.0	—	-40 to +125	11.33 x 15.58 x 5.08
<b>SCA620-EF6H1A</b>	±1.7	Z	1.2V/g	±125mg*	50	5.0	—	-40 to +125	11.33 x 15.58 x 5.08
<b>SCA630-EDCV18</b>	-12.3 to +13.3	Y	0.15V/g	±870mg*	400	5.0	—	-40 to +125	11.33 x 15.58 x 5.08

\* Total offset over time and temperature



Part Number	Sensing Range (g)	Sensing Axis	Sensitivity Typ. (mV/g)	Zero-g Offset (V)	Bandwidth Typ. (Hz)	Supply Voltage (V)	Supply Current	Operating Temperature (°C)	Package Type / Size (mm)
<b>FXLN8361</b>	±2, ±8	X, Y, Z	229 (2g), 57.25 (8g)	0.75	1.1kHz (X&Y), 600Hz (Z)	1.95 to 3.6	180µA (Active), 30nA (Shutdown)	-40 to +105	QFN 3 x 3 x 1
<b>FXLN8362</b>	±4, ±16	X, Y, Z	114.5 (4g), 28.62 (16g)	0.75	1.1kHz (X&Y), 600Hz (Z)	1.95 to 3.6	180µA (Active), 30nA (Shutdown)	-40 to +105	QFN 3 x 3 x 1

# ACCELEROMETER / Analog Output



Part Number	Sensing Range (g)	Sensing Axis	Sensitivity Typ. (mV/g)	Zero-g Offset (V)	Bandwidth Typ. (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
LIS344ALHTR	±2; ±6	X, Y, Z	660	1.65	1800	3.3	0.68	-40 to +85	LLGA 16 4 x 4 x 1.5



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Part Number	Sensing Range (g)	Sensing Axis	Sensitivity Typ. (mV/g)	Zero-g Offset (V)	Bandwidth Typ. (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
3038-0050	±50	Z	2	±0.025	0 to 1000	2 to 10	–	-54 to +125	LCC-8
3038-0100	±100	Z	1	±0.025	0 to 1200	2 to 10	–	-54 to +125	LCC-8
3038-0200	±200	Z	0.9	±0.025	0 to 1400	2 to 10	–	-54 to +125	LCC-8
3038-0500	±500	Z	0.4	±0.025	0 to 2000	2 to 10	–	-54 to +125	LCC-8
3038-2000	±2000	Z	0.16	±0.025	0 to 4500	2 to 10	–	-54 to +125	LCC-8
3038-6000	±6000	Z	0.1	±0.025	0 to 5000	2 to 10	–	-54 to +125	LCC-8
4030-002-120	±2	X, Y, Z	1000	2.5	0 to 200	5 to 30	–	-40 to +85	70.5 x 40 housing
4030-006-120	±6	X, Y, Z	333	2.5	0 to 200	5 to 30	–	-40 to +85	70.5 x 40 housing
805-0050	±50	Z	100	–	1 to 8000	18 to 30	2 to 10	-40 to +100	T0-5
805-0500	±500	Z	10	–	1 to 8000	18 to 30	2 to 10	-40 to +100	T0-5
805M1-0020	±20	Z	100	2.5	1 to 8000	3.0 to 5.5	<0.80	-40 to +100	T0-5
805M1-0200	±200	Z	10	2.5	1 to 8000	3.0 to 5.5	<0.80	-40 to +100	T0-5
832M1-0025	±25	X, Y, Z	50	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
832M1-0050	±50	X, Y, Z	25	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
832M1-0100	±100	X, Y, Z	12.5	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
832M1-0200	±200	X, Y, Z	6.25	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
832M1-0500	±500	X, Y, Z	2.5	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
834M1-2000	±2000	X, Y, Z	0.62	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
834M1-6000	±6000	X, Y, Z	0.2	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
3038-0050	±50	Z	2	±0.025	0 to 1000	2 to 10	–	-54 to +125	LCC-8
3038-0100	±100	Z	1	±0.025	0 to 1200	2 to 10	–	-54 to +125	LCC-8
3038-0200	±200	Z	0.9	±0.025	0 to 1400	2 to 10	–	-54 to +125	LCC-8
3038-0500	±500	Z	0.4	±0.025	0 to 2000	2 to 10	–	-54 to +125	LCC-8
3038-2000	±2000	Z	0.16	±0.025	0 to 4500	2 to 10	–	-54 to +125	LCC-8
3038-6000	±6000	Z	0.1	±0.025	0 to 5000	2 to 10	–	-54 to +125	LCC-8
4030-002-120	±2	X, Y, Z	1000	2.5	0 to 200	5 to 30	–	-40 to +85	70.5 x 40 housing



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Part Number	Sensing Range (g)	Sensing Axis	Sensitivity Typ. (mV/g)	Zero-g Offset (V)	Bandwidth Typ. (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>4030-006-120</b>	±6	X, Y, Z	333	2.5	0 to 200	5 to 30	—	-40 to +85	70.5 x 40 housing
<b>805-0050</b>	±50	Z	100	—	1 to 8000	18 to 30	2 to 10	-40 to +100	TO-5
<b>805-0500</b>	±500	Z	10	—	1 to 8000	18 to 30	2 to 10	-40 to +100	TO-5
<b>805M1-0020</b>	±20	Z	100	2.5	1 to 8000	3.0 to 5.5	<0.80	-40 to +100	TO-5
<b>805M1-0200</b>	±200	Z	10	2.5	1 to 8000	3.0 to 5.5	<0.80	-40 to +100	TO-5
<b>832M1-0025</b>	±25	X, Y, Z	50	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
<b>832M1-0050</b>	±50	X, Y, Z	25	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
<b>832M1-0100</b>	±100	X, Y, Z	12.5	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
<b>832M1-0200</b>	±200	X, Y, Z	6.25	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
<b>832M1-0500</b>	±500	X, Y, Z	2.5	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
<b>834M1-2000</b>	±2000	X, Y, Z	0.62	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing
<b>834M1-6000</b>	±6000	X, Y, Z	0.2	2.5	2 to 6000	3.0 to 5.5	0.022	-40 to +125	18.50 x 14.48 housing



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# ACCELEROMETER / Digital Output



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Part Number	Sensing Range (g)	Sensing Axis	Sensitivity (LSB/g)	Output Interface	Bandwidth (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BMA253</b>	±2, ±4, ±8, ±16	X, Y, Z	1024, 512, 256, 128	SPI, I <sup>2</sup> C, 2 digital interrupt pins	8 to 1000z	V <sub>DD</sub> 1.62 to 3.6 V <sub>DIO</sub> 1.2 to 3.6	6.5 µA @ 40 Hz data rate (low-power mode 130µA @2kHz data rate (full operation))	-40 to +85	2.0 × 2.0 × 0.95
<b>BMA280</b>	±2, ±4, ±8, ±16	X, Y, Z	4096, 2048, 1024, 512	SPI, I <sup>2</sup> C, 2 digital interrupt pins	8 to 500	V <sub>DD</sub> 1.62 to 3.6 V <sub>DIO</sub> 1.2 to 3.6	6.5 µA @ 40 Hz data rate (low-power mode) 130µA @2kHz data rate (full operation)	-40 to +85	2.0 × 2.0 × 0.95
<b>BMA400</b>	±2, ±4, ±8, ±16	X, Y, Z	1024, 512, 256, 128	SPI, I <sup>2</sup> C, 2 digital interrupt pins	0.24 x ODR or 0.48 x ODR (ODR from 12.5... 800 Hz)	V <sub>DD</sub> 1.71 to 3.6 V <sub>DIO</sub> 1.2 to 3.6	14 µA (max. performance) <8 µA (typical use case) < 4 µA Independent of ODR (lower power mode)	-40 to +85	2.0 × 2.0 × 0.95
<b>BMA423</b>	±2, ±4, ±8, ±16	X, Y, Z	1024, 512, 256, 128	SPI, I <sup>2</sup> C, 2 digital interrupt pins	1.5 to 1600	V <sub>DD</sub> 1.62 to 3.6 V <sub>DIO</sub> 1.2 to 3.6	13 µA @ 50 Hz data rate (low-power mode) 150 µA (full operation)	-40 to +85	2.0 × 2.0 × 0.95
<b>BMA456</b>	±2, ±4, ±8, ±16	X, Y, Z	16384, 8192, 4096, 2048	SPI, I <sup>2</sup> C, 2 digital interrupt pins	5 to 684 (ODR: 0.8 to 1600)	V <sub>DD</sub> 1.62 to 3.6 V <sub>DIO</sub> 1.2 to 3.6	13 µA @ 50 Hz data rate (low-power mode) 150 µA (full operation)	-40 to +85	2.0 × 2.0 × 0.65



Part Number	Sensing Range (g)	Sensing Axis	Sensitivity (LSB/g)	Output Interface	Bandwidth (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>KXTJ3-1057</b>	±2, ±4, ±8, ±16	X, Y, Z	1024, 512, 256, 128	I <sup>2</sup> C (1 Interrupt)	800	1.71 to 3.60	0.0015 to 0.155	-40 to +85	LGA-12 2 x 2 x 0.9
<b>KX003-1077</b>	±2, ±4, ±8, ±16	X,Y,Z	1024, 512, 256, 128	I <sup>2</sup> C (1 Interrupt)	800	1.71 to 3.60	0.0015 to 0.155	-40 to +85	LGA-12 2 x 2 x 0.9
<b>KX122-1037</b>	±2, ±4, ±8	X, Y, Z	16384, 8192, 4096	I <sup>2</sup> C, SPI, (2 Interrupts)	3000 (x,y) 1800 (z)	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA 12-Pin 2.0 x 2.0 x 0.9
<b>KX124-1051</b>	±2, ±4, ±8	X, Y, Z	16384, 8192, 4096	I <sup>2</sup> C, SPI, (2 Interrupts)	3000 (x,y) 1800 (z)	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA 16-Pin 3.0 x 3.0 x 0.9
<b>KX126-1063</b>	±2, ±4, ±8	X, Y, Z	16384, 8192, 4096	I <sup>2</sup> C, SPI, (2 Interrupts)	3000 (x,y) 1800 (z)	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA 12-Pin 2.0 x 2.0 x 0.9
<b>KX127-1068</b>	±2, ±4, ±8	X,Y,Z	16384, 8192, 4096	I <sup>2</sup> C, SPI, (2 Interrupts)	800	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA-12 2 x 2 x 0.9
<b>KX112-1042</b>	±2, ±4, ±8	X, Y, Z	16384, 8192, 4096	I <sup>2</sup> C, SPI, (2 Interrupts)	3000 (x,y) 1800 (z)	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA 12-Pin 2.0 x 2.0 x 0.6
<b>KXCJB-1041</b>	±2, ±4, ±8	X, Y, Z	1024, 512, 256	I <sup>2</sup> C (1 Interrupt)	800	1.71 to 3.60	0.0017 to 0.120	-40 to +85	LGA 10-Pin 3.0 x 3.0 x 0.45
<b>KX222-1054</b>	±8, ±16, ±32	X, Y, Z	4096, 2048, 1024	I <sup>2</sup> C, SPI, (2 Interrupts)	8000 (x,y) 5100 (z)	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA 12-Pin 2.0 x 2.0 x 0.9
<b>KX224-1053</b>	±8, ±16, ±32	X, Y, Z	4096, 2048, 1024	I <sup>2</sup> C, SPI, (2 Interrupts)	8000 (x,y) 5100 (z)	1.71 to 3.60	0.0018 to 0.145	-40 to +85	LGA 16-Pin 3.0 x 3.0 x 0.9

Part Number	Sensing Range (g)	Sensing Axis	Sensitivity (LSB/g)	Output Interface	Bandwidth (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SCA820-D04</b>	±2	Z	900	SPI	50	3.3	5.0	-40 to +125	7.0 x 8.6 x 3.3
<b>SCA830-D06</b>	±2	Y	900	SPI	50	3.3	5.0	-40 to +125	7.0 x 8.6 x 3.3
<b>SCA830-D07</b>	±1	Y	32000	SPI	6	3.3	5.0	-40 to +125	7.0 x 8.6 x 3.3
<b>SCA2120-D06</b>	±2	Y, Z	900	SPI	45	3.3	5.0	-40 to +125	7.0 x 8.6 x 3.3
<b>SCA3300-D01</b>	±1.5, ±3, ±6	X, Y, Z	5400, 2700, 1350	SPI	88	3.3	1.2	-40 to +125	7.0 x 8.6 x 3.3
<b>SCA3100-D04</b>	±2	X, Y, Z	900	SPI	45	3.3	3.0	-40 to +125	7.0 x 8.6 x 3.3
<b>SCA3100-D07</b>	±6	X, Y, Z	650	SPI	45	3.3	3	-40 to +125	7.0 x 8.6 x 3.3



Part Number	Sensing Range (g)	Sensing Axis	Sensitivity (LSB/g)	Output Interface	Bandwidth	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>FXLS8962AF</b>	±2, ±4, ±8, ±16	X, Y, Z	1024, 512, 256, 128	SPI, I²C	1.6 kHz (X&Y), 700 Hz (Z)	1.71 to 3.6	0.65 µA to 137 µA (Active), 0.6 µA (Standby), 50 nA (Hibernate)	-40 to +105	DFN-10 2 x 2 x 0.95
<b>MMA8451</b>	±2, ±4, ±8	X, Y, Z	4096, 2048, 1024	I²C	Up to 400 Hz	1.95 to 3.6	6 µA to 165 µA (Active), 1.8 µA (Standby)	-40 to +105	QFN-16 3 x 3 x 1
<b>MMA8491</b>	±8	X, Y, Z	1024	I²C	Up to 400 Hz	1.71 to 3.6	400 nA/Hz (One Shot), 1.8 nA (Shutdown)	-40 to +105	QFN-12 3 x 3 x 1
<b>MMA8652</b>	±2, ±4, ±8	X, Y, Z	1024, 512, 256	I²C	Up to 400 Hz	1.95 to 3.6	6 µA to 185 µA (Active), 1.4 µA (Standby)	-40 to +105	DFN-10 2 x 2 x 1
<b>FXLS8471</b>	±2, ±4, ±8	X, Y, Z	4096, 2048, 1024	SPI, I²C	Up to 400 Hz	1.95 to 3.6	8 µA to 240 µA (Active), 2 µA (Standby)	-40 to +105	QFN-16 3 x 3 x 1
<b>MMA68xx</b>	±20 to ±120	X, Y	4.88-20.47 (X), 4.09 to 9.76 (Y)	SPI	Up to 1 kHz	3.3 or 5	4 - 9	-40 to +125	QFN-16 6 x 6 x 1.98
<b>MMA65xx</b>	±80, ±105, ±120	X, Y	24 (80 g), 18.2 (105 g), 16 (120 g)	SPI	Up to 1 kHz	3.3 or 5	4 - 8	-40 to +125	QFN-16 6 x 6 x 1.98
<b>MMA6900/10</b>	±3.5	X, Y	291	SPI	50 kHz	3.3 or 5	Up to 8	-40 to +125	QFN-16 6 x 6 x 1.98

Part Number	Sensing Range (g)	Sensing Axis	Sensitivity (LSB/g)	Output Interface	Bandwidth	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>LIS2DW12TR</b>	±2, ±4, ±8, ±16	X, Y, Z	0.244mg/digit to 7.808 mg/digit	SPI/I²C 2x digital interrupt pins	0.4 - 3200	1.62 - 3.6	0.00038	-40 to +85	LGA 12 2 x 2 x 0.7
<b>LIS2DS12TR</b>	±2, ±4, ±8, ±16	X, Y, Z	0.061 mg/digit to 0.488 mg/digit	SPI/I²C 2x digital interrupt pins	11 - 3200	1.62 - 1.98	0.0025	-40 to +85	LGA 12 2 x 2 x 0.86
<b>LIS2DH12TR</b>	±2, ±4, ±8, ±16	X, Y, Z	1 mg/digit to 192 mg/digit	SPI/I²C 2x digital interrupt pins	0.11 - 2688	1.71 - 3.6	0.002	-40 to +85	LGA 12 2 x 2 x 1.0

## ACCELEROMETER / Digital Output



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Part Number	Sensing Range (g)	Sensing Axis	Sensitivity (LSB/g)	Output Interface	Bandwidth (Hz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
LIS2HH12TR	±2, ±4, ±8	X, Y, Z	0.061 mg/digit to 0.244 mg/digit	SPI / I²C 2x digital interrupt pins	50 to 400	1.71 to 3.6	0.05	-40 to +85	LGA 12 2x2x1.0
AIS328DQTR	±2, ±4, ±8	X, Y, Z	0.98 mg/digit to 3.91 mg/digit	SPI / I²C 2x digital interrupt pins	0.25 to 500	2.4 to 3.6	0.01	-40 to +105	QFN 24 4x4x1.8
AIS3624DQTR	±6, ±12, ±24	X, Y, Z	2.9 mg/digit to 11.7 mg/digit	SPI / I²C 2x digital interrupt pins	0.25 to 500	2.4 to 3.6	0.01	-40 to +105	QFN 24 4x4x1.8
MIS2DHTR	±2, ±4, ±8, ±16	X, Y, Z	0.98 mg/digit to 188 mg/digit	SPI / I²C 2x digital interrupt pins	0.11 to 2688	1.7 to -3.6	0.002	-40 to +85	LGA 12 2x2x1.0
IIS2DHTR	±2, ±4, ±8, ±16	X, Y, Z	1 mg/digit to 188 mg/digit	SPI / I²C 2x digital interrupt pins	0.11 to 2688	1.71 to 3.6	0.002	-40 to +85	LGA 12 2x2x1.0
H3LIS100DLTR	±100	X, Y, Z	780 mg/digit	SPI / I²C 2x digital interrupt pins	0.25 to 200	2.16 to 3.6	0.01	-40 to +85	TFLGA 16 3x3x1.0
H3LIS200DLTR	±100, ±200	X, Y, Z	780 mg/digit to 1560 mg/digit	SPI / I²C 2x digital interrupt pins	0.25 to 500	2.16 to 3.6	0.01	-40 to +85	TFLGA 16 3x3x1.0
H3LIS331DLTR	±100, ±200, ±400	X, Y, Z	49 mg/digit to 195 mg/digit	SPI / I²C 2x digital interrupt pins	0.25 to 500	2.16 to 3.6	0.01	-40 to +85	TFLGA 16 3x3x1.0
LIS2DE12TR	±2, ±4, ±8, ±16	X, Y, Z	15 mg/digit to 188 mg/digit	SPI / I²C 2x digital interrupt pins	0.5 to 2688	1.71 to 3.6	0.002	-40 to +85	LGA 12 2x2x1.0
LIS3DSHTR	±2, ±4, ±6, ±8, ±16	X, Y, Z	0.06 mg/digit to 0.73 mg/digit	SPI / I²C 2x digital interrupt pins	50 to 800	1.71 to 3.6	0.011	-40 to +85	LGA 16 3x3x1
LIS3DHHTR	±2.5	X, Y, Z	0.076 mg/digit	SPI 2x digital interrupt pins	235 or 440	1.71 to 3.6	2.5	-40 to +85	LGA 16 5x5x1.7
IIS3DHHCTR	±2.5	X, Y, Z	0.076 mg/digit	SPI 2x digital interrupt pins	235 or 440	1.71 to 3.6	2.5	-40 to +85	LGA 16 5x5x1.7
IIS2DLPCTR	±2, ±4, ±8, ±16	X, Y, Z	0.244mg/digit to 7.808 mg/digit	SPI/I²C 2x digital interrupt pins	0.4 to 3200	1.62 to 3.6	0.00038	-40 to +85	LGA 12 2x2x0.7
IIS328DQ	±2, ±4, ±8	X, Y, Z	0.98, 1.95, 3.91 mg/digit	SPI/I²C 2x digital interrupt pins	25 to 500 (ODR/2)	2.16 to 3.6	0.01	-40 to +85	4x4x1.8

## ACCELEROMETER / Shock Sensor



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Part Number	Primary Axis Inclined Angle	Sensitivity (pC/g)	Capacitance (pF)	Insulation Resistance (min)	Resonant Frequency (kHz)	Non-Linearity (Typ.)	Shock Resistance (g)	Operating Temperature (°C)
PKGS-00GXP1-R	0°	0.35	390	500M ohms	31	1%	3000 (0.3ms duration)	-40 to +85
PKGS-25SXAP1-R	25°	0.35	740	100M ohms	27	1%	3000 (0.3ms duration)	-40 to +85
PKGS-25WXP1-R	25°	0.168	550	100M ohms	42	1%	3000 (0.3ms duration)	-40 to +85



AUTHORIZED DISTRIBUTOR

Part Number	Primary Axis Inclined Angle	Sensitivity (pC/g)	Capacitance (pF)	Insulation Resistance (min)	Resonant Frequency (kHz)	Non-Linearity (Typ.)	Shock Resistance (g)	Operating Temperature (°C)
705	Z	8	600	100 MOhm	46	1%	10000	-73 to +200

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## ACOUSTIC

Ultrasonic Sensors ..... 15

MEMS Microphone ..... 15



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- › Digital PDM interface: ultra-low group delay for latency-critical applications (6 µs at 1 kHz)
- › Wide frequency response: 28 Hz to 20 kHz



Part Number	Description	Resonance Frequency (KHz)	Directivity (deg)	Sound Pressure Level (dB)	Capacitance (pF)	Max Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MA40S4R</b>	Ultrasonic Receiver	40	80 deg. (typ.)	–	2,550 ±20%	–	-40 to +85	9.9 x 7.1
<b>MA40S4S</b>	Ultrasonic Transmitter	40	80 deg. (typ.)	120dB typ. (0dB=0.02mPa)	2,550 ±20%	20V p-p	-40 to +85	9.9 x 7.1

## ACOUSTIC / MEMS Microphone

Part Number	Output	SNR (dB)	Sensitivity (dB)	Frequency Response	Supply (V)	Supply Current (µA)	Port Location	Package Type / Size (mm)
<b>IM69D130</b>	Digital (PDM)	69	-36	Flat, with roll-off at 28Hz	1.62 to 3.6	800 Normal Mode 300 Low Power Mode	Bottom	4 x 3 x 1.2
<b>IM69D120</b>	Digital (PDM)	69	-26	Flat, with roll-off at 28Hz	1.62 to 3.6	800 Normal Mode 300 Low Power Mode	Bottom	4 x 3 x 1.2

Part Number	Output	SNR (dB)	Sensitivity (dB)	Frequency Response	Supply (V)	Supply Current (µA)	Port Location	Package Type / Size (mm)
<b>MP34DT05TR-A</b>	Digital	64	-26	20Hz - 20Khz	1.64 to 3.6	600	Top	HCLGA 4 x 3 x 1.0 4LD
<b>IMP34DT05TR</b>	Digital	64	-26	20Hz - 20Khz	1.64 to 3.6	600	Top	HCLGA 4 x 3 x 1.0 4LD
<b>MP34DT06JTR</b>	Digital	64	-26	20Hz - 20Khz	1.6 to 3.6	650	Top	HCLGA 4 x 3 x 1.0 4LD
<b>MP23ABS1</b>	Analog	64	-38 to ±1	20Hz - 20Khz	1.52 to 3.6	120 (150 Max)	Bottom	Metal 3.5 x 2.65 x 0.98



## AIR QUALITY

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Part Number	Description	Output Interface	Measurement Range	Power Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
MiCS-VZ-89TE	VOC	I <sup>2</sup> C, PWM	400-2000 ppm equivalent CO <sub>2</sub> 0-1000 ppb isobutylene equivalent tVOCs	125mW	3.3VDC regulated ±5%	0 to +50	22.9 x 14 x 3.15



Part Number	Description	Output Interface	Measurement Range	Power Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
AS-MLV-P2	Gas sensor component specifically designed for a broad detection of reducing gases such as VOCs and CO associated with bad air quality.	Analog Rs	–	34mW	3	0 to +50	Surface Mount Custom PCB / 9.1 x 9.1 x 4.53
iAQ-Core	Measure VOC levels and provide CO <sub>2</sub> equivalent and TVOC equivalent predictions	I <sup>2</sup> C	–	iAQ-core-C: 66 mW (1/1s) iAQ-core-P: 9 mW (1/10s)	3.3	0 to +50	Surface Mount Custom PCB / 15.24 x 17.78 x 1.7
CCS811	Ultra-low power digital gas sensor solution which integrates a metal oxide (MOX) gas sensor for monitoring indoor air quality (IAQ)	I <sup>2</sup> C	–	46mW 1s mode <1.3mW 60s mode	1.8 to 3.6	-5 to +50	LGA package 10-lead 2.7 x 4.0



Part Number	Description	Output Interface	Measurement Range	Power Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
BME680	The unit integrates for the first time low-power and highly accurate gas, pressure, humidity and temperature sensors in one tiny package.	I <sup>2</sup> C, SPI	Gas 0 to 500 IAQ (equivalent to 0.2 to 20 mg/m <sup>3</sup> TVOC levels); Humidity 0 to 100 % rh; Pressure 300 to 1100 hPa; Temperature -40 to 85°C	Sleep mode 0.15 µA 2.1 µA @ 1Hz (H,T) 3.1 µA @ 1Hz (P, T) 3.7 µA @ 1 Hz (H, P, T) 0.09 -12 mA (P/H/T/Gas) depending on operation mode	V <sub>DDIO</sub> 1.2 to 3.6 V <sub>DD</sub> 1.71 to 3.6	-40 to +85	3.0 x 3.0 x 0.93



Part Number	Description	Output Interface	Measurement Range	Power Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SGP30</b>	MEMS metal-oxide gas sensor for measuring volatile organic compounds	Digital, I <sup>2</sup> C	0 - 1,000 ppm	0.086 W	1.8	-40 to +85	2.45 x 2.45 x 0.9
<b>SGPC3</b>	MEMS metal-oxide gas sensor for measuring volatile organic compounds - Consumer version	Digital, I <sup>2</sup> C	0 - 1,000 ppm	LP:1.8 mW, ULP:0.12mW	1.8	-40 to +85	2.45 x 2.45 x 0.9



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Part Number	Measurement Range (ppm)	Output Interface	Response Time	Power Consumption	Supply Voltage (V)	Operating Conditions	Package Type / Size (mm)
<b>T6613</b>	0 to 2,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6613-5K</b>	0 to 5,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6613-5KC</b>	0 to 5,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6613-5KF</b>	0 to 5,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6613-C</b>	0 to 2,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6613-F</b>	0 to 2,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6613-R12</b>	0 to 2,000	UART, I <sup>2</sup> C, PWM	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615</b>	0 to 2,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-10K</b>	0 to 10,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-10KF</b>	0 to 10,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-50K</b>	0 to 50,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-50KF</b>	0 to 50,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-5K</b>	0 to 5,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-5KF</b>	0 to 5,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-F</b>	0 to 2,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6615-R12</b>	0 to 2,000	UART	< 2 minutes for 90% step change typical	0.90 watts peak, 0.165 watts average	5V <sub>DC</sub> regulated ( $\pm 5\%$ )	0 to +50 (0 to 95% RH, non condensing)	57.15 x 34.67 x 15.24
<b>T6713</b>	0 to 2,000	UART, I <sup>2</sup> C, PWM	< 3 minutes for 90% step change	25mA	4.5 to 5V <sub>DC</sub>	-10 to +60 (0 to 95% RH, non-condensing)	30 x 15.6 x 8.6
<b>T6713-5K</b>	0 to 5,000	UART, I <sup>2</sup> C, PWM	< 3 minutes for 90% step change	25mA	4.5 to 5.5V <sub>DC</sub>	-10 to +60 (0 to 95% RH, non-condensing)	30 x 15.6 x 8.6
<b>T6713-6H</b>	0 to 2,000	UART, I <sup>2</sup> C, PWM	< 3 minutes for 90% step change	25mA	4.5 to 5.5V <sub>DC</sub>	-10 to +60 (0 to 95% RH, non-condensing)	30 x 15.6 x 8.6
<b>T8031</b>	0 to 2,000	24V nominal supply	< 3 minutes for 90% step change	1.65 watts peak, 0.65 watts average	0 to 10 analog	0 to +50 (0 to 95% RH, non condensing)	3.83 in + 0.74 in mounting tab x 1.17in x 0.94 in
<b>T8031-5V</b>	0 to 2,000	24V nominal supply	< 3 minutes for 90% step change	1.65 watts peak, 0.65 watts average	1 to 10 analog	0 to +50 (0 to 95% RH, non condensing)	3.83 in + 0.74 in mounting tab x 1.17in x 0.94 in
<b>T8031-1M</b>	0 to 2,000	24V nominal supply	< 3 minutes for 90% step change	1.65 watts peak, 0.65 watts average	2 to 10 analog	0 to +50 (0 to 95% RH, non condensing)	3.83 in + 0.74 in mounting tab x 1.17in x 0.94 in
<b>T8031-1M-5V</b>	0 to 2,000	24V nominal supply	< 3 minutes for 90% step change	1.65 watts peak, 0.65 watts average	3 to 10 analog	0 to +50 (0 to 95% RH, non condensing)	3.83 in + 0.74 in mounting tab x 1.17in x 0.94 in



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Part Number	Measurement Range (ppm)	Output Interface	Response Time	Power Consumption	Supply Voltage (V)	Operating Conditions	Package Type / Size (mm)
T8031-3M	0 to 2,000	24V nominal supply	< 3 minutes for 90% step change	1.65 watts peak, 0.65 watts average	4 to 10 analog	0 to +50 (0 to 95% RH, non condensing)	3.83 in + 0.74 in mounting tab x 1.17in x 0.94 in
T8031-3M-5V	0 to 2,000	24V nominal supply	< 3 minutes for 90% step change	1.65 watts peak, 0.65 watts average	5 to 10 analog	0 to +50 (0 to 95% RH, non condensing)	3.83 in + 0.74 in mounting tab x 1.17in x 0.94 in
T3031-2-10K-24-P	0 to 10,000	0-10V	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67
T3031-2-2k-24-P	0 to 2,000	0-10V	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67
T3031-2-5K-24-P	0 to 5,000	0-10V	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67
T3032-2-10K-24-P	0 to 10,000	4-20 mA	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67
T3032-2-10K-24-P-CM	0 to 10,000	4-20 mA	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67
T3032-2-2K-24-P	0 to 2,000	4-20 mA	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67
T3032-2-5K-24-P	0 to 5,000	4-20 mA	<200 sec for 63% change	0.90 watts peak, 0.165 watts average	18-30VAC RMS, 50/60Hz, or 18 to 42 V <sub>DC</sub> , polarity protected	-20 to +50	70 x 68 x 45 approx. overall, IP67

Part Number	Measurement Range (ppm)	Output Interface	Response Time	Power Consumption	Supply Voltage (V)	Operating Conditions	Package Type / Size (mm)
SCD30	0 to 40,000	UART/ I <sup>2</sup> C	τ63% 20s	2mW @ 1 measurement per minute	3.3 to 5.5	0 to -50°C, 0 to 95%RH	35 x 23 x 7

Part Number	Measurement Range	Output Interface	Power-Up Time	Power Consumption	Supply Voltage (VDC)	Operating Conditions (°C)	Package Type / Size (mm)
SM-PWM-01C	0.01 to 3000 ug/m <sup>3</sup>	PWM	90s	<100 mA	4.5 to 5.5	-10 to +60, <85%RH	59 x 46 x 18

Part Number	Measurement Range	Output Interface	Power-Up Time	Power Consumption	Supply Voltage (VDC)	Operating Conditions (°C)	Package Type / Size (mm)
SPS30	0.1 to 1000 ug/m <sup>3</sup>	UART / I <sup>2</sup> C	<8s	0.44 W	4.5 to 5.5	-10 to +60, <85%RH	41 x 41 x 12



## BIOSENSORS

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Part Number	Integrated LEDs	Integrated LED Driver Current (mA)	Sensor Spectrum Bandwidth ( $\lambda_{0.5}$ nm)	ADC Resolution (Bit)	Output Interface	Supply Current (uA)	Standby Current (uA)	Supply Voltage (V)	I <sup>2</sup> C Bus Voltage Range (V)	Package Type / Size (mm)
MAX30101EFD+T	Red, IR, Green	50	–	18	I <sup>2</sup> C	600	0.7	1.7 to 2.0	1.7 to 5.0	OLGA, 14-pin, 3.3 x 5.6 x 1.55
MAX30102EFD+T	Red, IR	50	–	18	I <sup>2</sup> C	600	0.7	1.7 to 2.0	1.7 to 5.0	OLGA, 14-pin, 3.3 x 5.6 x 1.55



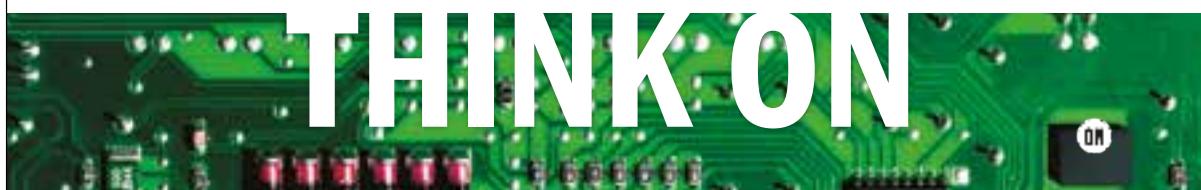
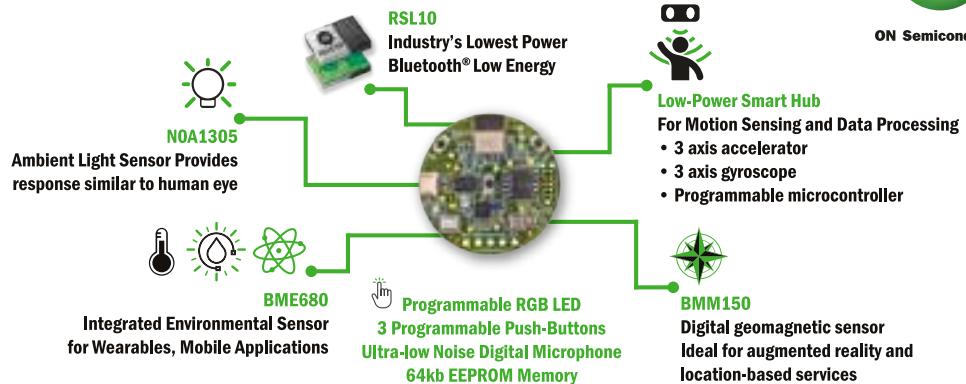
Part Number	Integrated LEDs	Integrated LED Driver Current (mA)	Sensor Spectrum Bandwidth ( $\lambda_{0.5}$ nm)	ADC Resolution (Bit)	Output Interface	Supply Current (uA)	Standby Current (uA)	Supply Voltage (V)	I <sup>2</sup> C Bus Voltage Range (V)	Package Type / Size (mm)
BH1792GLC	NO	2 x 63mA	550nm, 790nm	16bit	I <sup>2</sup> C	200	0.8	2.5 to 3.6	2.5 to 3.6	WLGA010V28 2.8 x 2.8 x 1.0

## BIOSENSORS / Biopotential AFE

Part Number	Features / Applications	Data Converter Resolution (bits)	Input Impedance (MOhm)	CMRR (dB)	DC Offset Range (mV)	Supply Current	Shutdown Mode Supply Current (uA)	Supply Voltage	Package Type / Size (mm)
MAX30001CWV+	ECG, R-R Detection, BioZ, Pace	18;15.5 effective (ECG) 20, 17 effective (BioZ)	1500 (Differential) 45000 (Common-mode)	115	$\pm 300$ at 1.1V $\pm 650$ at 1.8V	205 at 1.1V 232 at 1.8V 242 at 2.0V	0.58	1.1 to 2.0 (AVDD, DVDD) 1.65 to 3.6 (OVDD)	WLP, 30-pin, 2.74 x 2.926
MAX30003CTI+T	ECG, R-R Detection	18;15.5 effective (ECG)	1500 (Differential) 45000 (Common-mode)	115	$\pm 300$ at 1.1V $\pm 650$ at 1.8V	76 at 1.1V 100 at 1.8V 109 at 2.0V	0.51	1.1 to 2.0 (AVDD, DVDD) 1.65 to 3.6 (OVDD)	TQFN, 28-pin, 5 x 5 x 0.75
MAX30004CWV+T	R-R Detection	18;15.5 effective (ECG)	1500 (Differential) 45000 (Common-mode)	115	$\pm 300$ at 1.1V $\pm 650$ at 1.8V	76 at 1.1V 100 at 1.8V 109 at 2.0V	0.51	1.1 to 2.0 (AVDD, DVDD) 1.65 to 3.6 (OVDD)	WLP, 30-pin, 2.74 x 2.926

Part Number	Output Interface	Receiver Channels	Transceiver Channels (LED Driver)	Integrated LED Driver Current (mA)	ADC Resolution (Bit)	Standby Current (µA)	Supply Voltage (V)	Package Type / Size (mm)
MAX86140ENP+	SPI	1	3 (up to 6 with external Mux)	124	19	0.6	1.7 to 2.0	WLP, 20-pin, 2.048 x 1.848
MAX86141ENP+	SPI	2	3 (up to 6 with external Mux)	124	19	0.6	1.7 to 2.0	WLP, 20-pin, 2.048 x 1.848
MAX30112EWG+	I <sup>2</sup> C	1	2	200	19	1.6	1.7 to 2.0	WLP, 24-pin, 2.8 x 2.0
MAX30110EWG+	SPI	1	2	200	19	1.6	1.7 to 2.0	WLP, 24-pin, 2.8 x 2.0

## RSL10-SENSE-GEVK: ULTRA-LOW POWER MULTI-SENSOR DEVELOPMENT KIT


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## ENVIRONMENTAL COMBO

Humidity, Temperature and Pressure Sensor Combo.... 27

Humidity, Temperature, Pressure and  
VOC Sensor Combo..... 27



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## ENVIRONMENTAL COMBO / Humidity, Temperature and Pressure Sensor Combo



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Part Number	Description	Output Interface	Sensing Range	Accuracy	Supply Current	Supply Voltage (V)	Package Type / Size (mm)
<b>BME280</b>	The unit combines individual high linearity, high accuracy sensors for pressure, humidity and temperature.	I <sup>2</sup> C, SPI	H: 0 to 100 %RH P: 300 to 1100 hPa T: 0 to 65°C	H: ±3% RH P: -20 to 0 @ ±1.7 hPa P: 0 to 65 @ ±1.0 hPa P: 25 to 40 @ ±1.5 hPa T: ±1.0°C	Sleep mode 0.1 µA 1.8 µA @ 1Hz (H,T) 2.8 µA @Hz (P, T) 3.6 µA @ 1Hz (H, P, T)	V <sub>DDIO</sub> 1.2 to 3.6 V <sub>DD</sub> 1.71 to 3.6	2.5 x 2.5 x 0.93

G= Gas; T= Temperature; H= Humidity; P= Pressure

## ENVIRONMENTAL COMBO / Humidity, Temperature, Pressure and VOC Sensor Combo



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Part Number	Description	Output Interface	Measurement Range	Power Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BME680</b>	The unit integrates for the first time low-power and highly accurate gas, pressure, humidity and temperature sensors in one tiny package.	I <sup>2</sup> C, SPI	G: 0 to 500 IAQ (equivalent to 0.2 to 20mg/m <sup>3</sup> TVOC levels) T: -40 to 85°C H: 0 to 100 % rH P: 300 to 1100 hPa	Sleep mode 0.15 µA 2.1 µA @ 1Hz (H,T) 3.1 µA @ 1Hz (P, T) 3.7 µA @ 1 Hz (H, P, T) 0.09 to 12 mA (P/H/T/Gas) depending on operation mode	V <sub>DDIO</sub> 1.2 to 3.6 V <sub>DD</sub> 1.71 to 3.6	-40 to +85	3.0 x 3.0 x 0.93

V = Volatile Organic Compound (VOC); G= Gas; T= Temperature; H= Humidity; P= Pressure



Part Number	Description	Output Interface	Measurement Range	Power Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SVM30</b>	MEMS metal-oxide gas sensor for measuring volatile organic compounds - Consumer version	Digital, I <sup>2</sup> C	0 - 1000 ppm	250mW	5	-20 to +85	39 x 15 x 6.5

V = Volatile Organic Compound (VOC); G= Gas; T= Temperature; H= Humidity; P= Pressure



## FLOW

Mass Air Flow Meter ..... 29

Ultrasonic Flow Converter ..... 29

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Part Number	Output Interface	Flow Range (slm)	Pressure Drop (mbar)	Calibrated Gases	Max. Working Pressure (bar)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SFM3000</b>	Digital I <sup>2</sup> C	-200 to 200	< 1 @ 60slm	Air, N <sub>2</sub> , O <sub>2</sub>	1.3	5.0	-20 to +80	82 x 33
<b>SFM3100</b>	Analog	-24 to 240	< 3 @ 60slm	Air, N <sub>2</sub> , O <sub>2</sub>	1.3	5.0	+5 to +60	57.5 x 31
<b>SFM3200</b>	Digital I <sup>2</sup> C	-100 to 250	< 1 @ 60slm	Air, N <sub>2</sub> , O <sub>2</sub>	1.07	5.0	+10 to +50	73 x 22
<b>SFM3200-AW</b>	Digital I <sup>2</sup> C	-100 to 250	< 1 @ 60slm	Air, N <sub>2</sub> , O <sub>2</sub>	1.07	5.0	+10 to +50	73 x 22
<b>SFM3300-AW</b>	Digital I <sup>2</sup> C	-250 to 250	< 1.8 @ 60slm	Air, N <sub>2</sub> , O <sub>2</sub>	1.1	5.0	+10 to +50	73 x 22
<b>SFM3300-D</b>	Digital I <sup>2</sup> C	-250 to 250	< 1.8 @ 60slm	Air, N <sub>2</sub> , O <sub>2</sub>	1.1	5.0	+10 to +50	69.3 x 22
<b>SFM4100</b>	Digital I <sup>2</sup> C	0 to 20	< 25 @ 20slm	Air, N <sub>2</sub> , O <sub>2</sub> , N <sub>2</sub> O, Ar, CO <sub>2</sub>	6.0	3.5 to 9.0	-20 to +80	93 x 11.91

## FLOW / Ultrasonic Flow Converter



Part Number	Output Interface	Description	Integrated Functions	Resolution (ps)	Supply Voltage (V)	Current Consumption	Operating Temperature (°C)	Package Type / Size (mm)
<b>TDC-GP21</b>	SPI	2-channel Time-to-Digital Converor	Fire-pulse generator, zero-cross detection, analog switches	22	2.5 to 3.6	4 mA (during measurement)	-40 to +125	QFN-32; 5 x 5 x 0.9
<b>TDC-GP22</b>	SPI	2-channel Time-to-Digital Converor	Analog front end for flow meters, fire-pulse generator, zero-cross detection, analog switches, first-hit detection	22	2.5 to 3.6	4 mA (during measurement)	-40 to +125	QFN-32; 5 x 5 x 0.9
<b>TDC-GP30 / TDC-GP30-F01</b>	SPI	Ultrasonic Flow Converter	Analog frontend for driving and receiving piezos, amplitude measurement & CPU for flow calculation	11 avr	2.5 to 3.6	8.5µA @ 8Hz	-40 to +125	QFN-32; 5 x 5 x 0.9 QFN-40; 6 x 6 x 0.9

## ams AS6200 Digital Temperature Sensor

- Ultra low power consumption at 6mA @ 4 samples/sec
- Industry's smallest integration size: WLCSP (1.6 x 1.0mm)





## GYRO - ANGULAR RATE

Gyro - Angular Rate Sensor ..... 31



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# GYRO - ANGULAR RATE / Gyro - Angular Rate Sensor



Part Number	Output Interface	Sensing Range (°/s)	Sensing Axis	Zero Rate Output (°/s)	Turn On Time (ms)	Supply Voltage (V)	Supply Current (µA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BMG250</b>	For primary UI IF: I²C up to 1MHz 3w/4w SPI 2x digital interrupts for secondary OIS/EIS IF: 3w SPI up to 10MHz	±125, ±250, ±500, ±1000, ±2000	X, Y, Z	±3	Suspend to normal mode 55 ms (typical); Fast start-up to normal mode 10 ms (typical)	V <sub>DDIO</sub> 1.2 to 3.6 V <sub>DD</sub> 1.7 to 3.6	Full operation 850 µA Suspend mode 3 µA Fast start-up 500 µA	-40 to +85	2.5 x 3 x 0.8



Part Number	Output Interface	Sensing Range (°/s)	Sensing Axis	Zero Rate Output (°/s)	Turn On Time (ms)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SCR2100-D08</b>	SPI	±125	X	0.8	620 - 750	3.3	3.3	-40 to +125	15.0 x 8.5 x 4.3



Part Number	Output Interface	Sensing Range (°/s)	Sensing Axis	Zero Rate Output (°/s)	Turn On Time (ms)	Supply Voltage (V)	Supply Current (µA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>FXAS21002CQR1</b>	SPI, I²C	±250, ±500, ±1000, ±2000	X, Y, Z	1.5	60	1.95 to 3.6	2.7	-40 to +85	QFN-24 4 x 4 x 1



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Part Number	Output Interface	Sensing Range (°/s)	Sensing Axis	Zero Rate Output (°/s)	Turn On Time (ms)	Supply Voltage (V)	Supply Current (µA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>I3G4250DTR</b>	Digital	±245, ±500, ±2000	Yaw, Pitch, Roll	±25	–	2.4 to 3.6	6.1	-40 to +125	LGA-16 4 x 4 x 1.1
<b>A3G4250DTR</b>	Digital	±245	Yaw, Pitch, Roll	±25	–	2.4 to 3.6	6.1	-40 to +125	LGA-16 4 x 4 x 1.1
<b>L20G20IS</b>	Digital	±100, ±200	Two-axis	±5	35	2.4 to 3.6	1.4	-40 to +125	LGA 2.0 x 2.0 x 0.7

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## HUMIDITY

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Part Number	Output Interface	Humidity Accuracy (%)	Temperature Accuracy (°C)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
CC2D23	I <sup>2</sup> C	±2	±0.3	3.3	0.75	-40 to +125	SMD
CC2D25	I <sup>2</sup> C	±2	±0.3	5.0	0.75	-40 to +125	SMD
CC2D33	I <sup>2</sup> C	±3	±0.3	3.3	0.75	-40 to +125	SMD
CC2D35	I <sup>2</sup> C	±3	±0.3	5.0	0.75	-40 to +125	SMD
CC2A23	PDM	±2	±0.3	3.3	0.9	-40 to +125	SMD
CC2A25	PDM	±2	±0.3	5.0	0.9	-40 to +125	SMD
CC2A33	PDM	±3	±0.3	3.3	0.9	-40 to +125	SMD
CC2A35	PDM	±3	±0.3	5.0	0.9	-40 to +125	SMD
CC2D23-SIP	I <sup>2</sup> C	±2	±0.3	3.3	0.75	-40 to +125	SIP
CC2D25-SIP	I <sup>2</sup> C	±2	±0.3	5.0	0.75	-40 to +125	SIP
CC2D33-SIP	I <sup>2</sup> C	±3	±0.3	3.3	0.75	-40 to +125	SIP
CC2D35-SIP	I <sup>2</sup> C	±3	±0.3	5.0	0.75	-40 to +125	SIP
T9602-3-D	PDM	±2	±0.5	3.3	0.75	-20 to +70	Probe
T9602-5-D	PDM	±2	±0.5	5.0	0.75	-20 to +70	Probe
T9602-3-A	PDM	±2	±0.5	3.3	0.75	-20 to +70	Probe
T9602-5-A	PDM	±2	±0.5	5.0	0.75	-20 to +70	Probe

\*PDM= Pulse Density Modulation

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## HUMIDITY / Humidity Sensor



Part Number	Output Interface	Humidity Accuracy (%)	Temperature Accuracy (°C)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>ENS210</b>	I <sup>2</sup> C	±3.5	±0.2	1.71 to 3.6	Active current: 7.1 $\mu$ A @ 1 Hz (1.8V) Standby current: 40 nA	-40 to +100	QFN-4 2 x 2 x 0.75

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Part Number	Output Interface	Humidity Accuracy (%)	Temperature Accuracy (°C)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SHT30-ARP-B</b>	ARV*	±3.0	±0.3	2.4 to 5.5	0.22	-40 to +125	0.9 x 1.6
<b>SHT30-DIS-B</b>	I <sup>2</sup> C	±2.0	±0.3	2.4 to 5.5	0.20	-40 to +125	0.9 x 1.6
<b>SHT31-ARP-B</b>	ARV*	±2.0	±0.2	2.4 to 5.5	0.22	-40 to +125	0.9 x 1.6
<b>SHT31-DIS-B</b>	I <sup>2</sup> C	±2.0	±0.2	2.4 to 5.5	0.20	-40 to +125	0.9 x 1.6
<b>SHT31-DIS-F</b>	I <sup>2</sup> C	±2.0	±0.2	2.4 to 5.5	0.20	-40 to +125	0.9 x 1.6
<b>SHT31-DIS-P</b>	I <sup>2</sup> C	±2.0	±0.2	2.4 to 5.5	0.20	-40 to +125	0.9 x 1.6
<b>SHT35-DIS-B</b>	I <sup>2</sup> C	±1.5	±0.1	2.4 to 5.5	0.20	-40 to +125	0.9 x 1.6
<b>SHT35-DIS-F</b>	I <sup>2</sup> C	±1.5	±0.1	2.4 to 5.5	0.20	-40 to +125	0.9 x 1.6
<b>SHTC1</b>	I <sup>2</sup> C	±3.0	±0.3	1.80	0.48	-40 to +125	2 x 2 x 0.75
<b>SHTW2</b>	I <sup>2</sup> C	±3.0	±0.4	1.80	0.48	-40 to +125	1.3 x 0.7 x 0.5
<b>SHT85</b>	I <sup>2</sup> C	±1.5	±0.1	-0.3 to 6.0	1.5	-40 to +105	17.8 x 4.9 x 2.2
<b>SHTC3</b>	I <sup>2</sup> C	±2.0	±0.2	1.62 to 3.6	0.9	-40 to +125	2 x 2 x 0.75
<b>SCC30-db</b>	I <sup>2</sup> C	±3.0	±0.2	2.4 to 5.5	0.8	-20 to +85	21.6 x 13.6 x 7.2

\*ARV= Analog Ratiometric Voltage



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Part Number	Output Interface	Humidity Accuracy (%)	Temperature Accuracy (°C)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>HTS221TR</b>	SPI, I <sup>2</sup> C, DRDY*	±3.5	±0.5	1.7 to 3.6	0.002	-40 to +120	HLGA-6L 2 x 2 x 0.9

\*DRDY= Data Ready

Part Number	Output Interface	Humidity Accuracy (%)	Temperature Accuracy (°C)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
HPP801A031	Analog	±5 (w/ Calibration)	–	–	–	-60 to +140	10 x 6
HPP808H031	Analog	±3	±0.5	5.0	1.00	-40 to +85	18 x 13 x 11
HPP805D033	Analog	±3	±0.8	5.0	3.00	-40 to +100	35 x 13 x 13
HPP809A031	Analog	±3	±0.3	5.0	1.00	-40 to +60	75 x 11
HPP809A033	Analog	±3	±0.3	5.0	1.00	-40 to +85	75 x 11
HPP805A031	Analog	±3	–	5.0	1.50	-40 to +60	11 x 58
HPP805C031	Analog	±2 (for RH<15%RH)	–	5.0	1.50	-40 to +60	11 x 58
HPP815A533	Analog	±3	±0.3	3.0	1.00	-40 to +85	27 x 12 x 6
HPP815A535	Analog	±3	±0.3	5.0	1.00	-40 to +85	27 x 12 x 6
HPP815F535	Analog	±3	±0.3	5.0	1.00	-40 to +85	27 x 12 x 6
HPP831A210	Analog	±2	±0.3	5.0	1.00	-40 to +85	27 x 12 x 6
HPP831A610	Analog	±2	±0.3	5.0	1.00	-40 to +85	27 x 12 x 6
HPP831F511	I²C	±2	±0.3	3.0	0.50	-40 to +85	27 x 12 x 6
HPP831E511	I²C	±2	±0.3	5.0	0.50	-40 to +85	27 x 12 x 6
HPP831E910	I²C	±2	±0.3	5.0	0.50	-40 to +85	27 x 12 x 6
HPP845E031	I²C	±2	±0.3	3.0	0.50	-40 to +125	3 x 3 x 0.9
HPP845E032	Analog	±2	±0.3	3.0	0.50	-40 to +125	3 x 3 x 0.9
HPP845E131	I²C	±2	±0.3	3.0	0.50	-40 to +125	3 x 3 x 0.9
HPP845E034	I²C	±3	±0.3	3.0	0.50	-40 to +125	3 x 3 x 0.9
HPP845E035	Analog	±3	±0.3	3.0	0.50	-40 to +125	3 x 3 x 0.9
HPP845E134	I²C	±3	±0.3	3.0	0.50	-40 to +125	3 x 3 x 0.9




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Part Number / Series	Output Interface	Pixel Size (µm)	Optical Format	Shutter Type	Color Filter	Frame Rate @ Full Resolution (FPS)	Resolution (Megapixels)	SNR Max (dB)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
<b>CMV300</b>	LVDS (4x)	7.4 x 7.4	1/3"	Global	optional	480	640 x 480	43	60	6 V/Lux-s	58 pins BGA
<b>CMV2000</b>	LVDS (16x)	5.5 x 5.5	2/3"	Global	optional	340	2048 x 1088	41.3	60	5.56 V/Lux-s	Ceramic 95-pins µPGA/LGA or 92-pins LCC
<b>CMV4000</b>	LVDS (16x)	5.5 x 5.5	1"	Global	optional	180	2048 x 2048	41.3	60	5.56 V/Lux-s	Ceramic 95-pins µPGA/LGA or 92-pins LCC
<b>CMV8000</b>	LVDS (16x)	5.5 x 5.5	4/3"	Global	optional	103	3360 x 2496	41.3	61	5.56 V/Lux-s	107-pins uPGA
<b>CMV12000</b>	LVDS (64x)	5.5 x 5.5	APS-like	Global	optional	300	4096 x 3072	41.3	60	4.64 V/Lux-s	237-pins µPGA
<b>CMV20000</b>	LVDS (16x)	6.4 x 6.4	35mm	Global	optional	30	5120 x 3840	41.7	66	8.3 V/Lux-s	143-pins PGA
<b>CMV50000</b>	LVDS (22x)	4.6 x 4.6	35mm	Global	optional	30	7920 x 6004	41.6	64	3.5 x 10e7 DN/(W.s/m <sup>2</sup> ) (@ 550 nm)	141-pins PGA ceramic package
<b>CHR71000</b>	8 analog channels	3.1 x 3.1	35mm	Rolling	optional	3	10000 x 7096	—	63	1.24 V/Lux-s	65-pins Ceramic PGA
<b>DR-2K7</b>	4-wire SPI	7 x 7	Single-line or Dual-line	Global	no	80KHz	2048 x 1 or 2048 x 2	44	44	77 DN/nJ/cm <sup>2</sup> (@12 bit)	LCC or INVAR
<b>DR-4K7</b>	4-wire SPI	7 x 7	Single-line or Dual-line	Global	no	80KHz	4096 x 1 or 4096 x 2	44	44	77 DN/nJ/cm <sup>2</sup> (@12 bit)	INVAR
<b>DR-4K3.5</b>	4-wire SPI	3.5 x 3.5	Single-line or Dual-line	Global	no	80KHz	4096 x 1 or 4096 x 2	44	44	39 DN/nJ/cm <sup>2</sup> (@12 bit)	LCC or INVAR
<b>DR-6K7</b>	4-wire SPI	7 x 7	Single-line	Global	no	80KHz	6144 x 1	44	44	77 DN/nJ/cm <sup>2</sup> (@12 bit)	LCC or INVAR
<b>DR-8K7</b>	4-wire SPI	7 x 7	Single-line or Dual-line	Global	no	80KHz	8192 x 1 or 8192 x 2"	44	44	77 DN/nJ/cm <sup>2</sup> (@12 bit)	INVAR
<b>DR-8K3.5</b>	4-wire SPI	3.5 x 3.5	Single-line or Dual-line	Global	no	80KHz	8192 x 1 or 8192 x 2	44	44	39 DN/nJ/cm <sup>2</sup> (@12 bit)	INVAR
<b>DR-16K</b>	4-wire SPI	3.5 x 3.5	Single-line	Global	no	80KHz	16384 x 1	44	44	39 DN/nJ/cm <sup>2</sup> (@12 bit)	INVAR
<b>4LS-10K</b>	LVDS	5.6 x 5.6	4-line	Global	no	80KHz	10176 x 4	44	61 DN/nJ/cm <sup>2</sup> (@12 bit)	61 DN/nJ/cm <sup>2</sup> (@12 bit)	INVAR
<b>4LS-15K</b>	LVDS	5.6 x 5.6	4-line	Global	no	80KHz	15264 x 4	44B	62 DN/nJ/cm <sup>2</sup> (@12bit)	61 DN/nJ/cm <sup>2</sup> (@12bit)	INVAR

GS= Global Shutter; ERS= Electronic Rolling Shutter; GRR= Global Reset Release (ERS); FF= Full Frame; IT= Interleave

\*NOTE: PEAK QE: wave length, CFA, microlens dependent  
(only Mono max stated, review datasheet for clarification)

# IMAGE / CMOS Image Sensor

ON Semiconductor®



Part Number / Series	Output Interface	Pixel Size (μm)	Optical Format	Shutter Type	Color Filter	Frame Rate @ Full Resolution (FPS)	Resolution (Megapixels)	SNR Max (dB)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
<b>AR0130CS</b>	Parallel	3.75	1/3"	ERS	RGB, Mono	45	1	44	82	6.5 (mono) V/Lux-s	ILCC-48, PLCC-48
<b>AR0132AT</b>	HiSPITM, Parallel	3.75	1/3"	ERS	Mono, RCCC, RGB	45	1	44	115	5.48 V/Lux-s	IBGA-63
<b>AR0134CS</b>	HiSPITM, Parallel	3.75	1/3"	GS	RGB, Mono	54	1	38.4	64	6.1 (mono), 5.3 (color) V/Lux-s	IBGA-63, ILCC-48
<b>AR0135AT</b>	HiSPITM, Parallel	3.75	1/3"	GS	Mono	54	1	40.7	71.1	85 ke-/ lux*sec (mono)	IBGA-63
<b>AR0135CS</b>	HiSPITM, Parallel	3.75	1/3"	GS	Mono	54	1	34	69	6.1 V/Lux-s	IBGA-63
<b>AR0136AT</b>	HiSPITM, Parallel	3.75	1/3"	ERS	RGB	54	1	43.9	120	6.3 V/Lux-s	IBGA-63
<b>AR0140AT</b>	HiSPITM, Parallel	3	1/4"	ERS	RGB	60	1	41	96	4 V/Lux-s	IBGA-63
<b>AR0140CS</b>	HiSPITM, Parallel	3	1/4"	ERS	RGB	60	1	41	96	4 V/Lux-s	IBGA-63
<b>AR0141CS</b>	HiSPITM, Parallel	3	1/4"	ERS	RGB, Mono	60	1	41	79	4 V/Lux-s	IBGA-63
<b>AR0144CS</b>	MIPI-2 lane, Parallel 12-bit	3	1/4"	GS	RGB, Mono	60	1	38	63.9	3.6 V/Lux-s	CSP-69, Bare die
<b>AR0230AT</b>	HiSPITM, Parallel	3	1/2.7"	ERS, GRR	RGB, Mono	30	2	41	80 / 96	4 V/Lux-s	IBGA-80
<b>AR0230CS</b>	HiSPITM, Parallel	3	1/2.7"	ERS, GRR	RGB	60	2	41	80 / 96	4 V/Lux-s	IBGA-80
<b>AR0231AT</b>	HiSPITM, Parallel	3	1/2.7"	ERS, GRR	RGB	40	2	42.8	120	34 ke-/Lux-s	IBGA-121
<b>AR0237</b>	HiSPITM, Parallel	3	1/2.7"	ERS, GRR	RGB Bayer, RGB-IR	60	2	41	96	4.0 V/Lux-s	IBGA-80, PLCC-48
<b>AR0238</b>	HiSPITM, Parallel	3	1/2.7"	ERS	RGB	60	2	41	96	4.0 V/Lux-s	PLCC-48
<b>AR0238 RGB-IR</b>	HiSPITM, Parallel	3	1/2.7"	ERS	RGB	60	2	41	96	4.0 V/Lux-s	PLCC-48
<b>AR0239SR</b>	HiSPITM, MIPI, Parallel	3	1/2.7"	ERS	RGB Bayer	60	2	43	83 / 128	28.6 ke-/ Lux-s	IBGA-63
<b>AR023Z</b>	HiSPITM, Parallel	3	1/2.7"	ERS, GRR	RGB Bayer	60	2	41	80.5	4.0 V/Lux-s	IBGA-80
<b>AR0261</b>	MIPI	1.4	1/6"	ERS	RGB, Mono	60	2	37.5	66.5	0.75 V/Lux-s	Bare Die, CSP
<b>AR0263</b>	MIPI	1.4	1/6"	ERS	Mono	60	2	37.5	66.5	0.75 V/Lux-s	ODCSP-35
<b>AR0330</b>	HiSPITM, MIPI, Parallel	2.2	1/3"	ERS, GRR	RGB	60	3	39	69.5	2.0 V/Lux-s	CLCC-48, ODCSP-61, ODCSP-64, PLCC-48
<b>AR0331SR</b>	HiSPITM, Multi	2.2	1/3"	ERS, GRR	Bayer Color	60	3	39	100	1.9 V/Lux-s	IBGA-63, ILCC-48

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(only Mono max stated, review datasheet for clarification)



Part Number / Series	Output Interface	Pixel Size (μm)	Optical Format	Shutter Type	Color Filter	Frame Rate @ Full Resolution (FPS)	Resolution (Megapixels)	SNR Max (dB)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
<b>AR0521</b>	HiSPi™, MIPI CSI-2	2.2	1/2.5"	ERS, GRR	RGB, Mono	60	5	40	74.3	18.8 ke-/Lux-s (RGB)	mPLCC, iBGA-63
<b>AR0543</b>	MIPI	1.4	1/4"	ERS	RGB Bayer	15	5	36.5	66	0.82 V/Lux-s	ODCSP-54
<b>AR0833</b>	HiSPi™, MIPI	1.4	1/3.2"	ERS	RGB	30	8	36	64	0.6 V/Lux-s	CLCC-48
<b>AR0835HS</b>	HiSPi™, MIPI	1.4	1/3.2"	ERS	RGB	42	8	36	64	0.6 V/Lux-s	CLCC-48
<b>AR1335</b>	MIPI	1.1	1/3.2"	ERS	RGB	30	13	37	69	4.7 ke-/Lux-s	CSP-63
<b>AR1820HS</b>	HiSPi™, MIPI	1.25	1/2.3"	ERS, GRR	RGB	24	18	36.3	65.8	0.62 V/Lux-s	iBGA-60
<b>ARX342CS</b>	Parallel	5.6	1/4"	ERS	Bayer RGB	60	VGA	46	87	16.5 V/Lux-s	iBGA-63
<b>ARX550AT</b>	HiSPi™, Parallel	3.75	1/5"	ERS	RGB, RCCC, RGBC	60	VGA	43.9	115	5.48 V/Lux-s	iBGA-63
<b>AS0260</b>	Parallel, MIPI	1.4	1/6"	ERS	RGB	30	2 Mp	33	65	0.64 V/Lux-s	ODCSP-54
<b>ASX340AT</b>	Parallel, NTSC, PAL	5.6	1/4"	ERS	RGB	30	VGA	46	87	16.5 V/Lux-s	iBGA-63
<b>ASX340CS</b>	Parallel, NTSC, PAL	5.6	1/4"	ERS	RGB	60	VGA	46	75.8	16.5 V/Lux-s	iBGA-63
<b>ASX342AT</b>	Parallel, NTSC, PAL	5.6	1/4"	ERS	RGB	60	VGA	46	87	16.5 V/Lux-s	iBGA-63
<b>ASX344AT</b>	Parallel, NTSC, PAL	5.6	1/4"	ERS	RGB	60	WVGA	46	84	16.5 V/Lux-s	iBGA-63
<b>ASX350AT</b>	Parallel, NTSC, PAL	3.75	1/5"	ERS	RGB	60	VGA	42.6	82.2	6.67 V/Lux-s	iBGA-63
<b>ASX350CS</b>	Parallel, NTSC, PAL	3.75	1/5"	ERS	RGB	60	VGA	42.6	82.2	6.67 V/Lux-s	iBGA-63
<b>ASX370CS</b>	Parallel, MIPI	3	1/7"	ERS	RGB Bayer	30	VGA	40	72.46	3.7 V/Lux-s	Bare Die; CSP
<b>KAC-06040</b>	LVDS	4.7	1"	Global Rolling	Bayer Color, Mono	160	6	—	—	—	CPGA-267
<b>KAC-12040</b>	LVDS	4.7	4/3"	Global Rolling	Bayer Color, Mono	70	12	—	—	—	CPGA-267
<b>MT9F002</b>	HiSPi™, Parallel	1.4	1/2.3"	ERS, GRR	RGB	13.7	15	35.5	65.3	0.724 V/Lux-s	ILCC-48
<b>MT9J003</b>	HiSPi™, Parallel	1.67	1/2.3"	ERS, GRR	RGB, Mono	15	10	34	65.2	0.31 V/Lux-s	ILCC-48
<b>MT9M001</b>	Parallel	5.2	1/2"	ERS	RGB, Mono	30	1	45	68.2	2.1 V/Lux-s	CLCC-48
<b>MT9M024</b>	HiSPi™, Parallel	3.75	1/3"	ERS	RGB, Mono	45	1	43.9	120	5.48 V/Lux-s	iBGA-63
<b>MT9M025</b>	HiSPi™, Parallel	3.75	1/3"	ERS	RGB, Mono	45	1	43.9	120	5.48 V/Lux-s	iBGA-63
<b>MT9M034</b>	Parallel	3.75	1/3"	ERS	RGB, Mono	45	1	43.9	120	5.48 V/Lux-s	ILCC-48
<b>MT9M114</b>	Parallel, MIPI	1.9	1/6"	ERS	RGB	30	1	30	70.8	2.24 V/Lux-s	ODCSP-55

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# IMAGE / CMOS Image Sensor

ON Semiconductor®



Part Number / Series	Output Interface	Pixel Size (μm)	Optical Format	Shutter Type	Color Filter	Frame Rate @ Full Resolution (FPS)	Resolution (Megapixels)	SNR Max (dB)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
<b>MT9P001</b>	Parallel	2.2	1/2.5"	ERS, GRR	RGB	15	5	38.1	70.1	1.4 V/Lux-s	ILCC-48
<b>MT9P006</b>	Parallel	2.2	1/2.5"	ERS	RGB	15	5	38.5	67.74	1.76 V/Lux-s	ILCC-48
<b>MT9P031</b>	Parallel	2.2	1/2.5"	ERS	RGB, Mono	15	5	38.1	70.1	1.4 V/Lux-s	ILCC-48
<b>MT9P401</b>	Parallel	2.2	1/2.5"	ERS	RGB	15	5	38.1	70.1	1.4 V/Lux-s	ILCC-48
<b>MT9V022</b>	LVDS, Parallel	6	1/3"	GS	RGB, Mono	60	WVGA	37.3	55 / 100	4.8 V/Lux-s	IBGA-52
<b>MT9V023</b>	—	6	1/3"	GS	RGB, Mono	60	WVGA	—	110	4.8 V/Lux-s	IBGA-52
<b>MT9V024</b>	LVDS, Parallel	6	1/3"	GS	Mono, RCCC, RGB	60	WVGA	—	55 / 100	4.8 V/Lux-s	IBGA-52
<b>MT9V032</b>	LVDS, Parallel	6	1/3"	GS	RGB, Mono	60	WVGA	37.3	55 / 100	4.8 V/Lux-s	CLCC-48
<b>MT9V034</b>	LVDS, Parallel	6	1/3"	GS	RGB, Mono	60	WVGA	37.3	55 / 100	4.8 V/Lux-s	CLCC-48
<b>MT9V111</b>	—	5.6	1/4"	ERS	RGB	90	VGA	35.2	62	0.68 V/Lux-s	IBGA-52
<b>MT9V113</b>	Parallel, MIPI	2.2	1/11"	ERS	RGB	30	VGA	34	63.5	1.15 V/Lux-s	Bare Die
<b>MT9V115</b>	Parallel, MIPI	1.75	1/13"	ERS	RGB	30	VGA	34.1	64	1.88 V/Lux-s	ODCSP-25
<b>MT9V124</b>	LVDS, Parallel	1.75	1/13"	ERS	RGB	30	VGA	—	—	1.65 V/Lux-s	ODCSP-25
<b>MT9V125</b>	—	5.6	1/4"	ERS	RGB	30	VGA	38.5	71.7	5.0 V/Lux-s	IBGA-52
<b>MT9V126</b>	—	5.6	1/4"	ERS	RGB	30	VGA	45	74.6	11.9 V/Lux-s	IBGA-63
<b>MT9V127</b>	—	5.6	1/4"	ERS	RGB	30	VGA	45	74.6	11.9 V/Lux-s	IBGA-63
<b>MT9V128</b>	—	5.6	1/4"	ERS	RGB	60	VGA	46	74.8	16.5 V/Lux-s	IBGA-63
<b>PYTHON10K</b>	LVDS	4.5	4/3"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	175	10	—	—	—	CPGA-355
<b>PYTHON12K</b>	LVDS	4.5	4/3"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	160	12	41	59	—	CPGA-355
<b>PYTHON1300</b>	LVDS, Parallel	4.8	1/2"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	210	1	40	60	7.7 V/Lux-s	LCC-48
<b>PYTHON16K</b>	LVDS	4.5	APS-H	GS Trigger, Pipeline	Bayer Color, Mono, NIR	120	16	41	59	—	CPGA-355
<b>PYTHON2000</b>	LVDS, Parallel	4.8	2/3"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	225	2	40	60	7.5 V/Lux-s	LCC-84
<b>PYTHON25K</b>	LVDS	4.5	APS-H	GS Trigger, Pipeline	Bayer Color, Mono, NIR	80	25	41	59	—	CPGA-355
<b>PYTHON300</b>	LVDS, Parallel	4.8	1/4"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	815	VGA	40	60	7.7 V/Lux-s	LCC-48
<b>PYTHON480</b>	LVDS, Parallel	4.8	1/3.6"	GS Trigger, Pipeline	Bayer Color, Mono	120	VGA	40	59	—	ODCSP-67
<b>PYTHON500</b>	LVDS, Parallel	4.8	1/3"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	545	VGA	40	60	7.7 V/Lux-s	LCC-48
<b>PYTHON5000</b>	LVDS, Parallel	4.8	1"	GS Trigger, Pipeline	Bayer Color, Mono, NIR	100	5	40	60	7.5 V/Lux-s	LCC-84

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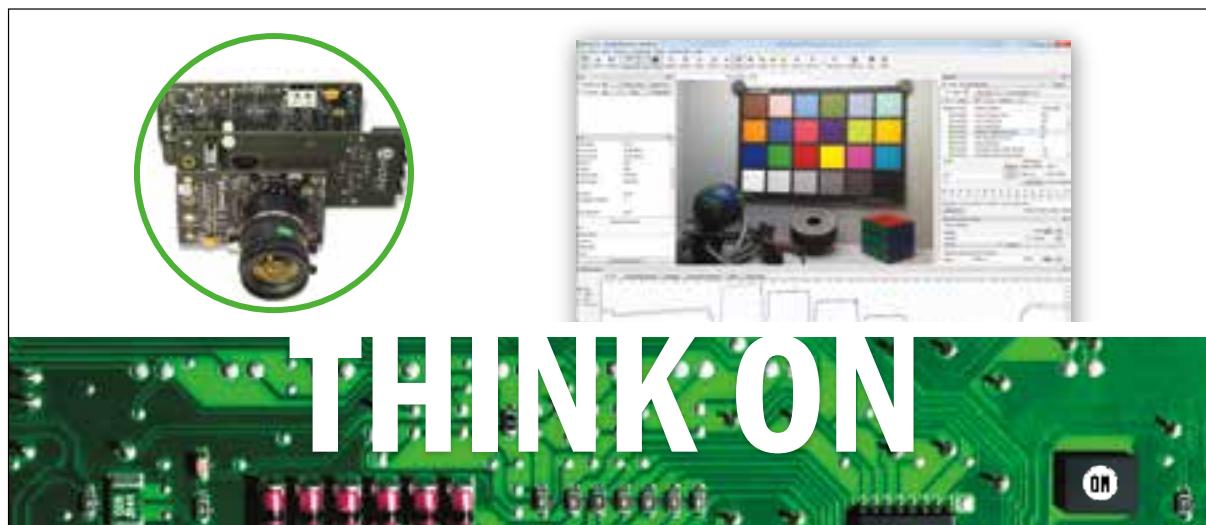
NOTE: PEAK QE: wave length, CFA, microlens dependent  
(only Mono max stated, review datasheet for clarification)



Part Number / Series	Output Interface	Pixel Size (μm)	Optical Format	Shutter Type	Color Filter	Frame Rate @ Full Resolution (FPS)	Resolution (Megapixels)	SNR Max (dB)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
<b>STAR250</b>	–	25	1"	ERS	Mono	29	0.25	–	74	5.5 V/Lux-s	JLDCC-84 Wafer
<b>STAR1000</b>	–	15	1"	ERS	Mono	11	1	–	64	2.7 V/Lux-s	JLDCC-84
<b>VITA12K</b>	LVDS	4.5	4/3"	GS(CMOS)	Bayer Color Mono	160	12.6	43.3	59.6	3.4 V/Lux-s	COPGA-355
<b>VITA16K</b>	LVDS	4.5	APS-H	GS(CMOS)	Bayer Color Mono	120	16	43.3	59.6	3.4 V/Lux-s	COPGA-355
<b>VITA25K</b>	LVDS	4.5	APS-H	GS Trigger, Pipeline	Bayer Color Mono	53	26.2	43.3	59.6	3.4 V/Lux-s	COPGA-355
<b>VITA1300</b>	LVDS Parallel	4.8	1/2"	GS(CMOS)	Color Mono	37 150	1.3	41	60	4.6 V/Lux-s	LCC-48
<b>VITA2000</b>	LVDS Parallel	4.8	2/3"	GS(CMOS)	Color Mono	23 92	2	41	60	4.6 V/Lux-s	LCC-52
<b>VITA5000</b>	LVDS	4.8	1"	GS(CMOS)	Color Mono	75	5.3	41	60	4.6 V/Lux-s	LCC-68
<b>XGS 8000</b>	HISPi™	3.2	1"	GS	Bayer Color Mono	75 130	8.8	–	67	–	CLGA-163
<b>XGS 12000</b>	HISPi™	3.2	1/1.1"	GS	Bayer Color Mono	27 90	12.6	–	67	–	CLGA-163

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ON Semiconductor provides a full suite of Image Sensor Evaluation Kits enabling customers to easily and quickly evaluate the performance of ON Semiconductor imaging devices without the need to develop a full camera design. When combined with ON Semiconductor DevSuite software, this evaluation system allows full control of the image sensor's register settings and enables video recording, still image capture, and image analysis.

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# IMAGE / CCD Image Sensor

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Part Number / Series	Output Interface	Pixel Size (µm)	Optical Format	Shutter Type	Color filter	Frame Rate @ Full Resolution (FPS)	Resolution (Mega-pixels)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
KAE-02150	Analog	5.5	2/3"	GS	Bayer Color, Mono	30	2	68	*PEAK QE: 50%	CPGA-135, CPGA-143
KAE-02152	Analog	5.5	2/3"	GS	Bayer Color, Mono	30	2	68	*PEAK QE: 50%	CPGA-135, CPGA-143
KAE-04471	Analog	7.4	4/3"	GS	Bayer Color, Mono	30	4	72	*PEAK QE: 50%	CPGA-155
KAE-08151	Analog	5.5	4/3"	GS	Bayer RGB, Mono	14	8	66	*PEAK QE: 50%	CPGA-155
KAF-0261	Analog	20	1"	FF	Mono	15	VGA	87	*PEAK QE: 55%	CDIP-24
KAF-0402	Analog	9	1/2"	FF	Mono	20	WVGA	76	*PEAK QE: 77%	CDIP-24
KAF-09000	Analog	12	51.9 mm	FF	Mono	0.4	9	84	*PEAK QE: 64%	CDIP-34
KAF-09001	Analog	12	51.3 mm	FF	Mono	5	9	84	*PEAK QE: 64%	CDIP-34
KAF-1001	Analog	24	APS-H	FF	Mono	3	1	97	*PEAK QE: 55%	CDIP-26
KAF-1603	Analog	9	1"	FF	Mono	2.2	1	74	*PEAK QE: 77%	CDIP-24
KAF-16200	Analog	6	APS-H	FF	Bayer Color, Mono	1	16	-	*PEAK QE: 56%	CDIP-32
KAF-16801	Analog	9	52.1mm	FF	Mono	0.4	16	76	*PEAK QE: 67%	CDIP-34
KAF-16803	Analog	9	52.1mm	FF	Mono	0.2	16	80	*PEAK QE: 60%	CDIP-34
KAF-18500	Analog	6.8	35 mm	FF	Mono	0.8	20	68	*PEAK QE: 45%	CPGA
KAF-3200	Analog	6.8	4/3"	FF	Bayer Color	2.5	3	78	*PEAK QE: 80%	CDIP-24
KAF-40000	Analog	6	54.78 mm	FF	Bayer Color	1.3	40	70.2	*PEAK QE: 44%	CPGA-52
KAF-4320	Analog	24	70.7 mm	FF	Mono	2	4	87.5	*PEAK QE: 70%	CPGA-84
KAF-50100	Analog	6	61.3 mm	FF	Bayer Color, Mono	1	50	70.2	*PEAK QE: 62%	CPGA-52
KAF-6303	Analog	9	APS-H	FF	Mono	0.6	6	76	*PEAK QE: 68%	CDIP-26
KAF-8300	Analog	5.4	4/3"	FF	Mono	2.9	8	64.4	*PEAK QE: 56%	CDIP-32
KAI-01050	Analog	5.5	1/2"	IT	Bayer Color, Mono	120	1	64	*PEAK QE: 44%	CLCC-64 CPGA-68
KAI-01150	Analog	5.5	1/2"	IT	Bayer Color, Mono, Sparse CFA	147	1	64	*PEAK QE: 44%	CLCC-64 CPGA-68
KAI-02050	Analog	5.5	2/3"	IT	Bayer Color, Mono	64	2	64	*PEAK QE: 44%	CLCC-64 CPGA-68
KAI-02150	Analog	5.5	2/3"	IT	Bayer Color, Mono, Sparse CFA	64	2	64	*PEAK QE: 44%	CLCC-64 CPGA-68
KAI-02170	Analog	7.4	1"	IT	Bayer Color, Mono, Sparse CFA	60	2	82	*PEAK QE: 52%	CPGA-68
KAI-0330	Analog	9	1/2"	IT	Bayer Color, Mono	120	VGA	57	*PEAK QE: 36%	CDIP-20
KAI-0340	Analog	7.4	1/3"	IT	Bayer Color, Mono	210	VGA	69	*PEAK QE: 55%	CDIP-22
KAI-0373	Analog	11.6 x 13.6	2/3"	IT	Mono	30	WVGA	60	*PEAK QE: 35%	CDIP-24
KAI-04022	Analog	7.4	4/3"	IT	RGB	16	4	-	*PEAK QE: 50%	CDIP-34
KAI-04050	Analog	5.5	1"	IT	Bayer Color, Mono, Sparse CFA	32	4	64	*PEAK QE: 46%	CPGA-68
KAI-04070	Analog	7.4	4/3"	IT	Bayer Color, Mono, Sparse CFA	32	4	82	*PEAK QE: 52%	CPGA-68

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\*NOTE: PEAK QE: wave length, CFA, microlens dependent  
(only Mono max stated, review datasheet for clarification)



Part Number / Series	Output Interface	Pixel Size (µm)	Optical Format	Shutter Type	Color filter	Frame Rate @ Full Resolution (FPS)	Resolution (Mega-pixels)	Dynamic Range (dB)	Responsivity	Package Type / Size (mm)
KAI-08051	Analog	5.5	4/3"	IT	Bayer Color, Mono, Sparse CFA	16	8	66	*PEAK QE: 50%	CPGA-68
KAI-08052	Analog	5.5	4/3"	IT	Bayer Color, Mono, Sparse CFA	16	8	66	*PEAK QE: 50%	CPGA-68
KAI-08670	Analog	7.4	APS-H	IT	Bayer Color, Mono, Sparse CFA	12	8	82	*PEAK QE: 48%	CPGA-72
KAI-1003	Analog	12.8	4/3"	IT	Mono	30	1	72	*PEAK QE: 45%	CDIP-28
KAI-1010	Analog	9	1"	IT	Mono	30	1	60	*PEAK QE: 37%	CDIP-24
KAI-1020	Analog	7.4	2/3"	IT	RGB, Mono	50	1	58	*PEAK QE: 44%	CLCC-64; CPGA-68
KAI-11002	Analog	9	35 mm	IT	RGB, Mono	5	11	66	*PEAK QE: 50%	CDIP-40
KAI-16000	Analog	7.4	35 mm	IT	RGB, Mono	3	16	65	*PEAK QE: 45%	CPGA-40
KAI-16050	Analog	5.5	APS-H	IT	Bayer Color, Mono, Sparse CFA	8	16	64	*PEAK QE: 43%	CPGA-72
KAI-16070	Analog	7.4	35 mm	IT	Bayer Color, Mono, Sparse CFA	8	16	82	*PEAK QE: 48%	CPGA-72
KAI-2020	Analog	7.4	1"	IT	RGB, Mono	30	2	68	*PEAK QE: 55%	CDIP-32
KAI-29050	Analog	5.5	35 mm	IT	Bayer Color, Mono, Sparse CFA	4	29	64	*PEAK QE: 43%	CPGA-72
KAI-29052	Analog	5.5	35 mm	IT	Bayer Color, Mono, Sparse CFA	4	29	64	*PEAK QE: 43%	CPGA-72
KAI-47051	Analog	5.5	56.7 mm	IT	Bayer Color, Mono, Sparse CFA	7	47	—	*PEAK QE: 43%	CPGA-201
KLI-2104	Analog	14	Linear	Linear	RGB	20 MHz (linear)	Linear	80	16 V/uJ/cm <sup>2</sup>	CDIP-32
KLI-2113	Analog	14	Linear	Linear	RGB, Mono	20 MHz (linear)	Linear	76	66 V/uJ/cm <sup>2</sup>	CDIP-28
KLI-4104	Analog	10	Linear	Linear	RGB, Mono	30 MHz (linear)	Linear	60	33 V/uJ/cm <sup>2</sup>	CDIP-46
KLI-8023	Analog	9	Linear	Linear	RGB, Mono	6 MHz (linear)	Linear	90	33 V/uJ/cm <sup>2</sup>	CDIP-40

GS= Global Shutter; ERS= Electronic Rolling Shutter; GRR= Global Reset Release (ERS); FF= Full Frame; IT= Interleave

\*NOTE: PEAK QE: wave length, CFA, microlens dependent  
(only Mono max stated, review datasheet for clarification)

## IMAGE / Image Sensor Module



Part Number / Series	Output Interface	Optical Format	Shutter Type	Color filter	Frame Rate @ Full Resolution (FPS)	Resolution (Pixels)	SNR Max (dB)	Dynamic range (dB)	Responsivity	Package Type / Size (mm)
NanEye Module	LVDS	3 x 3 µm <sup>2</sup>	1/15"	Rolling shutter	No	250 x 250	41	58	11.5 DN/nJ/cm <sup>2</sup> @ max gain	Chip + Lens + Cable
NanEye-Stereo Module	LVDS	3 x 3 µm <sup>2</sup>	1/15"	Rolling shutter	No	250 x 250	41	58	11.5 DN/nJ/cm <sup>2</sup> @ max gain	2x (Chip + Lens + Cable)

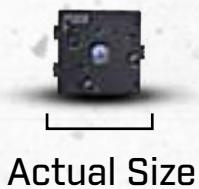


Part Number / Series	Output Interface	Thermal Range (K)	FOV (degree)	Spectral Range (μm)	Number of Pixels	Frame Rate (Hz)	Supply Voltage (V)	Current Consumption (mA)	Package Type / Size (mm)
500-0643-00 (Lepton 1.5)	Video over SPI	263 to 413	50° HFOV	8 to 14	80 x 60	9	2.8, 1.2, 2.5 to 3.1 I <sub>O</sub>	48 mA typical	8.47 x 9.67 x 5.62
500-0690-00 (Lepton 1.6)	Video over SPI	263 to 413	25° HFOV	8 to 14	80 x 60	9	2.8, 1.2, 2.5 to 3.1 I <sub>O</sub>	48 mA typical	8.47 x 9.69 x 8.84
500-0659-01 (Lepton 2.0)	Video over SPI	263 to 413	50° HFOV	8 to 14	80 x 60	9	2.8, 1.2, 2.5 to 3.1 I <sub>O</sub>	48 mA typical, shutter event (209 mA typical at 3.1 V <sub>DC</sub> )	10.78 x 11.70 x 6.68
500-0763-01 (Lepton 2.5)	Video over SPI	263 to 723	50° HFOV	8 to 14	80 x 60	9	2.8, 1.2, 2.5 to 3.1 I <sub>O</sub>	48 mA typical, shutter event 333 mA typical (at 3.1 V <sub>DC</sub> )	11.50 x 12.70 x 6.835
500-0726-01 (Lepton 3.0)	Video over SPI	263 to 413	57° HFOV	8 to 14	160 x 120	9	2.8, 1.2, 2.5 to 3.1 I <sub>O</sub>	48 mA typical, shutter event 333 mA typical (at 3.1 V <sub>DC</sub> )	11.50 x 12.70 x 6.835
500-0771-01 (Lepton 3.5)	Video over SPI	263 to 673	57° HFOV	8 to 14	160 x 120	9	2., 1.2, 2.5 to 3.1 I <sub>O</sub>	48 mA typical, shutter event 333 mA typical (at 3.1 V <sub>DC</sub> )	11.50 x 12.70 x 6.835

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Actual Size



Part Number / Series	Output Interface	Thermal Range (K)	FOV (degree)	Spectral Range (μm)	Number of Pixels	Frame Rate (Hz)	Supply Voltage (V)	Current Consumption (mA)	Package Type / Size (mm)
<b>MLX90621ESF-BAA-000</b>	I <sup>2</sup> C	233 to 573	120 x 25	7 to 13	16 x 4 (64)	0.5 to 64	2.5 to 3.3	9	TO-39 / 5.51(h) x 9.3(d)
<b>MLX90621ESF-BAB-000</b>	I <sup>2</sup> C	233 to 573	60 x 15	7 to 13	16 x 4 (64)	0.5 to 64	2.5 to 3.4	9	TO-39 / 11.15(h) x 9.3(d)
<b>MLX90621ESF-BAD-000</b>	I <sup>2</sup> C	233 to 573	40 x 10	7 to 13	16 x 4 (64)	0.5 to 64	2.5 to 3.5	9	TO-39 / 14.15(h) x 9.3(d)
<b>MLX90640ESF-BAA-000</b>	I <sup>2</sup> C	233 to 573	110 x 75	7 to 13	32 x 24 (768)	0.5 to 64	2.9 to 3.6	15	TO-39 / 5.7(h) x 9.3(d)
<b>MLX90640ESF-BAB-000</b>	I <sup>2</sup> C	233 to 573	55 x 40	7 to 13	32 x 24 (768)	0.5 to 64	2.9 to 3.6	15	TO-39 / 11.25(h) x 9.3(d)
<b>MLX90641ESF-BCA-000</b>	I <sup>2</sup> C	233 to 573	110 x 75	7 to 13	16 x 12 (192)	0.5 to 64	3 to 3.6	12	TO-39 / 5.7(h) x 9.3(d)
<b>MLX90641ESF-BCB-000</b>	I <sup>2</sup> C	233 to 573	55 x 40	7 to 13	16 x 12 (192)	0.5 to 64	3 to 3.6	12	TO-39 / 11.25(h) x 9.3(d)
<b>MLX90641KSF-BCA-000*</b>	I <sup>2</sup> C	233 to 573	110 x 75	7 to 13	16 x 12 (192)	0.5 to 64	3 to 3.6	12	TO-39 / 5.7(h) x 9.3(d)
<b>MLX90641KSF-BCB-000*</b>	I <sup>2</sup> C	233 to 573	55 x 40	7 to 13	16 x 12 (192)	0.5 to 64	3 to 3.6	12	TO-39 / 11.25(h) x 9.3(d)

\*Note: \* Automotive AEC-Q100

## IMAGE / 3D Image Sensor (Time of Flight)



Product	Description	Resolution	Pixel Size (μm)	Frame Rate (fps)	Optical Format (inch)	Output Interface	Temperature (°C)	Sunlight Robustness (klux)	Modulation Frequency (MHz)	Package Type
<b>MLX75023RTF-BAB-000</b>	Automotive ToF Sensor, without cover tape	320 x 240	15 x 15	150	1/3"	Analog	-40 to +105	120	12 to 40	GBGA
<b>MLX75023RTF-BAB-001</b>	Automotive ToF Sensor, with cover tape	320 x 240	15 x 15	150	1/3"	Analog	-40 to +105	120	12 to 40	GBGA
<b>MLX75023STF-BAB-000</b>	ToF Sensor, without cover tap	320 x 240	15 x 15	150	1/3"	Analog	-20 to +85	120	12 to 40	GBGA
<b>MLX75023STF-BAB-001</b>	ToF Sensor, with cover tap	320 x 240	15 x 15	150	1/3"	Analog	-20 to +85	120	12 to 40	GBGA
<b>MLX75024RTF-GAA-000</b>	Automotive ToF Sensor, without cover tape	320 x 240	15 x 15	150	1/3"	Analog	-40 to +105	120	12 to 40	GBGA
<b>MLX75024RTF-GAA-001</b>	Automotive ToF Sensor, with cover tape	320 x 240	15 x 15	150	1/3"	Analog	-40 to +105	120	12 to 40	GBGA
<b>MLX75024STF-GAA-000</b>	ToF Sensor, without cover tap	320 x 240	15 x 15	150	1/3"	Analog	-20 to +85	120	12 to 40	GBGA
<b>MLX75024STF-GAA-001</b>	ToF Sensor, with cover tap	320 x 240	15 x 15	150	1/3"	Analog	-20 to +85	120	12 to 40	GBGA
<b>MLX75123RLA-BAG-000-RE</b>	Automotive ToF Companion Chip	320 x 240	—	150	1/3"	12-bit Parallel with I <sup>2</sup> C for control	-40 to +105	120	12 to 40	AGFN
<b>MLX75123SLA-BAG-000-RE</b>	ToF Companion Chip	320 x 240	—	150	1/3"	12-bit Parallel with I <sup>2</sup> C for control	-20 to +85	120	12 to 40	AGFN

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Actual Size

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Part Number	Sensing Axis	Sensitivity Range (g)	Wake Up Resolution	Output Type	Supply Voltage (V)	Current Consumption Typ (mA)	Current Consumption (Power-Down Mode) Typ (µA)	Operating Temperature (°C)	Package Type / Size (mm)
KMX62-1031	6 axis (3 axis Accel + 3 axis Mag)	Accel: $\pm 2, \pm 4, \pm 8, \pm 16$ Mag: $\pm 1,200\mu T$	Accel: 62mg Mag: 9.3uT	Digital I <sup>2</sup> C (2 Interrupts) Accel: up to 1600kHz** Mag: up to 1600Hz**	1.7 to 3.6	0.0016 - 0.386	1.6	-40 to +85	LGA 3 x 3 x 0.9
KMX63-1055	6 axis (3 axis Accel + 3 axis Mag)	Accel: $\pm 8, \pm 16, \pm 32, \pm 64$ Mag: $\pm 1,200\mu T$	Accel: 250mg Mag: 9.3uT	Digital I <sup>2</sup> C (2 Interrupts) Accel: up to 1600Hz** Mag: up to 1600Hz**	1.7 to 3.6	0.0016 - 0.386	1.6	-40 to +85	LGA/ 3 x 3 x 0.9

\*1 Gauss = 100 µT

\*\*Optional Higher ODR, Accel up to 25,600Hz, Mag up to 12,800Hz



Part Number	Sensing Axis	Sensitivity Range (g)	Magnetic Field Range	Output Type	Supply Voltage (V)	Current Consumption Typ (mA)	Current Consumption (Power-Down Mode) Typ (µA)	Operating Temperature (°C)	Package Type / Size (mm)
FXOS8700CQ	X, Y, Z	$\pm 2, \pm 4, \pm 8$	1200 µT	I <sup>2</sup> C, SPI	1.95 to 3.6	0.5	2	-40 to +85	QFN-16 3 x 3 x 1.2



Part Number	Sensing Axis	Sensitivity Range (g)	Magnetic Field Range	Output Type	Supply Voltage (V)	Current Consumption Typ (mA)	Current Consumption (Power-Down Mode) Typ (µA)	Operating Temperature (°C)	Package Type / Size (mm)
LSM303AHTR	X, Y, Z	$\pm 2 \pm 4 \pm 8 \pm 16$	$\pm 50$ Gauss (typ)	Digital	1.71	1.98	0.0362	-40 to +85	LGA-12 2X2X1 (max)
LSM303AGRTR	X, Y, Z	$\pm 2 \pm 4 \pm 8 \pm 16$	$\pm 50$ Gauss (typ)	Digital	1.71	3.6	0.0212	-40 to +85	LGA-12 2X2X1 (max)
ISM303DACTR	X, Y, Z	$\pm 2 \pm 4 \pm 8 \pm 16$	$\pm 50$ Gauss (typ)	Digital	1.71	1.98	0.0362	-40 to +85	LGA-12 2X2X1 (max)

# INERTIAL COMBO / Inertial Measurement Unit (IMU)



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Part Number	Output Interface	Sensing Range	Sensing Axis	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BMI055</b>	I <sup>2</sup> C, SPI, 4x digital interrupts	(A): ±2 g, ±4 g, ±8 g, ±16 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	6-axis	V <sub>DD</sub> 2.4 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	Full operation: 5.15 mA Suspend mode: 6 µA	-40 to +85	3.0 x 4.5 x 0.95
<b>BMI085</b>	I <sup>2</sup> C, SPI, 4x digital interrupts	(A): ±2 g, ±4 g, ±8 g, ±16 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	6-axis	V <sub>DD</sub> 2.4 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	5.15	-40 to +85	3.0 x 4.5 x 0.95
<b>BMI088</b>	I <sup>2</sup> C, SPI, 4x digital interrupts	(A): ±3 g, ±6 g, ±12 g, ±24 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	6-axis	V <sub>DD</sub> 2.4 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	5.15	-40 to +85	3.0 x 4.5 x 0.95
<b>BMI160*</b>	I <sup>2</sup> C, SPI, 4x digital interrupts	(A): ±2 g, ±4 g, ±8 g, ±16 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	6-axis	V <sub>DD</sub> 1.71 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	Full operation: 950 µA Suspend mode: 3 µA	-40 to +85	2.5 x 3.0 x 0.8
<b>BMI270</b> <small>Q2-2019 RELEASE</small>	I <sup>2</sup> C, SPI, 2x digital interrupts	(A): ±2 g, ±4 g, ±8 g, ±16 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	6-axis	V <sub>DD</sub> 1.71 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	Full operation: 685 µA Suspend mode: 3.5 µA	-40 to +85	2.5 x 3.0 x 0.8

\*Queexo FingerSense Compatible

A= Accelerometer, G= Gyro



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Part Number	Output Interface	Sensing Range	Sensing Axis	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SCC2130-D08</b>	SPI	±6g, ±125dps	XYZ accel, X gyro	3.3	31.5	-40 to +125	5.0 x 8.5 x 4.3
<b>SCC2230-D08</b>	SPI	±6g, ±125dps	XYZ accel, X gyro	3.3	31.5	-40 to +125	5.0 x 8.5 x 4.3
<b>SCC2230-E02</b>	SPI	±6g, ±125dps	XYZ accel, X gyro	3.3	31.5	-40 to +125	5.0 x 8.5 x 4.3



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Part Number	Output Interface	Sensing Range	Sensing Axis	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>LSM6DSLTR</b>	I <sup>2</sup> C, SPI, I <sup>3</sup> C	125/±245/±500/±1000/±2000 dps ±2/±4/±8/±16 g	X, Y, Z, Yaw, Pitch, Roll	1.7 to 3.6	0.45mA (gyro + accel)	-40 to +85	LGA-16L 2.5 x 3 x 0.86
<b>LSM6DSMTR</b>	I <sup>2</sup> C, SPI, I <sup>3</sup> C	125/±245/±500/±1000/±2000 dps ±2/±4/±8/±16 g	X, Y, Z, Yaw, Pitch, Roll	1.7 to 3.6	0.45mA (gyro + accel)	-40 to +85	LGA-16L 2.5 x 3 x 0.86
<b>LSM6DSOTR</b>	I <sup>2</sup> C, SPI, I <sup>3</sup> C	125/±250/±500/±1000/±2000 dps ±2/±4/±8/±16 g	X, Y, Z, Yaw, Pitch, Roll	1.7 to 3.6	0.55mA (gyro + accel)	-40 to +85	LGA-16L 2.5 x 3 x 0.86
<b>ASM330LHHTR</b>	I <sup>2</sup> C, SPI, I <sup>3</sup> C	125/±250/±500/±1000/±2000/±4000 dps ±2/±4/±8/±16 g	X, Y, Z, Yaw, Pitch, Roll	1.7 to 3.6	0.7mA (gyro + accel)	-40 to +85	LGA-16L 2.5 x 3 x 0.86
<b>ISM330DLCTR</b>	I <sup>2</sup> C, SPI, I <sup>3</sup> C	125/±245/±500/±1000/±2000 dps	X, Y, Z, Yaw, Pitch, Roll	1.7 to 3.6	0.5mA (gyro + accel)	-40 to +85	LGA-16L 2.5 x 3 x 0.83

A= Accelerometer; G= Gyroscope

## INERTIAL COMBO / 9-DoF/9-Axis Combo Sensor



Part Number	Output Interface	Linear Acceleration Full Scale (g)	Angular Rate Full Scale (dps)	Magnetic Full Scale Range (gauss)	Resolution	Supply Voltage (V)	Supply Current (Acc+Mag+Gyro) (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BMX055</b>	I <sup>2</sup> C, SPI	(A): ± 2, ± 4, ± 8, ± 16	(G): ± 125°/s, ± 250°/s, ± 500°/s, ± 1000°/s, ± 2000°/s	±1300 µT (x, y axis) ±2500 µT (z axis)	(A): 0.98 mg (G): 0.004°/s (M): 0.3 µT	V <sub>DD</sub> 2.4 to 3.6 V <sub>DDIO</sub> 2.4 to 3.6	Gyro @ full operation; 5 mA; Acc @ full operation; 130 µA; Acc; @ wake-up mode; < 1 µA; Magnet sensor @ 10Hz ODR: 0.5	-40 to +85	3.0 × 4.5 × 0.95
<b>BMX160</b>	I <sup>2</sup> C, SPI	(A): ± 2, ± 4, ± 8, ± 16	(G): ± 125°/s, ± 250°/s, ± 500°/s, ± 1000°/s, ± 2000°/s	±1300 µT (x, y axis) ±2500 µT (z axis)	(A): 0.061mg; (G): 0.004°/s (M): 0.3 µT	V <sub>DD</sub> 1.71 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	Gyro @ full operation; 850 µA; Gyro + Acc + Geomag: 1585 µA; Geomag @ full operation; 660 µA; Acc @ full operation; 180 µA Suspend mode; 5 µA; Significant motion; 30 µA; Step detector: 30 µA	-40 to +85	2.5 × 3.0 × 0.95

A= Accelerometer, G= Gyro

## INERTIAL COMBO / Sensor Hub



Part Number	Integrated Processor	Software Library	Software	Output Interface	Sensing Range	Bandwidth Typ. (Hz)	Current Consumption (mA Typ. @100 Hz ODR)	Supply Voltage (V)	Package Type / Size (mm)
<b>BHI160</b>	32 bit floating-point ARC EM4 MCU running @ 10 MHz 96 kByte ROM, 48 kByte RAM	BSX 3.0 fusion Activity recognition, Gesture recognition Step detector, Step counter	—	I <sup>2</sup> C up to 3.4 MBit/s 3 × GPIO, 1 × Host-INT	(A): ±2 g, ±4 g, ±8 g, ±16 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	BSX3 (Fusion) output data rate: 200, 100, 50, 25, 12.5	Full 6DoF PDR: 1.3 mA; full 6DoF Fusion @ 100 Hz ODR: 1.2 mA; full 9DoF Fusion @ 100 Hz ODR: 1.3 mA; significant motion: 128 µA; step detector: 131 µA suspend mode: 11 µA	V <sub>DD</sub> 1.71 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	3.0 × 3.0 x 0.95
<b>BHI260</b> <small>Q3-2019 RELEASE</small>	32 bit floating-point ARC EM4 CPU with (up to 3.6 CoreMark/MHz) 256 kByte SRAM, 144 kByte ROM	BSX 4.0 fusion Activity recognition, Gesture recognition Step detector, Step counter Custom Programmable	—	Host interface configurable as SPI or I <sup>2</sup> C; 3 master interfaces (selectable out of 2 × SPI master and 2 × I <sup>2</sup> C master); - Up to 25 GPIOs	(A): ±2 g, ±4 g, ±8 g, ±16 g (G): ±125°/s, ±250°/s, ±500°/s, ±1000°/s, ±2000°/s	BSX4 (Fusion) output data rate: 800, 400, 200, 100, 50, 25, 12.5, 6.25, 3.125, 1.5625	Fuser2 (running CoReMark) -long run mode (20 MHz): 950 µA; turbo mode (50 MHz): 2.8 mA; Sensor Fusion (Hub+IMU) operation (calculating Game Rotation Vector) 800 Hz ODR: 1.2 mA; 100 Hz ODR: 1.0 mA Standby current: 8 µA	1.8	4.1 × 3.6 x 0.83

A= Accelerometer, G= Gyro

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# INERTIAL COMBO / Sensor Hub



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Part Number	Integrated Processor	Software Library	Software	Output Interface	Sensing Range	Bandwidth Typ. (Hz)	Current Consumption (mA Typ. @100 Hz ODR)	Supply Voltage (V)	Package Type / Size (mm)
<b>BNO055</b>	32 bit cortex M0+ microcontroller	BSX 3.0 full fusion	–	I <sup>2</sup> C, UART, HID-I <sup>2</sup> C	±2 g, ±4 g, ±8 g, ±16 g	BSX3 (Fusion) output data rate: 1000, 500, 250, 125, 63, 31, 16, 8	Suspend mode: 40 µA 9DOF @ 100 Output data rate: 12.3	V <sub>DD</sub> 2.4 to 3.6 V <sub>DDIO</sub> 1.7 to 3.6	3.8 × 5.2 x 1.13
<b>BMF055</b>	33 bit cortex M0+ microcontroller, 256kB Flash memory and 32kB SRAM memory	BSX fusion lite as additional lib. Custom Programmable.	–	I <sup>2</sup> C, UART, HID-I <sup>2</sup> C	±2 g, ±4 g, ±8 g, ±16 g	Depends on the custom specific sensor fusion	Depends on the custom specific sensor fusion	V <sub>DD</sub> 2.4 to 3.6 V <sub>DDIO</sub> 1.7 to 3.6	3.8 × 5.2 x 1.13
<b>BHA250</b>	32 bit floating-point ARC EM4 MCU running @ 10 MHz 1.6 DMIPS/MHz performance, 3.41 CoreMarks/MHz 96 kBByte ROM, 48 kBByte RAM shared RAM for FIFO, features & extensions optimized for ultra-low power sensor data fusion	BSX 3.0 fusion Activity recognition, Gesture recognition Step detector, Step counter	–	I <sup>2</sup> C up to 3.4 MBit/s 3 × GPIO, 1 × Host-INT	±2 g, ±4 g, ±8 g, ±16 g	BSX3 (Fusion) output data rate: 200, 100, 50, 25, 12.	eCompass @ 100 ODR: 630 µA Hub+Acc @ 100 ODR: 430 µA Activity recognition: 200 µA Significant motion: 100 µA Step detector: 100 µA Suspend mode: 11 µA*	V <sub>DD</sub> 1.71 to 3.6 V <sub>DDIO</sub> 1.2 to 3.6	2.2 x 2.2 x 0.95
<b>BHA260</b> <span style="border: 1px solid #0070C0; border-radius: 50%; padding: 2px;">03-2019 RELEASE</span>	32 bit floating-point ARC EM4 CPU with (up to 3.6 CoreMark/MHz) 256 kBByte SRAM, 144 kBByte ROM	BSX 4.0 fusion Activity recognition, Gesture recognition Step detector, Step counter Custom Programmable	–	- Host interface configurable as SPI or I <sup>2</sup> C - 2 master interfaces (1 selectable SPI/I <sup>2</sup> C and 1 I <sup>2</sup> C) - Up to 12 GPIOs	±2 g, ±4 g, ±8 g, ±16 g	BSX4 (Fusion) output data rate: 800, 400, 200, 100, 50, 25, 12.5, 6.25, 3.125, 1.5625	Fuser2 (running CoreMark) - long run mode (20 MHz): 950 µA - turbo mode (50 MHz): 2.8 mA Sensor algorithm operation (incl. Sensor)- significant motion: 32 µA - step counter: 46 µA - activity recognition: 77 µA Standby current: 8 µA	1.8	2.7 x 2.6 x 0.8



**BMX160**

Absolute Orientation Sensor



# Bosch MEMS sensors for hearable applications



## BHI260 and BHA260

### Smart Sensors

The combination of state-of-the-art MEMS sensors with an ultra-low power, high performance sensor coprocessor significantly extends battery life in mobile devices, such as hearables.



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## LIGHT - COLOR / Ambient Light Sensor - Analog

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Part Number	Sensing Range (Lux)	Output Type	Output Range (μA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
LA0151C	100k	Analog	0 to 80	2.2	0.08	-30 to +85	ODCSP-4
LV0111CF	100k	Analog	0 to 30	2.3	0.021	-30 to +85	ODCSP-4J



Part Number	Sensing Range (Lux)	Output Type	Output Range (μA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
BH1603FVC	0 to 100,000	Current (Sourced)	0 to 60	2.4 to 5.5	0.074	-40 to +85	WSOF6 (6-Pin) 3.0 x 1.6 x 0.75
BH1620FVC	0 to 100,000	Current (Sourced)	0 to 57	2.4 to 5.5	0.071	-40 to +85	WSOF5 (5-Pin) 1.6 x 1.6 x 0.6
BH1680FVC	0 to 50,000	Current (Sourced)	0 to 61	2.4 to 5.5	0.075	-40 to +85	WSOF5 (5-Pin) 1.6 x 1.6 x 0.6
BH1682FVC	1 to 55,000	Logarithmic Current (Source)	0 to 20	2.3 to 5.5	0.075	-40 to +85	WSOF5 (5-pin) 1.6 x 1.6 x 0.6



Part Number	Sensing Range (Lux)	Output Type	Output Range (μA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
TEPT4400	0.01 to 167000	Analog	15 to 70	0.5 to 5	–	-40 to +85	T1, Ø 3mm
TEPT5600	0.01 to 167000	Analog	25 to 226	0.5 to 5	–	-40 to +85	T1¾, Ø 5mm
TEPT5700	0.01 to 167000	Analog	5.2 to 24	0.5 to 5	–	-40 to +85	T1¾, Ø 5mm, flat
TEMT6000X01	0.01 to 167000	Analog	3.5 to 16	0.5 to 5	–	-40 to +100	2 x 4 x 1H
TEMT6200FX01	0.01 to 167000	Analog	7.5 to 39	0.5 to 5	–	-40 to +100	1.2 x 2 x 0.85H
TEMDF6010FX01	0.01 to 167000	Analog	0.03 to 0.09	0.5 to 5	–	-40 to +100	2 x 4 x 1H
TEMDF5510FX01	0.01 to 167000	Analog	0.8 to 1.4	0.5 to 5	–	-40 to +100	4.2 x 5 x 1H

## LIGHT - COLOR / Ambient Light Sensor - Digital



Part Number	Sensing Range (Lux)	Output Interface	Peak Wave Length (nm)	Power-Down Current (mA)	Supply Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
TSL25721	10,000	I <sup>2</sup> C	700	0.002	0.200	2.4 to 3.6	-30 to +70	DFN-6 2 x 2 x 0.65
TSL25723	10000	I <sup>2</sup> C	700	0.002	0.200	2.7 to 3.6	-30 to +70	DFN-6 2 x 2 x 0.65
TSL25911	88,000	I <sup>2</sup> C	650	0.002	0.275	2.7 to 3.6	-30 to +70	DFN-6 2 x 2.4 x 0.65
TSL25913	88,000	I <sup>2</sup> C	650	0.002	0.275	2.7 to 3.6	-30 to +70	DFN-6 2 x 2.4 x 0.65
TSL25403	20,000	I <sup>2</sup> C	550	0.001	0.090	1.7 to 2.0	-30 to +85	QFN-10 2 x 2 x 0.5
TSL25413	60,000	I <sup>2</sup> C	550	0.001	0.090	1.7 to 2.0	-30 to +85	QFN-10 2 x 2 x 0.5, Dark

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Part Number	Sensing Range (Lux)	Output Interface	Peak Wave Length (nm)	Power-Down Current (mA)	Supply Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
LV0104CS	65k	I <sup>2</sup> C	550	0.001	0.07	2.3	-30 to +85	ODCSP-4

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Part Number	Sensing Range (Lux)	Output Interface	Peak Wave Length (nm)	Power-Down Current (mA)	Supply Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
BH1726NUC	0 to 30,000	I <sup>2</sup> C	530	0.0008	0.075	2.3 to 3.6	-40 to +85	WSON008X2120 (8-pin) 2.1 x 2.0 x 0.6



Part Number	Sensing Range (Lux)	Output Interface	Peak Wave Length (nm)	Power-Down Current (mA)	Supply Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
VEML6030	0 to 120000	I <sup>2</sup> C Bus	530	0.0005	0.045	2.5 to 3.6	-25 to +85	2.0 x 2.0 x 0.87H Top View
VEML7700-TR	0 to 120000	I <sup>2</sup> C Bus	530	0.0005	0.045	2.5 to 3.6	-25 to +85	6.8 x 2.35 x 3.0 Side View

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Part Number	Output Channel	Output Interface	Output Range	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
TCS34003	RGB + Clear +IR	I <sup>2</sup> C	–	2.7 to 3.6	0.235	-40 to +70	DFN-6 2 x 2.4 x 0.65
TCS34303	XYZ + IR	I <sup>2</sup> C	–	1.7 to 2.0	0.100	-30 to +85	DFN-8 1.75 x 2.41 x 1
TCS34721	RGB + Clear	I <sup>2</sup> C	–	2.7 to 3.6	0.235	-30 to +70	DFN-6 2 x 2.4 x 0.65
TCS34723	RGB + Clear	I <sup>2</sup> C	–	2.7 to 3.3	0.235	-30 to +70	DFN-6 2 x 2.4 x 0.65



Part Number	Output Channel	Output Interface	Output Range	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
BH1749NUC	R, G, B, IR	I <sup>2</sup> C	0lx to 80,000lx, ± 5% CCT Accuracy	2.3 to 3.6	0.190	-40 to +85	WSON008x2120 (8-Pin) 2.1 x 2.0 x 0.6



Part Number	Output Channel	Output Interface	Output Range	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
VEML6040A30G	R, B, G, W	I <sup>2</sup> C Bus	.0056 to 11796 (lx)	2.5 to 3.6	0.2	-40 to +85	2.0 x 1.25 x 1.0H



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Part Number	Photo Current (µA)	Dark Current (µA)	Rise Time (ms)	Fall Time (ms)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
VEMD5010X01	48	2	100	430 to 1100	1	-40 to +110	5 x 4 x 0.9 SMT
VEMD5110X01	48	2	100	790 to 1050	1	-40 to +110	5 x 4 x 0.9 SMT
VEMD5060X01	26	0.2	30	350 to 1070	0.8	-40 to +110	5 x 4 x 0.9 SMT
VEMD5160X01	26	0.2	30	700 to 1050	0.8	-40 to +110	5 x 4 x 0.9 SMT
VEMD5080X01	45	0.2	70	350 to 1100	0.9	-40 to +110	5 x 4 x 0.9 SMT
VEMD5510C	0.6	0.2	70	440 to 700	0.9	-40 to +110	5 x 4 x 0.9 SMT
VEMD2023SLX01	10	1	100	750 to 1050	1	-40 to +100	2.3 x 2.5 x 2.3 Side view, SMT
VEMD2523SLX01	10	1	100	350 to 1120	1	-40 to +100	2.3 x 2.5 x 2.3 Side view, SMT
VEMD8080	28	0.2	70	350 to 1100	1.2	-40 to +85	4.8 x 2.5 x 0.48 SMT

## LIGHT - COLOR / UV Sensor



Part Number	Output Interface	Functional Description	Supply Voltage (V)	Maximum-Sensitivity Wave Length	Sensitivity Region	Supply Current	Operating Temperature (°C)	Package Type / Size (mm)
VEML6070	I²C Bus	UV-A sensor	2.7 to 5.5	100 µA	355 nm	280 nm to 400 nm	-40 to +85	2.35 x 1.8 x 1.0

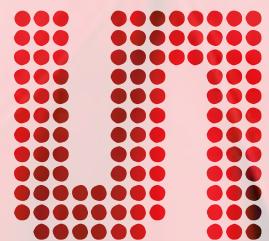
## LIGHT - COLOR / Spectral Sensor



Part Number	Output Channel	Output Interface	Output Range	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (oC)	Package Type / Size (mm)
AS7341	8 channel VIS + NIR + Clear + Flicker"	I²C	16-bits / channel	1.8	5	-30 to +70	3.1 x 2 x 1 OLGA-8
AS7261	XYZ+NIR	I²C or UART	16-bits / channel	2.7 to 3.6	5	-30 to +70	4.5 x 4.7 LGA
AS7262	6 channel VIS	I²C or UART	16-bits / channel	2.7 to 3.6	5	-30 to +70	4.5 x 4.7 LGA
AS7263	6 channel NIR	I²C or UART	16-bits / channel	2.7 to 3.6	5	-30 to +70	4.5 x 4.7 LGA
AS7264N	XYZ+2blue+NIR	I²C	16-bits / channel	2.7 to 3.6	5	-30 to +70	4.5 x 4.7 LGA
AS7265x	18 channel VIS+NIR	I²C or UART	16-bits / channel	2.7 to 3.6	5	-30 to +70	4.5 x 4.7 LGA

# 11-Channel Spectra Color Sensor

[www.ams.com](http://www.ams.com)



## AS7341 – 11-Channel Spectral Color Sensor

- Color matching and skin tone measurement
- Enhanced Artificial Intelligence: Search & shop by color (eCommerce boost)
- Optional: Flicker immune camera operation and image optimization (AWB automatic white balancing)
- Mobile phone compatible package

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## General Description

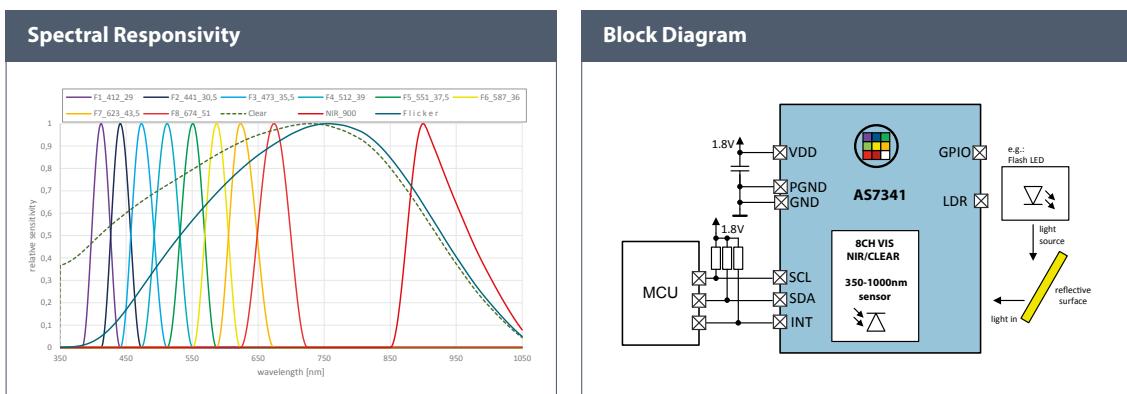
ams, X-Rite and PANTONE® presents a joint solution to bring accurate color matching directly to smartphones in order to improve retail and ecommerce applications, artificial intelligence and other tools help consumers find the right products.

Research shows that consumers lack confidence in purchasing color-critical items online. This uncertainty is typically due to past experiences which did not meet expectations and a difficulty in communicating color from home to store. Consumers wrongly expect to be able to simply take a photo of the inspiration color with their smartphones and match it to a desired item. However, the wide variety of tones and colors available in home décor, apparel and cosmetics is difficult to accurately reproduce on mobile device displays. Cameras are not precise enough to accurately compare the color between an online product offering and how it will appear in the

consumer's intended physical environment. This makes online color-critical purchase decisions unreliable and limits consumer confidence.

The joint ams and X-Rite solution is the world's first spectral color measurement solution utilizing Pantone Color Standards to be embedded in a mobile device. The miniaturized module is intended for integration in the backside of a smartphone. The module contains an advanced 11-channel spectral sensor and optical components that enable users to measure color of objects in a non-contact manner. The solution will connect to Pantone's world-leading color reference systems using cloud technology. Consumers, brands and retailers will now be able to identify and share product colors, making it easier to search product catalogs and select color-critical items with confidence.

Features	Benefits	Applications
<ul style="list-style-type: none"> <li>- 8 optical channels distributed over the visible range</li> <li>- 3 extra channels: Clear, Flicker and NIR channel</li> <li>- 6 parallel ADCs for signal processing</li> <li>- Ultra-low-profile package 3.1 x 2 x 1mm</li> </ul>	<ul style="list-style-type: none"> <li>- Spectral information enables highly accurate object color measurements</li> <li>- Detection &amp; rejection environmental influences such as light sources</li> <li>- Optimized channel count and signal processing for fast measurements</li> <li>- Mobile phone compatible package</li> </ul>	<ul style="list-style-type: none"> <li>- Color matching and skin tone measurement</li> <li>- Enhanced Artificial Intelligence: Search &amp; shop by color (eCommerce boost)</li> <li>- Optional: Flicker immune camera operation and image optimization (AWB automatic white balancing)</li> </ul>



### PRODUCT IN DEVELOPMENT

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Part Number	Output Interface	Sensing Range (A)	Sensing Accuracy (%)	Bandwidth (kHz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>TLI4970D025T4XUMA1</b>	16-bit digital SPI output	25 primary current range	1.60	18	3.3	12	-40 to +85	TISON-8; 7 x 7
<b>TLI4970D050T4XUMA1</b>	16-bit digital SPI output	50 primary current range	1.60	18	3.3	12	-40 to +85	TISON-8; 7 x 7
<b>TLI4970D025T5XUMA1</b>	16-bit digital SPI output	25 primary current range	3.50	18	3.3	12	-40 to +85	TISON-8; 7 x 7
<b>TLI4970D050T5XUMA1</b>	16-bit digital SPI output	50 primary current range	3.50	18	3.3	12	-40 to +85	TISON-8; 7 x 7



Part Number	Output Interface	Sensing Range (A)	Sensing Accuracy (%)	Bandwidth (kHz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX91205KDC-AAL-003</b>	Analog - Diff.	0 to ±100	1	100	4.5 to 5.5	11	-40 to +125	SOIC8
<b>MLX91205KDC-AAH-003</b>	Analog - Diff.	0 to ±500	1	100	4.5 to 5.5	11	-40 to +125	SOIC8
<b>MLX91206LDC-CAL-001</b>	Analog	0 to ±100	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAL-002</b>	Analog	0 to ±100	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAL-003</b>	Analog	0 to ±100	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAH-001</b>	Analog	0 to ±500	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAH-002</b>	Analog	0 to ±500	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAH-003</b>	Analog	0 to ±500	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAH-004</b>	Analog	0 to ±500	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAH-021</b>	Analog	0 to ±500	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91206LDC-CAH-104</b>	PWM	0 to ±500	1	70	4.5 to 5.5	8	-40 to +150	SOIC8
<b>MLX91208LDC-CAL-000</b>	Analog	0 to ±100	1	250	4.5 to 5.5	12	-40 to +150	SOIC8
<b>MLX91208LDC-CAH-000</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12	-40 to +150	SOIC8
<b>MLX91208LDC-CAV-000</b>	Analog	0 to ±2000	1	250	4.5 to 5.5	12	-40 to +150	SOIC8
<b>MLX91208LDC-CAV-001</b>	Analog	0 to ±2000	1	250	4.5 to 5.5	12	-40 to +150	SOIC8
<b>MLX91216LDC-ACH-000</b>	Analog	0 to ±100	1	250	4.5 to 5.5	12.5	-40 to +150	SOIC8
<b>MLX91216LDC-ACV-000</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12.5	-40 to +150	SOIC8
<b>MLX91216LDC-ACV-001</b>	Analog	0 to ±2000	1	250	4.5 to 5.5	12.5	-40 to +150	SOIC8
<b>MLX91207LDC-CAA-005</b>	Analog	0 to ±1000	1	70	4.5 to 5.5	9	-40 to +150	SOIC8
<b>MLX91207LDC-CAA-007</b>	Analog	0 to ±2000	1	70	4.5 to 5.5	9	-40 to +150	SOIC8
<b>MLX91207LDC-CAA-015</b>	Analog	0 to ±2000	1	70	4.5 to 5.5	9	-40 to +150	SOIC8
<b>MLX91209LVA-CAA-000</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12	-40 to +150	SIP4 VA
<b>MLX91209LVA-CAA-001</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12	-40 to +150	SIP4 VA
<b>MLX91209LVA-CAA-002</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12	-40 to +150	SIP4 VA
<b>MLX91217LVA-ACA-000</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12.5	-40 to +150	SIP4 VA
<b>MLX91217LVA-ACA-003</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12.5	-40 to +150	SIP4 VA
<b>MLX91217LVA-ACA-005</b>	Analog	0 to ±500	1	250	4.5 to 5.5	12.5	-40 to +150	SIP4 VA
<b>MLX91210KDC-CAS-101</b>	Analog	0 to ±25	1	100	4.5 to 5.5	12	-40 to +125	SOIC8
<b>MLX91210KDC-CAS-102</b>	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC8

## MAGNETIC - HALL / Current Sensor



Part Number	Output Interface	Sensing Range (A)	Sensing Accuracy (%)	Bandwidth (kHz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX91210KDC-CAS-104	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC8
MLX91210KDC-CAS-105	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC8
MLX91210KDC-CAS-106	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC8
MLX91210KDF-CAS-101	Analog	0 to ±25	1	100	4.5 to 5.5	12	-40 to +125	SOIC16 WB
MLX91210KDF-CAS-102	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC16 WB
MLX91210KDF-CAS-103	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC16 WB
MLX91210KDF-CAS-104	Analog	0 to ±50	1	100	4.5 to 5.5	12	-40 to +125	SOIC16 WB



Part Number	Output Interface	Sensing Range (A)	Sensing Accuracy (%)	Bandwidth (kHz)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MCS1801	Ratiometric	12.5, 25	5	100	3.3	8	-40 to +150	SOIC-8 (5 × 4)
MCS1802	Ratiometric	12.5, 25	5	100	5	8	-40 to +150	SOIC-8 (5 × 4)

## MAGNETIC - HALL / Hall Switch - Latch



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
AH3772	Latch	2.5	-2.5	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3774	Latch	4.0	-4.0	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3775	Latch	7.0	-7.0	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3776	Latch	11	-11	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3777	Latch	14	-14	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3781	Latch	2.5	-2.5	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3782	Latch	4.0	-4.0	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3762Q	Automotive Latch	2.5	-2.5	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3763Q	Automotive Latch	3.0	-3.0	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3764Q	Automotive Latch	4.0	-4.0	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3765Q	Automotive Latch	7.0	-7.0	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3766Q	Automotive Latch	11.0	-11.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3767Q	Automotive Latch	14	-14	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3768Q	Automotive Latch	17.5	-17.5	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3769Q	Automotive Latch	22	-22	30	3 to 28	-40 to +150	SOT23, SIP-3
AH1389	Dual Unipolar Switch	+2.5 and -2.5	+2.0 and -2.0	2.5	1.6 to 3.6	-40 to +85	X1-DFN14102-4



# Hall Effect Sensors with Market-Leading Performance

## HIGH PERFORMANCE HALL EFFECT SENSORS SUPPORT CONSUMER, INDUSTRIAL AND AUTOMOTIVE APPLICATIONS



Combining superior Hall Effect technology, extensive analog design expertise, leading package technology and manufacturing capability, Diodes offer outstanding system solutions.

### HALL EFFECT SWITCH



Using core architectures based on a stable patented Hall Effect plate design, Diodes provides three comprehensive Hall Effect switch product families:

- Omnipolar switches
- Unipolar switches
- Latched switches

### LINEAR HALL SENSORS



Diodes Linear Hall Sensors provide high linearity outputs whose voltage is proportional to the applied magnetic flux density.

They provide simple compact solutions for analog magnetic flux/field sensing/position detection in consumer and industrial applications.

### DIODES ADVANTAGE

- Ultra Low Switch-point Drift Over Full Operating Range
- Wide Selection Of Magnetic Operating Points
- Fast Response Time
- Wide Input Voltage Range 3 – 28V
- Full Device Protections Features:
  - Input/Output Clamp, Output Current Limit, Reverse Blocking
- High ESD (HBM) Capability:
  - Industrial: 6kV
  - Automotive Compliant: 8kV
- Extended Temperature Range:
  - Industrial: -40 – 125°C
  - Automotive Compliant: -40 – 150°C



[diodes.com](http://diodes.com)

## MAGNETIC - HALL / Hall Switch - Latch



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
AH1887	Dual Unipolar Switch	+3.5 and -3.5	+2.0 and -2.0	1	1.65 to 3.3	-40 to +85	SOT553
AH3360	Unipolar Switch	3.0	2.0	3	1.6 to 3.6	-40 to +85	X1-DFN1216-4, DFN2015-6
AH3372	Unipolar Switch	3.0	2.0	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3373	Unipolar Switch	5.5	3.5	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3376	Unipolar Switch	10	8.5	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3377	Unipolar Switch	11.5	9.0	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3382	Unipolar Switch	5.5	3.5	30	3 to 28	-40 to +125	SOT23, SC59, SIP-3
AH3362Q	Automotive Unipolar Switch	3.0	2.0	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3363Q	Automotive Unipolar Switch	5.5	3.5	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3364Q	Automotive Unipolar Switch	8.0	6.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3365Q	Automotive Unipolar Switch	10.0	8.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3366Q	Automotive Unipolar Switch	10.0	8.5	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3367Q	Automotive Unipolar Switch	11.5	9.0	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3368Q	Automotive Unipolar Switch	15.0	12.5	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3369Q	Automotive Unipolar Switch	17.5	15.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3390Q	Automotive Unipolar Switch	21.0	18.5	30	3 to 28	-40 to +150	SOT23, SC59, SIP-3
AH3391Q	Automotive Unipolar Switch	27.5	25.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH1806	Omnipolar	±3.0	±2.0	2.5	2.5 to 5.5	-40 to +85	SC59, SOT553
AH1807	Omnipolar	±8.0	±6.5	2.5	2.5 to 5.5	-40 to +125	SC59, SOT553, SIP-3
AH1808	Omnipolar	±4.0	±3.0	2.5	2.5 to 5.5	-40 to +85	SC59, SOT553
AH1809	Omnipolar	±13	±11.5	2.5	2.5 to 5.5	-40 to +125	SC59, SOT553, SIP-3
AH1815	Omnipolar	±39.5	±35.5	2.5	2.5 to 5.5	-40 to +125	SC59, SOT553, SIP-3
AH9246	Omnipolar	±1.8	±1.2	2	2.5 to 5.5	-40 to +85	SC59, SIP-3
AH9251	Omnipolar	±6.0	±5.0	2	2.5 to 5.5	-40 to +85	SC59, SIP-3
AH1893	Omnipolar	±3.0	±2.0	3	1.6 to 3.6	-40 to +85	SOT553, X1-DFN1216-4
AH1911	Omnipolar	±6.0	±4.5	1	1.6 to 5.5	-40 to +85	SC59
AH1912	Omnipolar	±3.0	±2.25	1	1.6 to 5.5	-40 to +85	SC59, X1-DFN1216-4
AH1913	Omnipolar	±1.8	±1.1	1	1.6 to 5.5	-40 to +85	SC59, X1-DFN1216-4
AH1921	Omnipolar	±6.0	±4.5	1	1.6 to 5.5	-40 to +85	SC59
AH3572	Omnipolar	±2.0	±1.0	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3574	Omnipolar	±4.0	±2.5	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3582	Omnipolar	±4.0	±2.5	30	3 to 28	-40 to +125	SOT23, SIP-3
AH3562Q	Automotive Omnipolar	±2.0	±1.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3563Q	Automotive Omnipolar	±3.0	±2.0	30	3 to 28	-40 to +150	SOT23, SIP-3
AH3564Q	Automotive Omnipolar	±4.0	±2.5	30	3 to 28	-40 to +150	SOT23, SIP-3
AH1894	Omnipolar Switch, Selectable Threshold	±3.0 or ±4.0	±2.0 to ±3.0	3	1.6 to 3.6	-40 to +85	SOT553, X1-DFN1216-4
AH1895	Omnipolar	±6.0	±5.0	3	1.6 to 3.6	-40 to +85	SOT553, X1-DFN1216-4
AH1898	Omnipolar Switch, Selectable Threshold	±3.5 or ±6.0	±2.5 to ±5.0	2.5	1.6 to 3.6	-40 to +85	CSP 0.08 x 0.08
AH1902	Omnipolar	±3.3 or +3.3	±2.3 or +2.3	3	1.6 to 3.6	-40 to +85	X1-DFN1216-4
AH1903	Programmable Omnipolar or Unipolar Switch	±3.3	±2.3	3	1.6 to 3.6	-40 to +85	X1-DFN1216-4



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
TLE4913HTSA1	Switch	3.5	2.7	0 to 2	2.4 to 5.5	-40 to +150	SC59
TLE49215UHALA1	Switch	0	0	0 to 50	4.5 to 24	-40 to +170	SSO-4
TLE49462KHTSA1	Switch	2.0	-2.0	0 to 20	2.7 to 24	-40 to +150	SC59
TLE49611MXTMA1	Latch	2.0	-2.0	0 to 25	3 to 32	-40 to +170	SOT23-3
TLE49612MXTSA1	Latch	5.0	-5.0	0 to 25	3 to 32	-40 to +170	SOT23-3
TLE49613MXTMA1	Latch	7.5	-7.5	0 to 25	3 to 32	-40 to +170	SOT23-3
TLE49614MXTSA1	Latch	10.0	-10.0	0 to 25	3 to 32	-40 to +170	SOT23-3
TLE49615MXTMA1	Latch	15.0	-15.0	0 to 25	3 to 32	-40 to +170	SOT23-3
TLE49643KXTSA1	Switch	12.5	9.5	0 to 25	3 to 42	-40 to +170	SC59
TLI4906KHTSA1	Switch	10.0	8.5	0 to 20	2.7 to 18	-40 to +125	SC59
TLI4906LHALA1	Switch	10.0	8.5	0 to 20	2.7 to 18	-40 to +125	SSO-3
TLI49611MXTSA1	Latch	2.0	-2.0	0 to 25	3 to 32	-40 to +125	SOT23-3
TLI49631MXTMA1	Latch	2.0	-2.0	0 to 5	3 to 5.5	-40 to +125	SOT23-3
TL49611TBXALA1	Latch	2.0	-2.0	0 to 25	3 to 26	-40 to +125	T092S
TL49645TBXALA1	Switch	7.5	5.0	0 to 25	3 to 26	-40 to +125	T092S
TLE49631MXTSA1	Latch	2.0	-2.0	0 to 5	3 to 5.5	-40 to +170	SOT23-3
TLE49632MXTSA1	Latch	5.0	-5.0	0 to 5	3 to 5.5	-40 to +170	SOT23-3
TLE49655MXTSA1	Switch	7.5	5.0	0 to 5	3 to 5.5	-40 to +170	SOT23-3

## Introducing: A New Line of Current Sensors

Hall Effect Linear Current Sensors for 5 to 50A Applications

### MCS1800X Family

Isolated bi-directional Hall effect linear current sensors for AC or DC current sensing. A low resistance conductive path of less than 1mohm minimizes power loss to maximize efficiency.

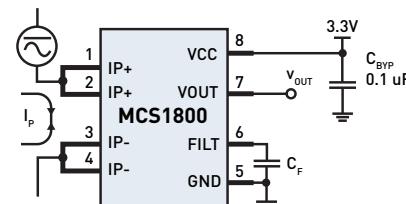
Up to 50A

1.5% Accuracy

3.3V & 5V versions

- Differential Hall Sensing for immunity to stray fields
- Factory calibrated accuracy from -40°C to 125°C
- <0.8mΩ current sensing resistance
- 200V or 2.4kVRMS isolation voltage versions
- Fast 3.5µs output response time
- 100kHz bandwidth
- Linear output voltage vs. current

For ordering and more information visit [MonolithicPower.com](http://MonolithicPower.com)



Part #	VCC (V)	Current Range (A)	Accuracy (%)	Isolation Voltage (V)
MCS1800	3.3	±12.5/25	5	200
MCS1801	5	±12.5/25	5	200
MCS1802	3.3	±5/10/20/30/40/50	3	2400
MCS1803	5	±5/10/20/30/40/50	3	2400
MCS1804	3.3	±5/10/20/30/40/50	1.5	2400
MCS1805	5	±5/10/20/30/40/50	1.5	2400



## MAGNETIC - HALL / Hall Switch - Latch



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90224EVA-ABA-000</b>	Dual hall latch	2.5	-2.5	4.5	2.7 to 24	-40 to +85	TSOT
<b>MLX90248ELD-EBA-000</b>	Omnipolar switch	3.5	2.5	0.003	1.5 to 3.6	-40 to +85	UTQFN
<b>MLX90248ESE-EBA-000</b>	Omnipolar switch	3.5	2.5	0.003	1.5 to 3.6	-40 to +85	TSOT
<b>MLX92211LSE-AAA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-ACA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-ADA-000</b>	3-wire latch	14	-14	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-AEA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-003</b>	3-wire latch	0.5	-0.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-006</b>	3-wire latch	1.5	-1.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-008</b>	3-wire latch	7	-7	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-024</b>	3-wire latch	5	-5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-037</b>	3-wire latch	8.75	-8.75	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-202</b>	3-wire latch	1.5	-1.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-203</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LSE-BAA-205</b>	3-wire latch	8.75	-8.75	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92211LUA-AAA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	UA
<b>MLX92211LUA-ADA-000</b>	3-wire latch	14	-14	3	2.7 to 24	-40 to +150	UA
<b>MLX92211LUA-AEA-000</b>	3-wire latch	—	-3	2.2	2.7 to 24	-40 to +150	UA
<b>MLX92211LUA-BAA-015</b>	3-wire latch	0.5	-0.5	3	2.7 to 24	-40 to +150	UA
<b>MLX92212LSE-AAA-000</b>	3-wire latch	2	-2	2.2	2.5 to 5.5	-40 to +150	TSOT
<b>MLX92212LSE-ABA-000</b>	3-wire switch	12	10.5	2.2	2.5 to 5.5	-40 to +150	TSOT
<b>MLX92213ELD-AAA-000</b>	3-wire latch	2	-2	0.036	1.6 to 3.6	-40 to +85	UTQFN
<b>MLX92215LSE-AAA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92215LSE-ACA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92215LUA-AAA-000</b>	3-wire latch	3	-3	3	2.7 to 24	-40 to +150	UA
<b>MLX92221LSE-AAA-001</b>	2-wire latch	12	-12	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92221LSE-AAA-002</b>	2-wire latch	6	-6	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92221LSE-AAA-003</b>	2-wire latch	1.75	-1.75	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92221LSE-BAA-008</b>	2-wire latch	4	-4	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92221LUA-AAA-004</b>	2-wire latch	6	-6	6	2.7 to 24	-40 to +150	UA
<b>MLX92221LUA-AAA-005</b>	2-wire latch	1.75	-1.75	6	2.7 to 24	-40 to +150	UA
<b>MLX92221LUA-AAA-006</b>	2-wire latch	0.8	-0.8	6	2.7 to 24	-40 to +150	UA
<b>MLX92221LUA-AAA-007</b>	2-wire latch	12	-12	6	2.7 to 24	-40 to +150	UA
<b>MLX92221LUA-BAA-102</b>	2-wire latch	6	-6	6	2.7 to 24	-40 to +150	UA

Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX92221LUA-BAA-105</b>	2-wire latch	1.8	-1.8	6	2.7 to 24	-40 to +150	UA
<b>MLX92231LSE-AAA-003</b>	3-wire switch	33	27	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-004</b>	3-wire switch	-5.5	-3.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-005</b>	3-wire switch	26	20	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-007</b>	3-wire switch	26	20	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-009</b>	3-wire switch	3.5	2.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-010</b>	3-wire switch	10	8.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-011</b>	3-wire switch	40	34	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-012</b>	3-wire switch	15	12	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-013</b>	3-wire switch	3.5	2.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-014</b>	3-wire switch	5.5	3.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-016</b>	3-wire switch	9.72	8.32	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-017</b>	3-wire switch	11.7	10.3	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-018</b>	3-wire switch	16.2	14.2	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-019</b>	3-wire switch	23	21	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-021</b>	3-wire switch	5.5	3.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-022</b>	3-wire switch	10	8.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-023</b>	3-wire switch	43	41	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-025</b>	3-wire switch	50	48	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-026</b>	3-wire switch	23	21	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-027</b>	3-wire switch	3.5	2.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-028</b>	3-wire switch	-3.5	-2.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-029</b>	3-wire switch	15	14	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-030</b>	3-wire switch	26	20	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-031</b>	3-wire switch	-13.5	-8.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-032</b>	3-wire switch	23	21	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-033</b>	3-wire switch	18	12.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-036</b>	3-wire switch	26	24	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-038</b>	3-wire switch	27	26	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LSE-AAA-040</b>	3-wire switch	66	50	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LSE-AAA-041</b>	3-wire switch	10.2	8.4	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LSE-AAA-042</b>	3-wire switch	51	41	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LSE-AAA-045</b>	3-wire switch	20	15	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LSE-AAA-046</b>	3-wire switch	13	12	3	2.7 to 24	-40 to +150	UA

# MAGNETIC - HALL / Hall Switch - Latch



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX92231LSE-AAA-204</b>	3-wire switch	6.5	5.5	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LSE-ABA-004</b>	3-wire switch	-5.5	-3.5	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92231LUA-AAA-020</b>	3-wire switch	3.5	2.5	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LUA-AAA-034</b>	3-wire switch	5.5	3.5	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LUA-AAA-035</b>	3-wire switch	28.2	26	3	2.7 to 24	-40 to +150	UA
<b>MLX92231LUA-AAA-039</b>	3-wire switch	13.5	8.5	3	2.7 to 24	-40 to +150	UA
<b>MLX92232LSE-AAA-000</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92232LSE-AAA-001</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92232LSE-AAA-002</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92232LSE-AAA-003</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92232LSE-AAA-200</b>	Progr. 3-wire latch/switch	-40	40	3	2.7 to 24	-40 to +150	TSOT
<b>MLX92232LUA-AAA-000</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	UA
<b>MLX92232LUA-AAA-001</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	UA
<b>MLX92232LUA-AAA-002</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	UA
<b>MLX92232LUA-AAA-003</b>	Progr. 3-wire latch/switch	-80	80	3	2.7 to 24	-40 to +150	UA
<b>MLX92232LVA-AAA-000</b>	Progr. dual hall latch/switch	-80	80	3	2.7 to 24	-40 to +150	VA
<b>MLX92241LSE-AAA-008</b>	2-wire switch	17	15	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-011</b>	2-wire switch	5.5	3.5	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-012</b>	2-wire switch	5.5	3.5	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-013</b>	2-wire switch	9.2	7.2	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-014</b>	2-wire switch	9.2	7.2	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-015</b>	2-wire switch	9.2	7.2	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-016</b>	2-wire switch	5.5	3.5	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-017</b>	2-wire switch	9.2	7.2	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-AAA-018</b>	2-wire switch	9.2	7.2	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-007</b>	2-wire switch	15	14	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-019</b>	2-wire switch	9.2	7.2	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-020</b>	2-wire switch	9.2	7.2	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-021</b>	2-wire switch	9.2	7.2	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-022</b>	2-wire switch	-8	-5	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-023</b>	2-wire switch	-8	-5	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-024</b>	2-wire switch	8.7	7.3	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-025</b>	2-wire switch	-6	-4	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LSE-BAA-027</b>	2-wire switch	10	4	3.3	2.7 to 24	-40 to +150	TSOT

Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX92241LSE-BAA-029</b>	2-wire switch	9.2	7.2	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LUA-AAA-003</b>	2-wire switch	8	5	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-AAA-004</b>	2-wire switch	9.2	7.2	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-AAA-005</b>	2-wire switch	9.2	7.2	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-AAA-006</b>	2-wire switch	8	5	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-AAA-007</b>	2-wire switch	5.5	3.5	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-AAA-028</b>	2-wire switch	20	18	6	2.7 to 24	-40 to +150	TSOT
<b>MLX92241LUA-BAA-026</b>	2-wire switch	8.5	7.5	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-101</b>	2-wire switch	16	15	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-102</b>	2-wire switch	3.2	2.8	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-103</b>	2-wire switch	6	4	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-104</b>	2-wire switch	8	7	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-106</b>	2-wire switch	4	2.7	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-107</b>	2-wire switch	3.9	3	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-108</b>	2-wire switch	7.9	5.3	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-109</b>	2-wire switch	16	12	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-110</b>	2-wire switch	7.9	5.3	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-111</b>	2-wire switch	3.8	2.6	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-112</b>	2-wire switch	-3.8	2.6	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-113</b>	2-wire switch	7.9	5.3	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-114</b>	2-wire switch	7.9	5.3	6	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-115</b>	2-wire switch	8	5	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92241LUA-BAA-116</b>	2-wire switch	20	18	6	2.7 to 24	-40 to +150	UA
<b>MLX92242LSE-AAA-000</b>	Progr. 2-wire latch/switch	-100	100	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92242LSE-AAA-200</b>	Progr. 2-wire latch/switch	-40	40	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92242LUA-AAA-000</b>	Progr. 2-wire latch/switch	-100	100	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92242LUA-AAA-100</b>	Progr. 2-wire latch/switch	-100	100	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92242LUA-AAA-200</b>	Progr. 2-wire latch/switch	-40	40	3.3	2.7 to 24	-40 to +150	TSOT
<b>MLX92242LUA-AAA-300</b>	Progr. 2-wire latch/switch	-40	40	3.3	2.7 to 24	-40 to +150	UA
<b>MLX92251LSE-AAA-000</b>	Dual hall latch	7.5	-7.5	4.5	2.7 to 24	-40 to +150	TSOT
<b>MLX92251LSE-ABA-000</b>	Dual hall latch	2.5	-2.5	4.5	2.7 to 24	-40 to +150	TSOT
<b>MLX92255LSE-AAA-000</b>	Dual hall latch	3	-3	5	2.7 to 24	-40 to +150	TSOT
<b>MLX92256LSE-AAA-000</b>	Dual hall latch	2	-2	3.5	2.7 to 24	-40 to +150	TSOT
<b>MLX92256LSE-ABA-000</b>	Dual hall latch	2	-2	3.5	2.7 to 24	-40 to +150	TSOT

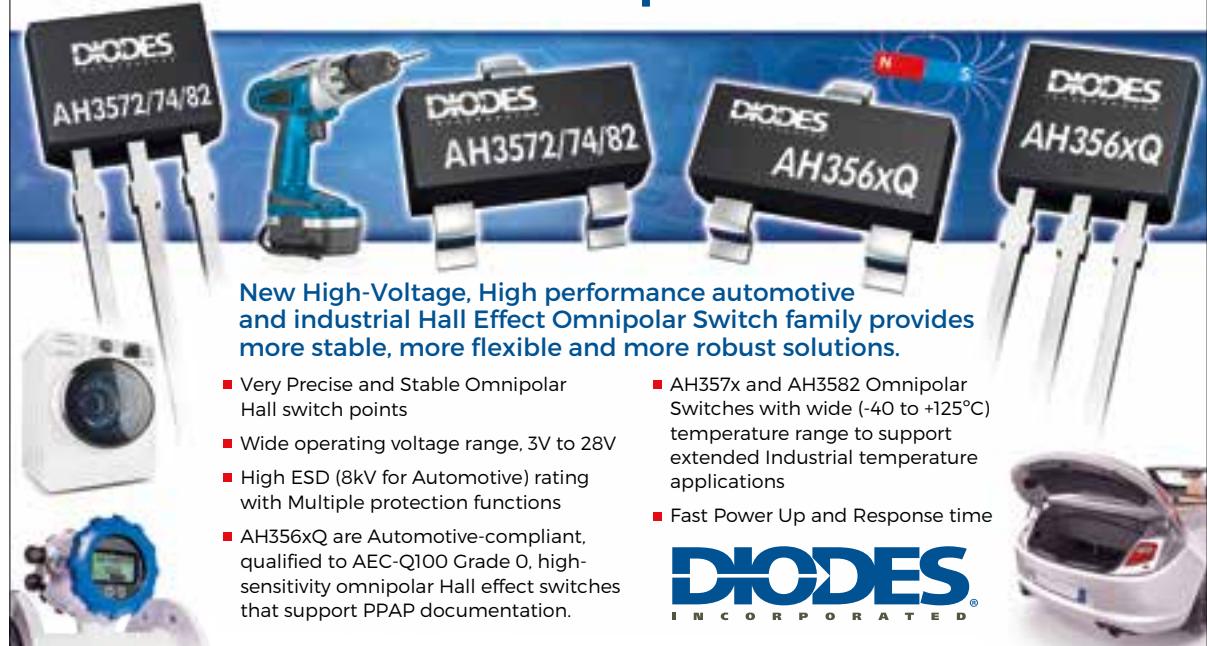
## MAGNETIC - HALL / Hall Switch - Latch



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX92291LSE-AAA-003</b>	3-wire switch	4.15	3.15	5	3.3 to 18	-40 to +150	TSOT
<b>MLX92291LSE-AAA-004</b>	3-wire switch	5.5	4.5	5	3.3 to 18	-40 to +150	TSOT
<b>MLX92291LSE-AAA-200</b>	3-wire switch	8.8	8.5	5	3.3 to 18	-40 to +150	TSOT
<b>MLX92291LSE-AAA-201</b>	3-wire switch	8.8	8.5	5	3.3 to 18	-40 to +150	TSOT
<b>MLX92291LSE-AAA-202</b>	3-wire switch	5.4	4.4	5	3.3 to 18	-40 to +150	TSOT
<b>MLX92292LDC-AAA-000</b>	Progr. dual hall latch/switch	-90	90	PROGRAMMABLE	3.3 to 18	-40 to +150	SOIC8
<b>MLX92292LSE-AAA-000</b>	Progr. 3-wire latch/switch	-90	90	PROGRAMMABLE	3.3 to 18	-40 to +150	TSOT
<b>MLX92292LSE-AAA-200</b>	Progr. 3-wire latch/switch	-40	40	PROGRAMMABLE	3.3 to 18	-40 to +150	TSOT
<b>MLX92292LUA-AAA-000</b>	Progr. 3-wire latch/switch	-90	90	PROGRAMMABLE	3.3 to 18	-40 to +150	UA
<b>US1881ESE-AAA-000</b>	3-wire latch	5	-5	3	3.5 to 24	-40 to +85	TSOT
<b>US1881EUA-AAA-000</b>	3-wire latch	5	-5	3	3.5 to 24	-40 to +85	UA
<b>US1881LSE-AAA-000</b>	3-wire latch	5	-5	3	3.5 to 24	-40 to +150	TSOT
<b>US1881LUA-AAA-000</b>	3-wire latch	5	-5	3	3.5 to 24	-40 to +150	UA
<b>US1883LUA-AAA-000</b>	3-wire latch	14	-14	3	3.5 to 24	-40 to +150	UA
<b>US2881ESE-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +85	TSOT
<b>US2881EUA-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +85	UA
<b>US2881LSE-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +150	TSOT
<b>US2881LUA-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +150	UA
<b>US2882ESE-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +85	TSOT
<b>US2882EUA-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +85	UA
<b>US2882LSE-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +150	TSOT
<b>US2882LUA-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +150	UA
<b>US2884LSE-AAA-000</b>	3-wire latch	3	-3	3	3.5 to 24	-40 to +150	TSOT
<b>US3881ESF-AAA-000</b>	3-wire latch	5	-5	3	2.2 to 18	-40 to +85	TSOT
<b>US3881EUA-AAA-000</b>	3-wire latch	5	-5	3	2.2 to 18	-40 to +85	UA
<b>US3881LSE-AAA-000</b>	3-wire latch	5	-5	3	2.2 to 18	-40 to +150	TSOT
<b>US3881LUA-AAA-000</b>	3-wire latch	5	-5	3	2.2 to 18	-40 to +150	UA
<b>US4881ESE-AAA-000</b>	3-wire latch	3	-3	3	2.2 to 18	-40 to +85	TSOT
<b>US4881EUA-AAA-000</b>	3-wire latch	3	-3	3	2.2 to 18	-40 to +85	UA
<b>US4881LSE-AAA-000</b>	3-wire latch	3	-3	3	2.2 to 18	-40 to +150	TSOT
<b>US4881LUA-AAA-000</b>	3-wire latch	3	-3	3	2.2 to 18	-40 to +150	UA
<b>US5681ESE-AAA-000</b>	3-wire switch	3.5	5.5	3	3.5 to 24	-40 to +85	TSOT
<b>US5681KSE-AAA-000</b>	3-wire switch	3.5	5.5	3	3.5 to 24	-40 to +125	TSOT
<b>US5682ESE-AAA-000</b>	3-wire switch	3.5	5.5	3	3.5 to 24	-40 to +85	TSOT
<b>US5682KSE-AAA-000</b>	3-wire switch	3.5	5.5	3	3.5 to 24	-40 to +125	TSOT

Part Number	Type	Operating Point B <sub>op</sub> (mT)	Release Point B <sub>rp</sub> (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>US5683ESE-AAA-000</b>	3-wire switch	3.5	5.5	3	3.5 to 24	-40 to +85	TSOT
<b>US5683KSE-AAA-000</b>	3-wire switch	3.5	5.5	3	3.5 to 24	-40 to +125	TSOT
<b>US5781ESE-AAA-000</b>	3-wire switch	7.5	12	3	3.5 to 24	-40 to +85	TSOT
<b>US5781EUA-AAA-000</b>	3-wire switch	7.5	12	3	3.5 to 24	-40 to +85	UA
<b>US5781LSE-AAA-000</b>	3-wire switch	7.5	12	3	3.5 to 24	-40 to +150	TSOT
<b>US5781LUA-AAA-000</b>	3-wire switch	7.5	12	3	3.5 to 24	-40 to +150	UA
<b>US5782ESE-AAA-000</b>	3-wire switch	7.5	12	3	3.5 to 24	-40 to +85	TSOT
<b>US5782LSE-AAA-000</b>	3-wire switch	7.5	12	3	3.5 to 24	-40 to +150	TSOT
<b>US5881ESE-AAA-000</b>	3-wire switch	20	25	3	3.5 to 24	-40 to +85	TSOT
<b>US5881EUA-AAA-000</b>	3-wire switch	20	25	3	3.5 to 24	-40 to +85	UA
<b>US5881KSE-AAA-000</b>	3-wire switch	20	25	3	3.5 to 24	-40 to +125	TSOT
<b>US5881LSE-AAA-000</b>	3-wire switch	20	25	3	3.5 to 24	-40 to +150	TSOT
<b>US5881LUA-AAA-000</b>	3-wire switch	20	25	3	3.5 to 24	-40 to +150	UA

## Automotive-Compliant & Industrial Hall Effect Omnipolar Switches



New High-Voltage, High performance automotive and industrial Hall Effect Omnipolar Switch family provides more stable, more flexible and more robust solutions.

- Very Precise and Stable Omnipolar Hall switch points
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- AH356xQ are Automotive-compliant, qualified to AEC-Q100 Grade 0, high-sensitivity omnipolar Hall effect switches that support PPAP documentation.
- AH357x and AH3582 Omnipolar Switches with wide (-40 to +125°C) temperature range to support extended Industrial temperature applications
- Fast Power Up and Response time

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## MAGNETIC - HALL / Hall Switch - Latch



Part Number	Type	Operating Point Bop (mT)	Release Point Brp (mT)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BU52072GWZ</b>	Omnipolar w/ Polarity Discrimination	2.4	2	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52073GWZ</b>	Omnipolar w/ Polarity Discrimination	4.1	3.3	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52074GWZ</b>	Omnipolar w/ Polarity Discrimination	6.3	5.4	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52092GWZ</b>	Omnipolar	2.4	2	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52095GWZ</b>	Omnipolar	9.5	8.6	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52097GWZ</b>	Omnipolar	15	14.1	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52098GWZ</b>	Omnipolar	24	22.4	0.0044	1.65 to 3.6	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4
<b>BU52177GXZ</b>	Omnipolar w/ Polarity Discrimination	15	14.1	0.005	1.65 to 3.6	-40 to +85	XCSP30L1 (CSP 4-Ball) 0.65 x 0.65 x 0.33
<b>BU52272NUZ</b>	Omnipolar w/ Polarity Discrimination	2.4	2	0.0044	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52273NUZ</b>	Omnipolar w/ Polarity Discrimination	4.1	3.3	0.0044	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52274NUZ</b>	Omnipolar w/ Polarity Discrimination	6.3	5.4	0.0044	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52472NUZ</b>	Omnipolar w/ Polarity Discrimination	2.4	2	0.0044	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52492NUZ</b>	Omnipolar	2.4	2	0.0042	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52493NUZ</b>	Omnipolar	4.1	3.3	0.0042	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52494NUZ</b>	Omnipolar	6.3	5.4	0.0042	1.65 to 3.6	-40 to +85	VSON04Z1114A (4-pin) 1.1 x 1.4 x 0.4
<b>BU52792GWZ</b>	Omnipolar	2.4	2	0.0032	2.7 to 5.5	-40 to +85	UCSP35L1 (CSP 4-Ball) 0.8 x 0.8 x 0.4

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Part Number	Output Voltage Range (V)	Sensitivity (mV/mT)	Magnetic Field Range (mT)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>AS5304</b>	0 to 5	–	5 to 60	5.0	35.0	-40 to +125	TSSOP-20 6.5 x 6.4 x 1.2
<b>AS5306</b>	0 to 5	–	5 to 60	5.0	30.0	-40 to +125	TSSOP-20 6.5 x 6.4 x 1.2
<b>AS5311</b>	0 to 5	–	10 to 40	3.3 or 5.0	21.0	-40 to +125	TSSOP-20 300 x 10 x 1.3
<b>AS5510</b>	0 to 3.6	-50 to +50	10 to 50	3.0	3.5	-30 to +85	TSSOP-20 6.5 x 6.4 x 1.2



Part Number	Output Voltage Range (V)	Sensitivity (mV/mT)	Magnetic Field Range (mT)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>AH49F</b>	0.8 to ( $V_{CC}$ - 0.8)	0.210	$\pm 80$	3 to 8	3	-40 to +105	U-DFN2020-6, SC59, T092
<b>AH8500</b>	1.6 to 3.6	0.225	$\pm 43$	1.6 to 3.6	12uA @ 20Hz	-40 to +85	U-DFN2020-6
<b>AH8501</b>	1.6 to 3.6	0.210	$\pm 40$	1.6 to 3.6	12uA @ 20Hz	-40 to +85	U-DFN2020-6
<b>AH8502</b>	1.6 to 3.6	0.225	$\pm 43$	1.6 to 3.6	13uA	-40 to +85	U-DFN2020-6
<b>AH8503</b>	1.6 to 3.6	0.210	$\pm 40$	1.6 to 3.6	13uA	-40 to +85	U-DFN2020-6



Part Number	Output Voltage Range (V)	Sensitivity (mV/mT)	Magnetic Field Range (mT)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>TLE4997E2XALA1</b>	5% to 95% of $V_{DD}$	60 (typical)	-200 to +200	4.5 to 5.5	7.5	-40 to +150	SSO-3
<b>TLE4998P3XALA1</b>	5% to 95% of $V_{DD}$	60 (typical)	-200 to +200	4.5 to 5.5	6	-40 to +150	SSO-3
<b>TLE4997A8DXUMA1</b>	5% to 95% of $V_{DD}$	$\pm 12.5$ to $\pm 300$ (programmable)	$\pm 50$ to $\pm 200$ (programmable)	4.5 to 5.5	7.5	-40 to +125	TDSO-8
<b>TLE4997A8XUMA1</b>	5% to 95% of $V_{DD}$	$\pm 12.5$ to $\pm 300$ (programmable)	$\pm 50$ to $\pm 200$ (programmable)	4.5 to 5.5	7.5	-40 to +125	TDSO-8
<b>TLE4998C3XALA1</b>	5% to 95% of $V_{DD}$	$\pm 8.2$ to $\pm 245$ (programmable)	$\pm 50$ to $\pm 200$ (programmable)	4.5 to 5.5	8	-40 to +150	SSO-3-10

## MAGNETIC - HALL / Linear Hall IC



Part Number	Output Voltage Range (V)	Sensitivity (mV/mT)	Magnetic Field Range (mT)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90215EVA-AAA-106	5	10.0	20 to 500	5	4	-40 to +85	SIP4
MLX90215LVA-AAA-111	5	10.0	20 to 500	5	4	-40 to +150	SIP4
MLX90251EVA-FAA-000	5	12.5	166 to 400	5	7	-40 to +85	SIP4
MLX90251EVA-FAA-100	5	20.0	71 to 250	5	7	-40 to +85	SIP4
MLX90251EVA-FAA-200	5	36.2	27 to 138	5	7	-40 to +85	SIP4
MLX90251EVA-FAA-300	5	100.0	11 to 50	5	7	-40 to +85	SIP4
MLX90251LVA-FAA-000	5	12.5	166 to 400	5	7	-40 to +150	SIP4
MLX90251LVA-FAA-100	5	20.0	71 to 250	5	7	-40 to +150	SIP4
MLX90251LVA-FAA-200	5	36.2	27 to 138	5	7	-40 to +150	SIP4
MLX90251LVA-FAA-300	5	100.0	11 to 50	5	7	-40 to +150	SIP4
MLX90288LDC-CAB-000	5	7.7	6 to 650	5	8.8	-40 to +150	SOIC8
MLX90290LUA-AAA-500	5	37.6	133 to 133	5	5	-40 to +150	T0-92-3L
MLX90290LUA-AAA-510	5	50.0	100 to 100	5	5	-40 to +150	T0-92-3L
MLX90290LUA-AAA-540	5	200.0	25 to 25	5	5	-40 to +150	T0-92-3L
MLX90290LUA-AAA-622	5	62.5	80 to 80	5	5	-40 to +150	T0-92-3L
MLX90290LSE-AAA-511	5	50.0	100 to 100	5	5	-40 to +150	TSOT-3L
MLX90291KDC-BCA-000	5	12.5	15 to 400	5	8	-40 to +125	SOIC8
MLX90293LDC-ADM-000	5	12.5	7 to 400	5	8	-40 to +150	SOIC8
MLX90293LGO-ADM-000	5	12.5	7 to 400	5	16	-40 to +150	TSSOP16

## MAGNETIC - HALL / Magnetometer



Invented for life

Part Number	Sensing Range (gauss)	Sensing Axis	Sensitivity (LSB / gauss)	Output Interface	Output Noise (mgauss RMS)	Supply Voltage (V)	Supply Current (µA Max)	Operating Temperature (°C)	Package Type / Size (mm)
BMM150	±13 (x,y-axis) ±25 (z-axis)	X, Y, Z	± 0.01	I <sup>2</sup> C and SPI (2 interrupt pins)	x, y-axis: 1.0 µTz-axis: 1.4 µT	V <sub>DD</sub> 1.62 to 3.6 V <sub>DIO</sub> 1.2 to 3.6	170 µA (low-power preset); 500 µA (normal mode)	-40 to +85	CSWLP- (12-pin) 1.56 × 1.56 × 0.6 0.4 mm diagonal ball pitch



Part Number	Sensing Range (gauss)	Sensing Axis	Sensitivity (LSB / z)	Output Interface	Output Noise (mgauss RMS)	Supply Voltage (V)	Supply Current (µA Max)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90393SLW-ABA-011	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393ELW-ABA-011	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393SLW-ABA-012	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393ELW-ABA-012	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393SLW-ABA-013	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393ELW-ABA-013	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393SLW-ABA-014	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16
MLX90393ELW-ABA-014	50 to 500	X, Y, Z, T	5 to 50	SPI, I <sup>2</sup> C	–	2.2 to 3.6	3	-20 to +85	QFN16



Part Number	Sensing Range (Gauss)	Sensing Axis	Sensitivity (LSB / Gauss)	Output Interface	Output Noise (mGauss RMS)	Supply Voltage (V)	Supply Current ( $\mu$ A Max)	Operating Temperature (°C)	Package Type / Size (mm)
LIS3MDLTR	$\pm 4, \pm 8, \pm 12, \pm 16$	X, Y, Z	0.15	I <sup>2</sup> C, SPI	3.5	1.9 to 3.6	270	-40 to +85	LGA-12.2 x 2 x 1
LIS2MDLTR	$\pm 50$	X, Y, Z	1.5	I <sup>2</sup> C, SPI	3	1.71 to 3.6	200	-40 to +85	LGA-12.2 x 2 x 0.7 max
HS2MDCTR	$\pm 50$	X, Y, Z	1.5	I <sup>2</sup> C, SPI	3	1.71 to 3.6	25	-40 to +85	LGA-12.2 x 2 x 0.7 max

## MAGNETIC - HALL / AMR Sensors



Part Number	Type	Operating Magnetic Field On (mT)	Operating Magnetic Field off (mT)	Current Consumption	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
MRMS201A-001	Magnetic AMR Sensor	Max 2.5mT	Min 0.5mT	5.0 $\mu$ A	1.6 to 3.5	-40 to +125	2.9 x 2.8 x 1.1
MRMS205A-001	Magnetic AMR Sensor	Max 2.5mT	Min 0.5mT	8.0 $\mu$ A	3.0 to 5.5	-40 to +125	2.9 x 2.8 x 1.1
MRMS501A-001	Magnetic AMR Sensor	Max 2.5mT	Min 0.5mT	3.0 $\mu$ A	1.6 to 3.5	-40 to +125	1.45 x 1.45 x 0.55
MRMS511X-001	Magnetic AMR Sensor	Max 2.0mT	Max 0.8mT	3.0 $\mu$ A	1.6 to 3.5	-40 to +125	1.45 x 1.45 x 0.55

## Murata Sensor Solutions

Offers a wide selection of MEMS, ceramic and magnetoresistive options

Murata pursues sensing functions, making full use of MEMS, processing technology and magnetoresistive elements, including ceramic material technology, in order to develop highly efficient and highly reliable devices, modules and systems.

Murata Sensor products include MEMS sensors (accelerometers, inclinometers, gyro), IR, ultrasonic, thermistors (PTC & NTC), shock, AMR and rotary position to name a few.

A vast lineup of sensors respond to the various needs of automobile, industrial, wearable, IoT, medical care and health care applications.

So whether you need temperature/current sensing, detection, pressure, distance or angle measuring – Murata has innovative sensing solutions to enable your next innovation.





## OCCUPANCY - MOTION

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Part Number	Lens Type (Field of View Angle)	Detection Distance	# of Detection Zones	Output Type	Detection Sensitivity	Current Consumption (µA)	Supply Voltage (V)	Package Type / Size (mm)
<b>IRA-S210ST01</b>	90	<5 meters	2	Analog	4.6mV	Depends on Driver	2 to 15	T05 can
<b>IRA-S230ST01</b>	90	<5 meters	2	Analog	4.6mV	Depends on Driver	2 to 15	T05 can
<b>IRA-S410ST01</b>	76 x 90	<5 meters	4	Analog	7.0mV	Depends on Driver	2 to 15	T05 can
<b>IRA-S510ST01</b>	88	<5 meters	4	Analog	3.3mV	Depends on Driver	2 to 15	T05 can

## Panasonic

Part Number	Lens Type (Field of View Angle)	Detection Distance	# of Detection Zones	Output Type	Detection Sensitivity	Current Consumption (µA)	Supply Voltage	Package Type / Size (mm)
<b>EKMC160111*</b>	Standard (106° x 97°)	5 meters	64	Digital	Standard	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC460111*K</b>	Standard (106° x 97°)	5 meters	64	Digital	High Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC760111*K</b>	Standard (106° x 97°)	5 meters	64	Digital	Low Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC260111*K</b>	Standard (106° x 97°)	5 meters	64	Analog	User Controlled	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB110111*</b>	Standard (106° x 97°)	5 meters	64	Digital	Standard	1µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB120111*</b>	Standard (106° x 97°)	5 meters	64	Digital	Standard	2µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB130111*K</b>	Standard (106° x 97°)	5 meters	64	Digital	Standard	6µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC160311*</b>	Long Distance (108° x 99°)	12 meters	92	Digital	Standard	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC460311*K</b>	Long Distance (108° x 99°)	12 meters	92	Digital	Double Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC760311*K</b>	Long Distance (108° x 99°)	12 meters	92	Digital	Half Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC260311*K</b>	Long Distance (108° x 99°)	12 meters	92	Analog	User Controlled	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB110311*</b>	Long Distance (108° x 99°)	12 meters	92	Digital	Standard	1µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB120311*</b>	Long Distance (108° x 99°)	12 meters	92	Digital	Standard	2µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB130311*</b>	Long Distance (108° x 99°)	12 meters	92	Digital	Standard	6µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC160611*</b>	High Density Long Distance (62° x 62°)	17 meters	128	Digital	Standard	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC460611*K</b>	High Density Long Distance (62° x 62°)"	17 meters	128	Digital	Double Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC760611*K</b>	High Density Long Distance (62° x 62°)	17 meters	128	Digital	Half Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC260611*K</b>	High Density Long Distance (62° x 62°)	17 meters	128	Analog	User Controlled	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB110611*</b>	High Density Long Distance (62° x 62°)	17 meters	128	Digital	Standard	1µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB120611*</b>	High Density Long Distance (62° x 62°)	17 meters	128	Digital	Standard	2µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB130611*K</b>	High Density Long Distance (62° x 62°)	17 meters	128	Digital	Standard	6µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC160511*</b>	Wide Field of View (150° x 35°)	5 meters	104	Digital	Standard	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC460511*K</b>	Wide Field of View (150° x 35°)	5 meters	104	Digital	Double Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC760511*K</b>	Wide Field of View (150° x 35°)	5 meters	104	Digital	Half Sensitivity	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC260511*K</b>	Wide Field of View (150° x 35°)	5 meters	104	Analog	User Controlled	170µA	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB110511*</b>	Wide Field of View (150° x 35°)	5 meters	104	Digital	Standard	1µA	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)

\*Note: 1 = White, 2 = Black, 3 = Pearl White

# Panasonic

Part Number	Lens Type (Field of View Angle)	Detection Distance	# of Detection Zones	Output Type	Detection Sensitivity	Current Consumption ( $\mu$ A)	Supply Voltage	Package Type / Size (mm)
<b>EKMB120511*</b>	Wide Field of View (150° x 35°)	5 meters	104	Digital	Standard	2 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB130511*K</b>	Wide Field of View (150° x 35°)	5 meters	104	Digital	Standard	6 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC169111*</b>	Slight Motion (97° x 97°)	2.5 meters	112	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC469111*K</b>	Slight Motion (97° x 97°)	2.5 meters	112	Digital	Double Sensitivity	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC769111*K</b>	Slight Motion (97° x 97°)	2.5 meters	112	Digital	Half Sensitivity	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC269111*K</b>	Slight Motion (97° x 97°)	2.5 meters	112	Analog	User Controlled	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB119111*</b>	Slight Motion (97° x 97°)	2.5 meters	112	Digital	Standard	1 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB129111*</b>	Slight Motion (97° x 97°)	2.5 meters	112	Digital	Standard	2 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB139111*K</b>	Slight Motion (97° x 97°)	2.5 meters	112	Digital	Standard	6 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC160411*</b>	Wall Installation (105° x 40°)	12 meters	68	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC460411*K</b>	Wall Installation (105° x 40°)	12 meters	68	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC760411*K</b>	Wall Installation (105° x 40°)	12 meters	68	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC260411*K</b>	Wall Installation (105° x 40°)	12 meters	68	Analog	User Controlled	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB110411*</b>	Wall Installation (105° x 40°)	12 meters	68	Digital	Standard	1 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB120411*</b>	Wall Installation (105° x 40°)	12 meters	68	Digital	Standard	2 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB130411*K</b>	Wall Installation (105° x 40°)	12 meters	68	Digital	Standard	6 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC169311*</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC469311*K</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC769311*K</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Digital	Standard	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMC269311*K</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Analog	User Controlled	170 $\mu$ A	3 to 6 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB119311*</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Digital	Standard	1 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB129311*</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Digital	Standard	2 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)
<b>EKMB139311*K</b>	Saturn (44° x 44°) Slight Motion (90° x 90°) Standard Motion	2.2 meters	84	Digital	Standard	6 $\mu$ A	2.3 to 4 V <sub>DC</sub>	TO-5 Metal Can (through-hole)

\*Note: 1 = White, 2 = Black, 3 = Pearl White



Hall Effect Sensors with  
Market-Leading Performance for  
Automotive and Industrial Markets



Part Number	Pixel Array	Output Interface	Detection Range (m)	Field of View (deg)	Object Temperature Range (°C)	Current Consumption (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90621ESF-BAA-000</b>	16 x 4	I <sup>2</sup> C	5	120 x 25	-40 to +300	9	2.5 to 3.3	-40 to +85	TO-39 / 5.51(h) x 9.3(d)
<b>MLX90621ESF-BAB-000</b>	16 x 4	I <sup>2</sup> C	10	60 x 15	-40 to +300	9	2.5 to 3.4	-40 to +85	TO-39 / 11.15(h) x 9.3(d)
<b>MLX90621ESF-BAD-000</b>	16 x 4	I <sup>2</sup> C	12	40 x 10	-40 to +300	9	2.5 to 3.5	-40 to +85	TO-39 / 14.15(h) x 9.3(d)
<b>MLX90640ESF-BAA-000</b>	32 x 24	I <sup>2</sup> C	5	110 x 75	-40 to +300	15	2.9 to 3.6	-40 to +85	TO-39 / 5.7(h) x 9.3(d)
<b>MLX90640ESF-BAB-000</b>	32 x 24	I <sup>2</sup> C	10	55 x 40	-40 to +300	15	2.9 to 3.6	-40 to +85	TO-39 / 11.25(h) x 9.3(d)
<b>MLX90641ESF-BCA-000</b>	16 x 12 (192)	I <sup>2</sup> C	5	110 x 75	-40 to +300	12	3 to 3.6	-40 to +125	TO-39 / 5.7(h) x 9.3(d)
<b>MLX90641ESF-BCB-000</b>	16 x 12 (192)	I <sup>2</sup> C	10	55 x 40	-40 to +300	12	3 to 3.6	-40 to +125	TO-39 / 11.25(h) x 9.3(d)
<b>MLX90641KSF-BCA-000</b>	16 x 12 (192)	I <sup>2</sup> C	5	110 x 75	-40 to +300	12	3 to 3.6	-40 to +125	TO-39 / 5.7(h) x 9.3(d)
<b>MLX90641KSF-BCB-000</b>	16 x 12 (192)	I <sup>2</sup> C	10	55 x 40	-40 to +300	12	3 to 3.6	-40 to +125	TO-39 / 11.25(h) x 9.3(d)

## Panasonic

Part Number	Pixel Array	Output Interface	Detection Range (m)	Field of View (deg)	Object Temperature Range (°C)	Current Consumption (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>AMG8833</b>	64 (8 x 8)	I <sup>2</sup> C	7	60 x 60	0 to +80	4.5	3.3	-20 to +80	11.6 x 8.0 x 4.3
<b>AMG8834</b>	64 (8 x 8)	I <sup>2</sup> C	7	60 x 60	-20 to +100	4.5	3.3	-20 to +80	11.6 x 8.0 x 4.3
<b>AMG8853</b>	64 (8 x 8)	I <sup>2</sup> C	7	60 x 60	0 to +80	4.5	5	-20 to +80	11.6 x 8.0 x 4.3
<b>AMG8854</b>	64 (8 x 8)	I <sup>2</sup> C	7	60 x 60	-20 to +100	4.5	5	-20 to +80	11.6 x 8.0 x 4.3
<b>AMG8854M01</b>	64 (8 x 8)	I <sup>2</sup> C (5-pin connector)	7	35.6 x 35.6	-20 to +100	6	5	-20 to +100	25 x 16 x 6.93

## OCCUPANCY - MOTION / Radar



Part Number	Detection Range (m)	Operating Frequency (GHz)	Output Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BGT24AR2E6433XUMA1</b>	80-100 m @ 400 mW	24.00 to 24.25	90	3.3	-40 to +125	VQFN-32
<b>BGT24AR4E6433XUMA1</b>	80-100 m @ 730 mW	24.00 to 24.25	220	3.3	-40 to +125	VQFN-32
<b>BGT24AT2E6433XUMA1</b>	80-100 m @ 1000 mW	24.00 to 24.25	280	3.3	-40 to +125	VQFN-32
<b>BGT24ATR11E6433XUMA1</b>	80-100 m @ 630 mW	24.00 to 24.25	150	3.3	-40 to +125	VQFN-32
<b>BGT24ATR12E6433XUMA1</b>	80-100 m @ 900 mW	24.00 to 24.25	210	3.3	-40 to +125	VQFN-32
<b>BGT24LTLR11N16E6327XTSA1</b>	20 m @ 180 mW	24.00 to 24.25	45	3.3	-40 to +85	TSNP-16-9
<b>BGT24MR2E6327XUMA1</b>	40 m @ 500 mW	24.00 to 24.25	90	3.3	-40 to +105	VQFN-32
<b>BGT24MTR11E6327XUMA1</b>	40 m @ 500 mW	24.00 to 26.00	150	3.3	-40 to +105	VQFN-32
<b>BGT24MTR12E6327XUMA1</b>	40 m @ 500 mW	24.00 to 24.25	210	3.3	-40 to +105	VQFN-32

RCS= 1m<sup>2</sup> for MR, MTR and LTR products; RCS= 10m<sup>2</sup> for ATR, AT, and AR products; Power rated at continuous wave operation



Part Number	Description	Resolution	Pixel Size (μm)	Frame Rate (fps)	Optical Format	Output Interface	Temperature	Sunlight Robustness	Modulation Frequency	Package Type
<b>MLX75023RTF-BAB-000</b>	Automotive ToF Sensor, without cover tape	320 x 240	15 x 15	150	1/3"	analog	-40 to +105	120klux	12 to 40	GBGA
<b>MLX75023RTF-BAB-001</b>	Automotive ToF Sensor, with cover tape	320 x 240	15 x 15	150	1/3"	analog	-40 to +105	120klux	12 to 40	GBGA
<b>MLX75023STF-BAB-000</b>	ToF Sensor, without cover tap	320 x 240	15 x 15	150	1/3"	analog	-20 to +85	120klux	12 to 40	GBGA
<b>MLX75023STF-BAB-001</b>	ToF Sensor, with cover tap	320 x 240	15 x 15	150	1/3"	analog	-20 to +85	120klux	12 to 40	GBGA
<b>MLX75024RTF-GAA-000</b>	Automotive ToF Sensor, without cover tape	320 x 240	15 x 15	150	1/3"	analog	-40 to +105	120klux	12 to 40	GBGA
<b>MLX75024RTF-GAA-001</b>	Automotive ToF Sensor, with cover tape	320 x 240	15 x 15	150	1/3"	analog	-40 to +105	120klux	12 to 40	GBGA
<b>MLX75024STF-GAA-000</b>	ToF Sensor, without cover tap	320 x 240	15 x 15	150	1/3"	analog	-20 to +85	120klux	12 to 40	GBGA
<b>MLX75024STF-GAA-001</b>	ToF Sensor, with cover tap	320 x 240	15 x 15	150	1/3"	analog	-20 to +85	120klux	12 to 40	GBGA
<b>MLX75123RLA-BAG-000-RE</b>	Automotive ToF Companion Chip	320 x 240	—	150	1/3"	12-bit Parallel with I <sup>C</sup> for control	-40 to +105	120klux	12 to 40	AGFN
<b>MLX75123SLA-BAG-000-RE</b>	ToF Companion Chip	320 x 240	—	150	1/3"	12-bit Parallel with I <sup>C</sup> for control	-40 to +105	120klux	12 to 40	AGFN

\*Note: MLX7502x and MLX7512x must be used together, ToF= Time of Flight

# Panasonic

## Grid-EYE® Infrared Array Sensors

### Grid-EYE® Infrared Array Sensor Narrow Angle Type

- Narrow Angle Field of View Of 35.6 Degrees
- Mount on PCB Board
- Module Type
- Environmentally Friendly
- RoHS and REACH Compliant



### Grid-EYE® Infrared Array Sensor Unit

- Increase the detection area up to 3.8m squared
- Preloaded firmware capable of detecting up to 8 people
- Tracks direction of movement
- Transmits information via RS485 Modbus protocol





## Panasonic's Passive Infrared (PIR) Motion Sensors Product Line Expands Significantly



### EKMB and EKMC Series now include Analog Output, New Lenses, and New Sensitivities for Digital Output

Panasonic introduces its PIR Motion Sensors line extension. High density, long distance lens type has a concentrated detection area to more accurately detect movement at longer distances from 12m to 17m for high bay ceiling installations. Slight Motion Type with wide detection area to cover an entire room with one sensor and can pick up small or slight motions at up to 2.5m distances. Analog Output provides the highest level of control and flexibility allowing the user to adjust sensitivity levels for custom applications. Digital Output with High Sensitivity allows objects to be detected more easily at longer distances without needing a larger lens. Digital Output with Low Sensitivity can be used to shorten detection distance as well as reduce the chance of false triggering.

#### Features and Benefits:

- Wide variety of lenses and various sensitivity types all with the same footprint
- All Panasonic PIRs are the same footprint allowing users to interchange Sensors without redesigning the board
- Plug and play solution saves design time. No additional components needed
- Panasonic PIRs include amplifier and comparator circuitry inside a shielded TO-5 Metal can to protect against EMF noise
- High signal to noise ratio to prevent false triggers
- Available in three colors: White, Black, And Pearl White
- RoHS and REACH Compliant

Visit [na.industrial.panasonic.com](http://na.industrial.panasonic.com) today for details.



SENSORS



## OPTICAL COMBO

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VISHAY®



Part Number	Detection Range (mm)	Output Type	Output Range	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>TSL27721</b>	~45	I <sup>2</sup> C ( $V_{DD}$ )	16-bit	2.4 to 3.6	0.200	-30 to +70	DFN8 2 x 2 x 0.65
<b>TSL27723</b>	~45	I <sup>2</sup> C (1.8V)	16-bit	2.7 to 3.6	0.200	-30 to +70	DFN8 2 x 2 x 0.65
<b>TMD27721</b>	~45	I <sup>2</sup> C ( $V_{DD}$ )	16-bit	2.2 to 3.6	0.195	-30 to +85	MOD8 2.36 x 3.94 x 1.35
<b>TMD27723</b>	~45	I <sup>2</sup> C (1.8V)	16-bit	2.2 to 3.6	0.195	-30 to +85	MOD8 2.36 x 3.94 x 1.35
<b>TMD27253</b>	~15	I <sup>2</sup> C	16-bit	1.7 to 2.0	0.08	-30 to +85	OLGA8 2 x 3.65 x 1
<b>TSL27403</b>	~10	I <sup>2</sup> C	16-bit	1.7 to 2.0	0.09	-30 to +85	QFN10 2 x 2 x 0.5
<b>TMD27253</b>	~15	I <sup>2</sup> C	16-bit	1.7 to 2.0	0.105	-30 to +85	MOD8 2 x 3.65 x 1



Part Number	Detection Range (mm)	Output Type	Output Range	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>VCNL4010</b>	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.005	-25 to +85	SMD 3.9 x 3.9 x 0.7
<b>VCNL4020</b>	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.005	-25 to +85	SMD 4.9 x 2.4 x 0.8
<b>VCNL4020X01</b>	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.005	-40 to +105	SMD 4.9 x 2.4 x 0.8
<b>VCNL4040M30E</b>	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.3	-40 to +85	SMD 4.0 x 2.0 x 1.1
<b>VCNL4200</b>	1500	I <sup>2</sup> C	12 or 16-bit	2.5 to 3.6	0.35	-40 to +85	SMD 8.0 x 3.0 x 1.8

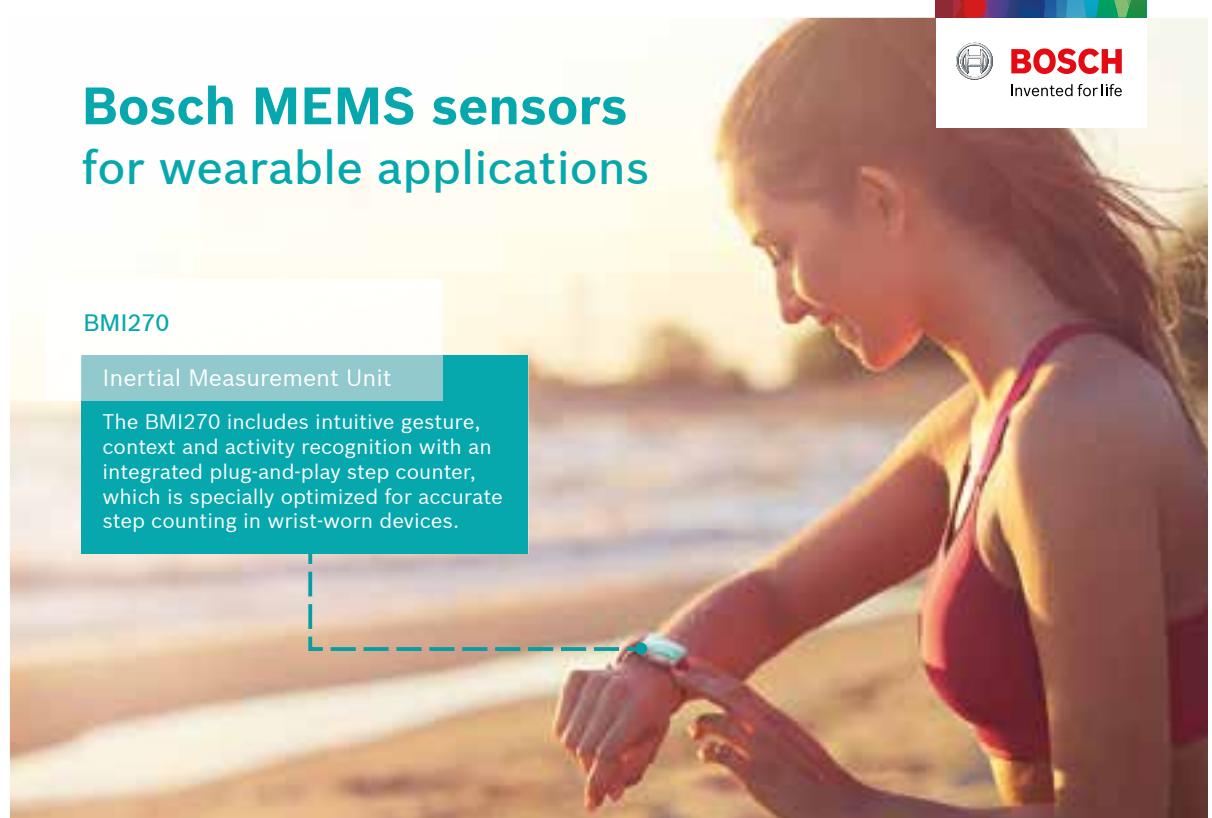
## Bosch MEMS sensors for wearable applications



### BMI270

#### Inertial Measurement Unit

The BMI270 includes intuitive gesture, context and activity recognition with an integrated plug-and-play step counter, which is specially optimized for accurate step counting in wrist-worn devices.





A black and white collage of various technological components and scenes. It includes a robotic arm with multiple grippers, a woman wearing a VR headset, a car's gear shifter, and a pair of white earbuds. The central focus is a large blue circle containing the product title.

# DIGITAL — AND — ANALOG SENSORS

PROXIMITY 1.5 METER | AMBIENT LIGHT | UV LIGHT  
HEART RATE | TRANSMISSIVE | PROXIMITY 0.2 METER  
COLOR | IR LIGHT | GESTURES | PRESENCE

## OPTICAL COMBO / Gesture, Color, Proximity and Ambient Light



Part Number	Integrated Gesture Control	Maximum Proximity Range (cm)	ALS Dynamic Range (Lux)	Integrated Color Sensing	Output Interface	Supply Voltage (V)	Temperature Range (°C)	Package Type / Size (mm)
<b>TMG39921</b>	Yes	~15	60,000	Yes	I <sup>2</sup> C (V <sub>DD</sub> )	2.4 to 3.6	-30 to +85	MOD8 2 x 3.94 x 1.35
<b>TMG39923</b>	Yes	~15	60,000	Yes	I <sup>2</sup> C (1.8V)	2.4 to 3.6	-30 to +85	MOD8 2 x 3.94 x 1.35
<b>TMG49033</b>	Yes	~15	100,000	Yes	I <sup>2</sup> C	1.7 to 2.0	-30 to +85	MOD8 2 x 5 x 1
<b>TCS37727</b>	No	~45	60,000	Yes	I <sup>2</sup> C	2.7 to 3.6	-30 to +70	DFN 2 x 2.4 x 0.65
<b>TMD49033</b>	No	~15	100,000	Yes	I <sup>2</sup> C	1.7 to 2.0	-30 to +85	MOD8 2 x 5 x 1
<b>TMD3725</b>	No	~15	60,000	Yes	I <sup>2</sup> C	1.7 to 2.0	-30 to +85	OLGA8 2 x 3.65 x 1
<b>TMD37024VC</b>	No	~15	60,000	Yes	I <sup>2</sup> C	1.7 to 2.0	-30 to +85	OLGA8 1.44 x 2.84 x 0.65
<b>TCS3701</b>	No	~15	60,000	Yes	I <sup>2</sup> C	1.7 to 2.0	-30 to +70	QFN12 2 x 2.5 x 0.5
<b>TCS3707</b>	No	~15	60,000	Yes	I <sup>2</sup> C	1.7 to 2.0	-30 to +70	QFN12 2 x 2.5 x 0.5



Part Number	Integrated Gesture Control	Maximum Proximity Range (cm)	ALS Dynamic Range (Lux)	Integrated Color Sensing	Output Interface	Supply Voltage (V)	Temperature Range (°C)	Package Type / Size (mm)
<b>VCNL4035X01</b>	Yes Drives up to 3 external emitters	60	16 bit Selectable: 262, 524, 1048, 2096, 4192	No	I <sup>2</sup> C	2.5 to 3.6	-40 to +105	4.0 x 2.36 x 0.75H



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**mPS**

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Part Number	Output Channel	Output Type	Magnetic Field Range (mT)	Output Resolution (%VDD/LSBB)	Output Current (mA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>TLI493DA2B6HTSA1</b>	3D Magnetic	Digital	±160	–	–	2.8 to 3.5	3.4	-40 to +105	TSOP-6
<b>TLE493DA2B6HTSA1</b>	3D Magnetic	Digital	±160	–	–	2.8 to 3.5	3.7	-40 to +125	TSOP-6
<b>TLE493DW2B6A0HTSA1</b>	3D Magnetic	Digital	±160	–	–	2.8 to 3.5	3.4	-40 to +125	TSOP-6
<b>TLE493DW2B6A1HTSA1</b>	3D Magnetic	Digital	±160	–	–	2.8 to 3.5	3.4	-40 to +125	TSOP-6
<b>TLE493DW2B6A2HTSA1</b>	3D Magnetic	Digital	±160	–	–	2.8 to 3.5	3.4	-40 to +125	TSOP-6
<b>TLE493DW2B6A3HTSA1</b>	3D Magnetic	Digital	±160	–	–	2.8 to 3.5	3.4	-40 to +125	TSOP-6



Part Number	Output Channel	Output Type	Magnetic Field Range (gauss)	Output Resolution (%V <sub>DD</sub> /LSB)	Output Current (mA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90316SDC-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90316EDC-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90316KDC-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
<b>MLX90316LDC-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90316EGO-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
<b>MLX90316KGO-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
<b>MLX90316LG0-BCG-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
<b>MLX90316KDC-BCG-200</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
<b>MLX90316KGO-BCG-200</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
<b>MLX90316KDC-BCG-300</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
<b>MLX90316KGO-BCG-300</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
<b>MLX90316EDC-BDG-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90316KDC-BDG-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
<b>MLX90316LDC-BDG-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90316EGO-BDG-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
<b>MLX90316KGO-BDG-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
<b>MLX90316LG0-BDG-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
<b>MLX90316LDC-BDG-102</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90316LDC-BCS-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90324LDC-DB0-000</b>	1	Analog, PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90324LDC-DB0-100</b>	1	Analog, PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90324LG0-DB0-000</b>	1	Analog, PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
<b>MLX90333SDC-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90333EDC-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +85	SOIC8
<b>MLX90333EDC-BCH-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +85	SOIC8
<b>MLX90333EDC-BCT-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +85	SOIC8

1 gauss = 0.1 mT

# POSITION - SPEED / 3D Magnetic Position Sensor



Part Number	Output Channel	Output Type	Magnetic Field Range (gauss)	Output Resolution (%V <sub>DD</sub> /LSB)	Output Current (mA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90333KDC-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +125	SOIC8
<b>MLX90333KDC-BCH-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +125	SOIC8
<b>MLX90333KDC-BCT-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +125	SOIC8
<b>MLX90333LDC-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	SOIC8
<b>MLX90333LDC-BCH-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	SOIC8
<b>MLX90333LDC-BCT-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	SOIC8
<b>MLX90333EGO-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +85	TSSOP16
<b>MLX90333EGO-BCH-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +85	TSSOP16
<b>MLX90333EGO-BCT-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +85	TSSOP16
<b>MLX90333KGO-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +125	TSSOP16
<b>MLX90333KGO-BCH-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +125	TSSOP16
<b>MLX90333KGO-BCT-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +125	TSSOP16
<b>MLX90333LGO-BCH-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	TSSOP16
<b>MLX90333LGO-BCH-100</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	TSSOP16
<b>MLX90333LGO-BCT-000</b>	3	Analog, PWM, SPI	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	TSSOP16
<b>MLX90340LGO-AAA-000</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
<b>MLX90340LDC-AAA-000</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90340EGO-AAA-000</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
<b>MLX90340EDC-AAA-000</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90340EDC-AAA-200</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90340EDC-AAA-100</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90340EDC-AAA-300</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90340EDC-AAA-400</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90340SDC-AAA-000</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90340SDC-AAA-200</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90340SDC-AAA-100</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90340SDC-AAA-300</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90340SDC-AAA-400</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-20 to +85	SOIC8
<b>MLX90360EDC-ACD-000</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
<b>MLX90360EGO-ACD-000</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
<b>MLX90360KDC-ACD-000</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
<b>MLX90360KGO-ACD-000</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
<b>MLX90360LDC-ACD-000</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90360LGO-ACD-000</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
<b>MLX90360LDC-ACD-200</b>	3	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
<b>MLX90363EDC-ABB-000</b>	1	SPI	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8

1 gauss = 0.1 mT

# POSITION - SPEED / 3D Magnetic Position Sensor



Part Number	Output Channel	Output Type	Magnetic Field Range (gauss)	Output Resolution (%V <sub>D</sub> /LSB)	Output Current (mA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90363EGO-ABB-000	1	SPI	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
MLX90363KDC-ABB-000	1	SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
MLX90363KGO-ABB-000	1	SPI	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
MLX90363LDC-ABB-000	1	SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90363LGO-ABB-000	1	SPI	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90364LVS-ADD-200	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90364LVS-ADD-251	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90364LVS-ADD-203	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90364LVS-ADE-201	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90365EDC-ABD-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
MLX90365EGO-ABD-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
MLX90365KDC-ABD-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
MLX90365KGO-ABD-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
MLX90365LDC-ABD-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90365LGO-ABD-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90365LGO-ABE-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90365LDC-ABD-200	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90365LDC-ABE-000	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90366LVS-ADU-250	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90366LVS-ADU-251	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90366LVS-ADU-253	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	DMP4
MLX90367EDC-ABU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
MLX90367EGO-ABU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
MLX90367KDC-ABU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
MLX90367KGO-ABU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
MLX90367LDC-ABU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LGO-ABU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90367EDC-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +85	SOIC8
MLX90367EGO-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +85	TSSOP16
MLX90367KDC-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +125	SOIC8
MLX90367KGO-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +125	TSSOP16
MLX90367LDC-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LDC-ABX-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LGO-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90367LGO-ABX-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LGO-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90367LGO-ABX-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LGO-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90367LGO-ABX-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LGO-ABV-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16
MLX90367LGO-ABX-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	SOIC8
MLX90367LGO-ACU-000	1	SENT	200 to 700	1	15	4.5 to 18	6	-40 to +150	TSSOP16

1 gauss = 0.1 mT

# POSITION - SPEED / 3D Magnetic Position Sensor



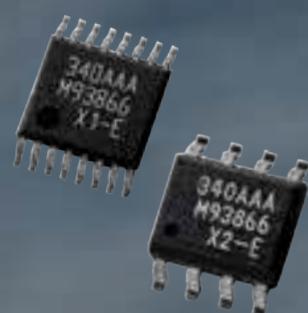
Part Number	Output Channel	Output Type	Magnetic Field Range (gauss)	Output Resolution (%V <sub>DD</sub> /LSB)	Output Current (mA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90371GDC-BCC-100</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
<b>MLX90371GDC-BCC-200</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
<b>MLX90371GDC-BCC-300</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
<b>MLX90371GG0-BCC-100</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90371GG0-BCC-200</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90371GG0-BCC-300</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90371GG0-BCC-500</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-100</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-150</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-101</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-151</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-103</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-153</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-200</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-250</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-201</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-251</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-203</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-253</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-300</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-350</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-301</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-351</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-303</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90371GVS-BCC-353</b>	2	Analog, PWM	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90372GDC-ACC-100</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
<b>MLX90372GDC-ACC-200</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
<b>MLX90372GDC-ACC-300</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
<b>MLX90372GG0-ACC-100</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90372GG0-ACC-200</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90372GG0-ACC-300</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90372GG0-ACC-500</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
<b>MLX90372GVS-ACC-300</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90372GVS-ACC-301</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90372GVS-ACC-303</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
<b>MLX90372GVS-ACC-308</b>	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4

1 gauss = 0.1 mT

**MLX90340**

ANALOG RATIO METRIC / PWM

## TRIAxis® POSITION SENSOR



- ☑ Absolute position sensor - +/- 1 ° accuracy - 12 bits resolution
- ☑ SOIC-8 package and redundant TSSOP-16 package
- ☑ Programmable linearization algorithm: arbitrary points (4 points) or 17 points piecewise linear output compensation
- ☑ Temperature range:  
Heavy-duty industrial [-40 to 150 °C]  
Industrial [-40 to 85 °C]  
Consumer [-20 to 85 °C]
- ☑ Programmable magnetic mapping XY, XZ, YZ
- ☑ Ratiometric Analog output or PWM Open drain/Push-pull output [100 Hz to 1 kHz]
- ☑ 5 V supply
- ☑ Magnet field range from 20 to 70 mT
- ☑ 4 different pre-programmed analog version [90, 180, 270, 360 °]

# POSITION - SPEED / 3D Magnetic Position Sensor



Part Number	Output Channel	Output Type	Magnetic Field Range (gauss)	Output Resolution (%V <sub>DD</sub> /LSB)	Output Current (mA)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90372GDC-ACE-100	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
MLX90372GDC-ACE-200	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
MLX90372GDC-ACE-300	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	SOIC8
MLX90372GGO-ACE-100	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
MLX90372GGO-ACE-200	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
MLX90372GGO-ACE-300	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	TSSOP16
MLX90372GVS-ACE-100	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-101	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-103	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-108	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-200	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-201	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-203	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-208	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-300	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-301	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-303	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-308	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-350	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ACE-357	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ADE-310	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ADE-311	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ADE-313	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90372GVS-ADE-318	2	PWM, SENT	200 to 700	1	15	4.5 to 18	6	-40 to +160	DMP4
MLX90393SLW-ABA-011	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-20 to +85	QFN16
MLX90393ELW-ABA-011	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-40 to +85	QFN16
MLX90393SLW-ABA-012	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-20 to +85	QFN16
MLX90393ELW-ABA-012	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-40 to +85	QFN16
MLX90393SLW-ABA-013	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-20 to +85	QFN16
MLX90393ELW-ABA-013	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-40 to +85	QFN16
MLX90393SLW-ABA-014	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-20 to +85	QFN16
MLX90393ELW-ABA-014	2	SPI, I2C	200 to 700	1	15	2.2 to 3.6	6	-40 to +85	QFN16
MLX90380LG0-BAB-103	1	sine/cosine	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	TSSOP16
MLX90380LG0-BAB-023	1	sine/cosine	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	TSSOP16
MLX90380LDC-BAB-100	1	sine/cosine	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	SOIC8
MLX90380LDC-BAB-120	1	sine/cosine	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	SOIC8
MLX90380LDC-BAB-010	1	sine/cosine	200 to 700	1	15	4.5 to 5.5	6	-40 to +150	SOIC8

1 gauss = 0.1 mT

## POSITION - SPEED / Magnetic Rotational Speed Sensor



Part Number	Typ. Sensing Distance (mm)	Tooth Frequency (Hz)	Target	Output Type	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90217LUA-CAA-000</b>	1 to 3	800	Geartooth or lobe	Digital	5	-40 to +150	through hole
<b>MLX90217LUA-CCA-000</b>	1 to 3	800	Geartooth or lobe	Digital	5	-40 to +150	through hole
<b>MLX90217LVA-BBA-000</b>	1 to 3	800	Geartooth or lobe	Digital	5	-40 to +150	through hole
<b>MLX90254LVA-BBA-000</b>	1 to 3	800	Geartooth or lobe	Digital	5	-40 to +150	through hole



Part Number	Typ. Sensing Distance (mm)	Tooth Frequency (Hz)	Target	Output Type	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>KMI17/4</b>	0.5 to 2.8	0 to 20,000	Ferromagnetic gear wheel (passive)	Current	4.5 to 16	-40 to +150	SIP2, SOT453E
<b>KMI23/2</b>	2.4 to 3.2	0 to 2,500	Multipole wheel (active)	Current	6.8 to 16	-40 to +150	SIP2, SOT453E
<b>KMI23/4</b>	2.4 to 3.2	0 to 2,500	Ferromagnetic gear wheel (passive)	Current	6.8 to 16	-40 to +150	SIP2, SOT453E
<b>KMI25/2</b>	2.4 to 3.2	0 to 2,500	Multipole wheel (active)	Digital protocol	6.8 to 16	-40 to +150	SIP3, SOT477A
<b>KMI25/4</b>	2.4 to 3.2	0 to 2,500	Ferromagnetic gear wheel (passive)	Digital protocol	6.8 to 16	-40 to +150	SIP3, SOT477A
<b>KMI16/1</b>	2.4 to 3.2	0 to 25,000	Ferromagnetic gear wheel (passive)	Voltage	4.5 to 16	-40 to +150	SIP3, SOT477A

## POSITION - SPEED / Magnetic Speed Sensor



Part Number	Pre-Induction (mT)	Output Type	Differential Induction (mT)	Supply Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>TLE49215UHALA1</b>	-500 to +500	Voltage	-80 to +80	3.8 to 8.8	4.5 to 24	-40 to +170	SS0-4
<b>TLE4922XANFHALLA1</b>	-400 to +400	Voltage	-400 to +400	3.5 to 7.0	4.5 to 16	-40 to +155	SS0-4



Part Number	Pre-Induction (mT)	Output Type	Differential Induction (mT)	Supply Current (mA)	Supply Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90217LUA-CAA-000</b>	1 to 3	Digital	500	3	5	-40 to +150	Through hole
<b>MLX90217LUA-CCA-000</b>	1 to 3	Digital	500	3	5	-40 to +150	Through hole
<b>MLX90217LVA-BBA-000</b>	1 to 3	Digital	500	3	5	-40 to +150	Through hole
<b>MLX90254LVA-BBA-000</b>	1 to 3	Digital	100	8.5	5	-40 to +150	Through hole

## POSITION - SPEED / Optical Switch



Part Number	Slot Width (mm)	Forward Voltage (V)	Peak Wavelength (nm)	Collector Current (ON State) (mA)	Dark Current Max (nA)	Operating Voltage (V)	Operating Temperature (°C)	Package Type / Size (mm)
TCPT1300X01	3	1.2V at IF=15mA	950	0.6	100	2.5 to 5	-40 to +105	SMD, 5.5 x 4 x 4
TCUT1300X01	3	1.2V at IF=15mA	950	0.6 x 2	100	2.5 to 5	-40 to +105	SMD, 5.5 x 4 x 4
TCPT1350X01	3	1.2V at IF=15mA	950	1.6	100	2.5 to 5	-40 to +125	SMD, 5.5 x 4 x 4
TCUT1350X01	3	1.2V at IF=15mA	950	1.6 x 2	100	2.5 to 5	-40 to +125	SMD, 5.5 x 4 x 4
TCPT1600X01	3	1.2V at IF=15mA	950	1.6	100	2.5 to 5	-40 to +105	SMD, 5.5 x 4 x 5.7
TCUT1600X01	3	1.2V at IF=15mA	950	1.6 x 2	100	2.5 to 5	-40 to +105	SMD, 5.5 x 4 x 5.7
TCUT1630X01	3	1.2V at IF=15mA	950	1.3 x 3	100	2.5 to 5	-40 to +105	SMD, 5.5 x 5.85 x 7
TCUT1800X01	3	1.2V at IF=15mA	950	1.3 x 4	100	2.5 to 5	-40 to +105	SMD, 5.5 x 4 x 5.7

## POSITION - SPEED / Industrial Magnetic Rotary Encoder



Part Number	Maximum Rotational Angle	Output Type / Interface	Magnetic Field Range (mT)	Output Resolution (deg)	RPM (Max)	Hysteresis (Degree)	Supply Voltage (V)	Supply Current Max. (mA)	Operating Temperature (°C)	Package Type / Size (mm)	Package Type / Size (mm)
AS5050A	360	SPI	30 to 90	0.09 (12-bit)	—	—	3.3	8.5	-40 to +85	QFN16	4 x 4 x 0.85
AS5055A	360	I <sup>2</sup> C, SPI, PWM	30 to 90	0.09 (12-bit)	—	—	3.3	8.5	-40 to +85	QFN16	4 x 4 x 0.85
AS5600	360	Analog, I <sup>2</sup> C, PWM	30 to 90	12-bit	—	—	3.0 to 3.6 & 4.5 to 5.5	6.5	-40 to +125	SOIC-8	—
AS5600L	360	Analog, I <sup>2</sup> C, PWM	30 to 90	12-bit	—	—	5.0	6.5	-40 to +125	SOIC-8, WLCSP	—

## POSITION - SPEED / Automotive Certified Magnetic Rotary Encoder



Part Number	Maximum Rotational Angle	Output Type / Interface	Magnetic Field Range (mT)	Output Resolution (deg)	RPM (Max)	Hysteresis (Degree)	Supply Voltage (V)	Supply Current Max. (mA)	Operating Temperature (°C)	Package Type / Size (mm)
AS5200L	360	I <sup>2</sup> C, PWM	10 to 90	0.09 (12-bit)	—	—	5.0	7	-40 to +125	MLF16 5x5
AS5172A/B	360	PSI5	10 to 90	0.09 (12-bit)	—	0	4.0 to 16.5	19	-40 to +150	TSSOP 14.5 x 4.4x1.2



Part Number	Maximum Rotational Angle	Output Type / Interface	Magnetic Field Range (mT)	Output Resolution (deg)	RPM (Max)	Hysteresis (Degree)	Supply Voltage (V)	Supply Current Max. (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MAQ470	360	SPI, ABI	20 to 150	± 0.045	150k	—	3.3	12	-40 to +125	QFN16 3 x 3
MAQ430	360	SPI, ABI, UVW	20 to 150	± 0.045	150k	—	3.3	12	-40 to +125	QFN16 3 x 3

\* NOTE: SSI= Synchronized Serial Interface

ABI=A/B Quadrature

UVW= BLDC Commutation

PWM= Pulse Width Modulator

Part number	Output Type*	Magnetic Field Range (mT)	Linear Resolution	Speed (Max)	Hysteresis (lsb)	Supply Voltage nom. (V)	Supply Current Max (mA)	Operating Temperature (°C)	Package
<b>AS5304</b>	ABI	5 to 60	25 ( $\mu$ m)	20 meter/sec	1.5	5.0	35	-40 to +125	TSSOP-20
<b>AS5306</b>	ABI	5 to 60	15 ( $\mu$ m)	12 meter/sec	1.5	5.0	30	-40 to +125	TSSOP-20
<b>AS5311</b>	SSI, PWM, ABI	10 to 40	0.488 ( $\mu$ m)	0.65 meter/sec	2	3.3 or 5.0	21	-40 to +125	TSSOP-20
<b>AS5510</b>	I <sup>2</sup> C	10 to 50	10-bit	–	0	3.0	3.5	-30 to +85	WLCSP

\* NOTE: SSI= Synchronized Serial Interface  
ABI= A/B Quadrature  
UWW= BLDC Commutation  
PWM= Pulse Width Modulator



Check out leading  
ams position sensors  
in the position sensor  
section of this guide.



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## ams Position Sensors for Angle Sensing

### Accurate position measurement:

- Precise position sensing with immunity against stray fields

### Long life:

- Robust and wear-free solutions for position sensing in harsh environments

### Flexible solution:

- Different outputs are needed and adjustable to any system

## POSITION - SPEED / Magnetic Angular Position Sensor



Part Number	Supply Voltage (V)	Maximum Rotational Angle	Output Range	Output Type	Temperature Range (°C)	Package Type / Size (mm)
TLE5009E1000FUMA1	3.3	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5009E1010FUMA1	3.3	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5009E2000FUMA1	5	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5009E2010FUMA1	5	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5012BE1000XUMA1	5	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5012BE3005XUMA1	5	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5012BE5000XUMA1	5.0	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5012BE9000XUMA1	5.0	360°	0 to 360°	voltage	-40 to +150	DSO-8
TLE5011FUMA1	3.0 to 5.5	360°	0 to 360°	Voltage	-40 to +150	DSO-8
TLI5012BE1000XUMA1	3.0 to 5.5	360°	—	Voltage	-40 to +125	DSO-8
TLE5501E0001XUMA1	2.7 to 5.5	360°	—	Voltage	-40 to +150	DSO-8



Part Number	Supply Voltage (V)	Maximum Rotational Angle	Output Range	Output Type	Temperature Range (°C)	Package Type / Size (mm)
MA302	3.3	360	0-65535	SPI, ABI, UVW	-40 to +125	QFN16 3 x 3
MA702	3.3	360	0-65535	SPI, ABI	-40 to +125	QFN16 3 x 3
MA780	3.3	360	0-65535	SPI	-40 to +125	QFN16 3 x 3
MA800	3.3	360	0-65535	SPI	-40 to +125	QFN16 3 x 3
MA102	3.3	360	0-65535	UVW	-40 to +125	QFN16 3 x 3
MA310	3.3	360	0-65535	SPI, ABI, UVW	-40 to +125	QFN16 3 x 3
MA330	3.3	360	0-65535	SPI, ABI, UVW	-40 to +125	QFN16 3 x 3
MA704	3.3	360	0-65535	SPI, ABI	-40 to +125	QFN16 3 x 3
MA710	3.3	360	0-65535	SPI, ABI	-40 to +125	QFN16 3 x 3

\* NOTE: SSI= Synchronized Serial Interface  
 ABI= A/B Quadrature  
 UVW= BLDC Commutation  
 PWM= Pulse Width Modulator

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**MPS**

# POSITION - SPEED / Magnetic Angular Position Sensor



Part Number	Supply Voltage (V)	Maximum Rotational Angle	Output Range	Output Type	Temperature Range (°C)	Package Type / Size (mm)
<b>MA730</b>	3.3	360	0 - 65535	SPI, ABI	-40 to +125	QFN16 3 x 3
<b>MA732</b>	3.3	360	0 - 65535	SPI, ABI	-40 to +125	QFN16 3 x 3
<b>MA820</b>	3.3	360	0 - 65535	PWM	-40 to +125	QFN16 3 x 3
<b>MA850</b>	3.3	360	0 - 65535	ABI	-40 to +125	QFN16 3 x 3

\* NOTE: SSI= Synchronized Serial Interface

ABI=A/B Quadrature

UWW= BLDC Commutation

PWM= Pulse Width Modulator



Part Number	Supply Voltage (V)	Maximum Rotational Angle	Output Range	Output Type	Temperature Range (°C)	Package Type / Size (mm)
<b>KMA210</b>	4.5 to 5.5	180°	~0 to ~5.0V	1 analog output linear	-40 to +160	SIP-3; SOT-1288
<b>KMA215</b>	4.5 to 5.25	180°	~0 to ~5.0V	1 digital output SAE J2716 SENT	-40 to +160	SIP-3; SOT-1288
<b>KMA220</b>	4.5 to 5.5	180°	~0 to ~5.0V	2 analog outputs; 1 per channel	-40 to +160	SIL-4; SOT-1188-1
<b>KMA221</b>	4.5 to 5.5	180°	~0 to ~5.0V	1 analog output linear	-40 to +160	SIL-4; SOT-1188-1
<b>KMZ60</b>	2.7 to 5.5	180°	0.07 to 0.93 Vcc	Amplified sine / cosine	up to +150	S0-8; SOT-96-1
<b>KMZ41</b>	9 Max.	180°	0.081 peak voltage	Sine / cosine	up to +150	S0-8; SOT-96-1
<b>KMZ49</b>	9 Max.	180°	0.067 peak voltage	Sine / cosine	up to +150	S0-8; SOT-96-1
<b>X3G-OH047</b>	9 Max.	180°	0.067 peak voltage	Sine / cosine	up to +150	Double die; sawn wafer on foil
<b>X3G-OH048</b>	9 Max.	180°	0.067 peak voltage	Sine / cosine	up to +150	Single die; sawn wafer on foil
<b>X3T-OH047</b>	9 Max.	180°	0.067 peak voltage	Sine / cosine	up to +150	Double die; taped on reel
<b>X3T-OH048</b>	9 Max.	180°	0.067 peak voltage	Sine / cosine	up to +150	Single die; taped on reel



Part Number	Supply Voltage (V)	Maximum Rotational Angle	Output Range	Output Type	Temperature Range (°C)	Package Type / Size (mm)
<b>981HE</b>	Standard : 5V <sub>dc</sub> ±10%	360°	0.5V to 4.5V	Analog / PWM	-45 to +125	Throttle type design
<b>34THE</b>	Standard : 5V <sub>dc</sub> ±10%	3600°	0.05V to 4.95V	Analog / PWM / SPI	-40 to +85	Bush and servo mount
<b>151HE</b>	Standard : 5V <sub>dc</sub> ±10%	360°	0.5V to 4.5V	Analog / PWM	-45 to +125	Servo mount
<b>RAME027</b>	5VDC± 0,25V	360°	0.5V to 4.5V	Analog	-25 to +75	Servo mount

# POSITION - SPEED / Passive Position Sensor



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Part Number	Standard Resistance	Resistance Tolerance	Temperature Coefficient	Max. Voltage (V)	Rotational Life	Operating Temperature (°C)	Package Type / Size (mm)
<b>SV01A103AEA01B00</b>	10kΩ	±30%	500ppm/°C	5V <sub>DC</sub>	1M cycles	-40 to +85	SMD 11 x 12
<b>SV01A103AEA01R00</b>	10kΩ	±30%	500ppm/°C	5V <sub>DC</sub>	1M cycles	-40 to +85	SMD 11 x 12
<b>SV03A103AEA01B00</b>	10kΩ	±30%	500ppm/°C	5V <sub>DC</sub>	300k cycles	-40 to +85	SMD 11 x 12
<b>SV03A103AEA01R00</b>	10kΩ	±30%	500ppm/°C	5V <sub>DC</sub>	300k cycles	-40 to +85	SMD 11 x 12
<b>SV04A103AEA41R00</b>	10kΩ	±30%	500ppm/°C	5V <sub>DC</sub>	2M cycles	-40 to +85	SMD 11 x 12



Part Number	Standard Resistance	Resistance Tolerance	Temperature Coefficient	Max. Voltage (V)	Rotational Life	Operating Temperature (°C)	Package Type / Size (mm)
<b>357</b>	1K - 20k	± 20%	± 600 ppm/°C	Depends of total track ohmic value	5,000,000	-55 to +125	Bushing mount
<b>534</b>	100 - 100k	± 5%	20 ppm/°C	14.1 - 447	1,000,000	-55 to +125	Bush and servo mount design
<b>38L</b>	Function of requested stroke : 25mm to 150mm	± 20%	Ohm value: Typical ± 600 ppm/°C Volt ratio: Typically ± 20 ppm/V/V/°C	Depends of total track ohmic value	25,000,000	-55 to +125	Linear sensor smallest size (diameter : 9,52mm)
<b>LMF</b>	Function of requested stroke : 25mm to 1000mm	± 20%	Ohm value: Typical ± 600 ppm/°C Volt ratio: Typically ± 20 ppm/V/V/°C	Depends of total track ohmic value	25,000,000	-55 to +125	Open sensor + Wiper
<b>115L</b>	Function of requested stroke : 25mm to 1000mm	± 20%	Ohm value: Typical ± 600 ppm/°C Volt ratio: Typically ± 20 ppm/V/V/°C	Depends of total track ohmic value	40,000,000	-55 to +125	Linear sensor with integrated connector
<b>UIPMA</b>	4,7 kohms	± 30%	-300 ± 300 ppm/°C	0,1 W/cm of travel	3 000 000 (more on request)	-10 to +50 (more on request)	Ultra Flat (< 3)
<b>PP12SR</b>	4,7 kohms	± 20%	-300 ± 300 ppm/°C	0,5 W max	5000000	-55 to +125	Diameter 12
<b>PP27BS</b>	10 kohms	± 20%	-300 ± 300 ppm/°C	1 W Max	5000000	-55 to +105	Diameter 27
<b>RP12</b>	from 2,2 kohms to 22 kohms for a length from 10 mm to 300 mm	+/-20%	-300 ± 300 ppm/°C	Depends of travel	20000000	-40 to +105	Diameter 12

# MagAlpha Rotary Magnetic Angle Sensors

High reliability contactless angle sensing for all rotary applications

## MagAlpha Sensor Benefits

Used to measure angle, speed, or position of a rotating shaft

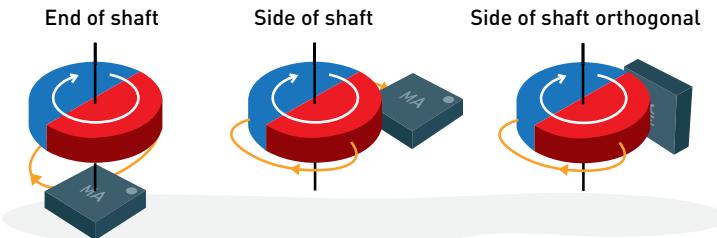
Contactless sensing for high reliability and long endurance

## MagAlpha Sensor Applications

Turning knobs in user interfaces (white goods, industrial man-machine interfaces, automotive)

Actuators (HVAC dampers, textile machines, industrial automation, automotive)

Motors (commutation in brushless motors, speed or position control in all types of motor)



- Unique "SpinAxis" measurement technique gives low 10us angle latency at any speed
- Resolutions from 8 up to 14 bit
- Wide magnetic field range support from 15mT to 150mT
- End and side of shaft magnet positioning for easy set up
- Low power consumption: 3.3V, 12mA
- Small package form factor : 3mmx3mm QFN-16 package

Applications	Part	Features
Replacement of 3 Hall switches for BLDC commutation	MA102	UVW output, multi-pole pair support
Human/machine interface Speed <200rpm	MA800 MA820 MA850	SPI output ABZ output PWM output
All purpose encoder SPI, SSI, ABZ, PWM outputs	MA704 MA702 MA710 MA730 MA732 MAQ470	10 bit high bandwidth 12 bit medium bandwidth 12 bit for low field side-shaft 14 bit low bandwidth 9-14 bit configurable filter bandwidth 12 bit Automotive AECQ Grade 1
All purpose encoder for BLDC Servo Motors SPI, ABZ and UVW outputs	MA302 MA310 MA330 MAQ430	12 bit medium bandwidth 12 bit for low field side shaft 9-14 bit configurable filter bandwidth 12 bit Automotive AECQ Grade 1
Low power	MA780	Multiple power modes

For ordering and more information visit [MonolithicPower.com](http://MonolithicPower.com)

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## PRESSURE

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Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>FMA-500-T1</b>	5" H2O, 40" H2O	G/V	0.5 to 4.5	±2.5	5 V <sub>DC</sub>	5	-40 to +125	Pressure Port, 1/8-27 NPT Female
<b>NPR-101</b>	300 PSI	A	0.5 to 4.5	2	5	3	-40 to +140	-
<b>NPC-100T</b>	6 PSI	G	-	±3	6	-	+15 to +40	Ceramic
<b>NPC-120T</b>	6 PSI	G	-	±3	6	-	+15 to +40	Ceramic
<b>NPP-301A-100A</b>	15 PSIA	A	0.06	±0.2	3	-	-40 to +125	SOIC-8
<b>NPP-301A-200A</b>	30 PSIA	A	0.06	±0.2	3	-	-40 to +125	SOIC-8
<b>NPP-301A-700A</b>	100 PSIA	A	0.06	±0.2	3	-	-40 to +125	SOIC-8
<b>NPA-100B-10WG</b>	10" H2O	G	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-100B-005G</b>	5 PSI	G	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-100B-015A</b>	15 PSI	A	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-100B-030A</b>	30PSI	A	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-100B-10WD</b>	10" H2O	D	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-100B-001D</b>	1 PSI	D	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-100B-015D</b>	15 PSI	D	0.1 Typ	±1.5	-	1.5	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-02WD</b>	2" H2O	D	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-05WD</b>	5" H2O	D	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-015G</b>	15 PSI	G	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-030G</b>	30 PSI	G	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-10WD</b>	10" H2O	D	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-001D</b>	1 PSI	D	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-005D</b>	5 PSI	D	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-300B-015D</b>	15 PSI	D	0.5 to 3.0	±1.5	3.3	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-02WG</b>	2" H2O	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-05WG</b>	5" H2O	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-02WD</b>	2" H2O	D	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-05WD</b>	5" H2O	D	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-10WG</b>	10" H2O	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-001G</b>	1 PSI	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-005G</b>	5 PSI	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-015G</b>	15 PSI	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-030G</b>	30 PSI	G	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-015A</b>	15 PSI	A	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-030A</b>	30PSI	A	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-10WD</b>	10" H2O	D	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-001D</b>	1 PSI	D	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-005D</b>	5 PSI	D	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port
<b>NPA-500B-015D</b>	15 PSI	D	0.5 to 4.5	±1.5	5	-	-40 to +125	SOIC-14, Barb port

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

# Amphenol

Advanced Sensors

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
NPA-500B-030D	30 PSI	D	0.5 to 4.5	±1.5	5	—	-40 to +125	SOIC-14, Barb port
NPC-1210-030G-1-S	30 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-10WG-3-L	10" H2O	G	0.025 to 0.070	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-001G-3-L	1 PSI	G	0.050 to 0.110	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-005G-3-L	5 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015G-3-L	15 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-030G-3-L	30 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-050G-3-L	50 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-100G-3-L	100 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015A-3-L	15 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-030A-3-L	30 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-050A-3-L	50 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-100A-3-L	100 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-10WD-3-L	10" H2O	D	0.025 to 0.070	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-001D-3-L	1 PSI	D	0.050 to 0.110	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-005D-3-L	5 PSI	D	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015D-3-L	15 PSI	D	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-030D-3-L	30 PSI	D	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-050D-3-L	50 PSI	D	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-100D-3-L	100 PSI	D	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015G-3-S	15 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-030G-3-S	30 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-050G-3-S	50 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015A-3-S	15 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-10WD-3-S	10" H2O	D	0.025 to 0.070	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015D-3-S	15 PSI	D	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-10WG-3-N	10" H2O	G	0.025 to 0.070	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-001G-3-N	1 PSI	G	0.050 to 0.110	±0.1	—	1.5	-40 to +125	8-pin PCB
NPC-1210-005G-3-N	5 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015G-3-N	15 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-030G-3-N	30 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-050G-3-N	50 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-100G-3-N	100 PSI	G	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-015A-3-N	15 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-030A-3-N	30 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-050A-3-N	50 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB
NPC-1210-100A-3-N	100 PSI	A	0.075 to 0.150	±0.5	—	1.5	-40 to +125	8-pin PCB

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
NPC-1220-030A-1-S	30 PSI	A	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-005G-3-S	5 PSI	G	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-015G-3-S	15 PSI	G	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-030G-3-S	30 PSI	G	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-050G-3-S	50 PSI	G	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-100G-3-S	100 PSI	G	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-015A-3-S	15 PSI	A	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-030A-3-S	30 PSI	A	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-050A-3-S	50 PSI	A	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-100A-3-S	100 PSI	A	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-005D-3-S	5 PSI	D	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-015D-3-S	15 PSI	D	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-030D-3-S	30 PSI	D	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-050D-3-S	50 PSI	D	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-100D-3-S	100 PSI	D	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPC-1220-100G-3-N	100 PSI	G	0.05	±0.1	–	1.5	-40 to +125	8-pin PCB
NPH-8-002.5GH	10" H2O	G	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-002.5DH	10" H2O	D	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-007GH	7 kPa	G	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-007DH	7 kPa	D	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-030GH	30 kPa	G	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-030AH	30 kPa	A	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-030DH	30 kPa	D	0.25	±0.1	–	1.5	-40 to +125	T0-8
NPH-8-100GH	100 kPa	G	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-100AH	100 kPa	A	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-100DH	100 kPa	D	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-200GH	200 kPa	G	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-200AH	200 kPa	A	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-200DH	200 kPa	D	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-700GH	700 kPa	G	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-700AH	700 kPa	A	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPH-8-700DH	700 kPa	D	0.25	±0.5	–	1.5	-40 to +125	T0-8
NPI-15A-353AH	5000 PSI	A	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15A-353SH	5000 PSI	G	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15H-352AH	500 PSI	A	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15H-702AH	1000 PSI	A	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15J-352AH	500 PSI	A	0.23	±0.3	–	1	-40 to +125	Stainless Steel

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

# Amphenol

Advanced Sensors

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
NPI-15J-702AH	1000 PSI	A	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15H-352SH	500 PSI	G	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15H-702SH	1000 PSI	G	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15J-352SH	500 PSI	G	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15J-702SH	1000 PSI	G	0.23	±0.3	–	1	-40 to +125	Stainless Steel
NPI-15A-1K0SV	1000 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15A-3K0SV	3000 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15A-5K0SV	5000 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15H-500AV	500 PSI	A	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15H-1KOAV	1000 PSI	A	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15J-500AV	500 PSI	A	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15J-1KOAV	1000 PSI	A	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15H-500SV	500 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15H-1K0SV	1000 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15J-500SV	500 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-15J-1K0SV	1000 PSI	G	0.101	±0.3	10	–	-40 to +125	Stainless Steel
NPI-19A-021GH	2.5 PSI	G	0.1	±0.3	10	1.5	-10 to +80	Stainless Steel
NPI-19A-031GH	5 PSI	G	0.1	±0.3	10	1.5	-10 to +80	Stainless Steel
NPI-19A-101GH	15 PSI	G	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-201GH	30 PSI	G	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-701GH	100 PSI	G	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-172GH	250 PSI	G	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-101AH	15 PSI	A	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-201AH	30 PSI	A	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-701AH	100 PSI	A	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-172AH	250 PSI	A	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19H-101GH	15 PSI	G	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19H-201GH	30 PSI	G	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19H-101AH	15 PSI	A	0.1	±0.3	10	1	-10 to +80	Stainless Steel
NPI-19A-002GV	2.5 PSI	G	0.1	±0.3	10	1.5	-10 to +80	Stainless Steel
NPI-19A-005GV	5 PSI	G	0.1	±0.3	10	1.5	-10 to +80	Stainless Steel
NPI-19A-015GV	15 PSI	G	0.1	±0.3	10	–	-10 to +80	Stainless Steel
NPI-19A-030GV	30 PSI	G	0.1	±0.3	10	–	-10 to +80	Stainless Steel
NPI-19A-050GV	50 PSI	G	0.1	±0.3	10	–	-10 to +80	Stainless Steel
NPI-19A-100GV	100 PSI	G	0.1	±0.3	10	–	-10 to +80	Stainless Steel
NPI-19A-200GV	200 PSI	G	0.1	±0.3	10	–	-10 to +80	Stainless Steel

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

## PRESSURE / Pressure Sensor - Analog

**Amphenol**  
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Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>NPI-19A-300GV</b>	300 PSI	G	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19A-015AV</b>	15 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19A-030AV</b>	30 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19A-050AV</b>	50 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19A-100AV</b>	100 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19A-200AV</b>	200 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19A-300AV</b>	300 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19J-050GV</b>	50 PSI	G	0.1	±0.3	10	—	-10 to +80	Stainless Steel
<b>NPI-19H-100AV</b>	100 PSI	A	0.1	±0.3	10	—	-10 to +80	Stainless Steel

A: Absolute, B: Barometric, D: Differential, G: Gauge, V: Vacuum Sensor

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>KP215F1701XTMA1</b>	10 to 115	Manifold Air	0.1 to 4.85	±1.4	5	8	-40 to +140	DSOF-8
<b>KP236N6165XTMA1</b>	60 to 165	B	0.1 to 4.85	±1.0	5	8	-40 to +125	DSOF-8
<b>KP236XTMA1</b>	40 to 115	B	0.1 to 4.85	±1.0	5	8	-40 to +125	DSOF-8

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MLX90809LXG-EAD-000</b>	-1.05 to 0.05bar	D	5	—	4.5 to 5.0	8	-40 to +150	S016 cavity
<b>MLX90809LXG-EAD-003</b>	0 to 1bar	D	5	—	4.5 to 5.0	8	-40 to +150	S016 cavity

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

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CO<sub>2</sub>

DUST

EMBEDDED SENSING TECHNOLOGIES for Transportation, Healthcare and Industrial Applications

# PRESSURE / Pressure Sensor - Analog



Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>MPXV10GCxx</b>	0 to 10	D & G	0.5 V <sub>DD</sub> + 0.035	1.00	3.0 to 6.0	6	-40 to +125	SOP & ported SOP
<b>MPXV12xx</b>	0 to 10	D & G	0.5 V <sub>DD</sub> + 0.055	5.00	3.0 to 6.0	6	-40 to +125	SOP; SOP dual port; MPAK; SOP ported
<b>MPXM2051G</b>	0 to 50	A	0.5 V <sub>DD</sub> + 0.040	1.50	10 to 16	6	-40 to +125	MPAK
<b>MPXx2053</b>	0 to 50	D & G	0.5 V <sub>DD</sub> + 0.040	1.50	10 to 16	6	-40 to +125	x=V SOP & ported SOP; x=M MPACK
<b>MPXx2102</b>	0 to 100	A, D & G	0.5 V <sub>DD</sub> + 0.040	1.50	10 to 16	6	-40 to +125	x=V SOP & ported SOP; x=M MPACK
<b>MPXx2202</b>	0 to 200	A, D & G	0.5 V <sub>DD</sub> + 0.040	1.50	10 to 16	6	-40 to +125	x=V SOP & ported SOP; x=M MPACK
<b>MPX2300DT1</b>	0 to 40	D & G	0.5 V <sub>DD</sub> + 0.003	1.50	6.0 to 10	1	+15 to +40	ChipPak package
<b>MPXV(Z)4006</b>	0 to 6	D & G	4.9	2.50	4.75 to 5.25	10	+10 to +60	SOP; SOP dual port; SOP ported
<b>MPXV(Z)5004</b>	0 to 3.92	D & G	4.9	1.50	4.75 to 5.25	10	0 to +85	SOP; SOP dual port; SOP ported
<b>MP3V5004</b>	0 to 3.92	D & G	2.9	1.50	2.7 to 3.3	10	+10 to +60	SOP; SOP dual port; SOP ported
<b>MPXV5010</b>	0 to 10	D & G	4.7	5.00	4.75 to 5.25	5	-40 to +125	SOP; SOP dual port; SOP ported
<b>MPV5010</b>	0 to 10	D & G	4.7	5.00	4.75 to 5.25	5	-40 to +125	SOP; SOP dual port; SOP ported
<b>MP3V5010</b>	0 to 10	D & G	2.9	5.00	2.7 to 3.3	7	-40 to +125	SOP; SOP dual port; SOP ported
<b>MPXV5050VC6U</b>	-50 to 50	V	4.7	2.50	4.75 to 5.25	7	-40 to +125	SOP ported
<b>MPXV5050</b>	0 to 50	D & G	4.7	2.50	4.75 to 5.25	7	-40 to +125	SOP ported & dual port
<b>MPVZ5050</b>	0 to 50	D & G	4.7	2.50	4.75 to 5.25	7	-40 to +125	SOP ported
<b>MP3V5050</b>	0 to 50	V	2.8	2.50	2.7 to 3.3	7	-40 to +125	SOP ported; SOP dual port
<b>MPXV5100</b>	0 to 100	A, D & G	4.7	2.50	4.75 to 5.25	7	-40 to +125	SOP ported & dual port
<b>MPX5500</b>	0 to 500	D	4.7	2.50	4.75 to 5.25	7	-40 to +125	Unibody Packages
<b>MPX5700</b>	0 to 700	A, D & G	4.7	2.50	4.75 to 5.25	7	-40 to +125	Unibody Packages
<b>MPX5700A</b>	15 to 700	A	4.7	2.50	4.75 to 5.25	7	-40 to +125	Unibody Packages
<b>MPX5999</b>	0 to 1000	D	4.7	2.50	4.75 to 5.25	7	-40 to +125	Unibody Packages
<b>MPXHZ6250A</b>	20 to 250	A	4.8	1.50	4.75 to 5.25	6	-40 to +125	SSOP & ported SSOP
<b>MPXH6300A</b>	20 to 304	A	4.9	1.50	4.74 to 5.46	6	-40 to +125	SSOP & ported SSOP
<b>MPXHZ6400A</b>	20 to 400	A	4.8	1.50	4.64 to 5.36	6	-40 to +125	SOP & ported SOP // SSOP & Ported SOP
<b>MPXHV6115 V</b>	-115 to 0	V	4.6	1.50	4.75 to 5.25	6	-40 to +125	SOP & SOP ported
<b>MPXV7002</b>	-2 to 2	V	4.5	6.25	4.75 to 5.25	10	+10 to +60	SOP ported; dual port

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

# Panasonic

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FS)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>ADP527x</b>	145.04psi, 1000kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP526x</b>	72.52psi, 500kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP525x</b>	29.008psi, 200kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP524x</b>	14.5038psi, 100kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP523x</b>	7.252psi, 50kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP522x</b>	3.626psi, 25kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP521x</b>	-100kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP520x</b>	$\pm 100$ kPa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	SMD
<b>ADP51B63</b>	0.870228psi, 6kpa	Gauge	4V(Typical)	$\pm 2.50\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +70	DIP-8
<b>ADP51B62</b>	0.870228psi, 6kpa	Gauge	4V(Typical)	$\pm 2.50\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +70	DIP-8
<b>ADP51B61</b>	0.870228psi, 6kpa	Gauge	4V(Typical)	$\pm 2.50\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +70	DIP-8
<b>ADP51A11</b>	5.80152psi, 40kpa	Gauge	2.4V, $\pm 0.03$ V	$\pm 4\%$ FS	5 $\pm 0.25$ V DC	Max 3	+5 to +45	DIP-6
<b>ADP517x</b>	145.038psi, 1000kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP516x</b>	72.519psi, 500kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP515x</b>	29.0076psi, 200kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP514x</b>	14.5038psi, 100kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP513x</b>	7.2519psi, 50kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP512x</b>	3.62595psi, 25kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP511x</b>	-100kpa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP510x</b>	$\pm 100$ kPa	Gauge	4.5V, $\pm 0.05$ V	$\pm 1.25\%$ FS	5 $\pm 0.25$ V DC	Max 10	0 to +50	DIP-6
<b>ADP4xA23</b>	5.80152psi, 40kpa	Gauge	43.5mV, $\pm 22.5$ mV	$\pm 0.3\%$ FS	5 $\pm 0.25$ V DC	1.5	-5 to +50	DIP-6
<b>ADP4x913</b>	142.238767psi, 980.7kpa	Gauge	65mV, $\pm 25$ mV	$\pm 1.0\%$	5 $\pm 0.25$ V DC	1	-20 to +100	DIP-6
<b>ADP4x910</b>	142.238767psi, 980.7kpa	Gauge	65mV, $\pm 25$ mV	$\pm 1.0\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6
<b>ADP4x810</b>	120.903677psi, 833.6kpa	Gauge	100mV, $\pm 40$ mV	$\pm 0.6\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6
<b>ADP4x710</b>	71.112131psi, 490.3kpa	Gauge	100mV, $\pm 40$ mV	$\pm 0.5\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6
<b>ADP4x610</b>	49.777042psi, 343.2kpa	Gauge	100mV, $\pm 40$ mV	$\pm 0.3\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6
<b>ADP4x413</b>	14.228228psi, 98.1kpa	Gauge	65mV, $\pm 25$ mV	$\pm 1.0\%$	5 $\pm 0.25$ V DC	1	-20 to +100	DIP-6
<b>ADP4*320</b>	7.106862psi, 49kpa	Gauge	100mV, $\pm 40$ mV	$\pm 0.3\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6
<b>ADP4x210</b>	4.974803psi, 34.3kpa	Gauge	100mV, $\pm 40$ mV	$\pm 0.3\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6
<b>ADP4x010</b>	0.710686psi, 4.9kpa	Gauge	40mV, $\pm 20$ mV	$\pm 0.7\%$	5 $\pm 0.25$ V DC	1.5	-20 to +100	DIP-6

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

x = refers to port size and direction

## PRESSURE / Pressure Sensor - Analog



Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>SDP806-500Pa</b>	500	D	10 to 90% VDD	0.02 ( $\pm 3\%$ of reading)	3.0 to 5.5	3.8	-40 to +85	29 x 12.6 x 18
<b>SDP816-500Pa</b>	500	D	10 to 90% VDD	0.02 ( $\pm 3\%$ of reading)	3.0 to 5.5	3.8	-40 to +85	29 x 12.6 x 18
<b>SDP806-125Pa</b>	125	D	10 to 90% VDD	0.064 ( $\pm 3\%$ of reading)	3.0 to 5.5	3.8	-40 to +85	29 x 12.6 x 18
<b>SDP816-125Pa</b>	125	D	10 to 90% VDD	0.064 ( $\pm 3\%$ of reading)	3.0 to 5.5	3.8	-40 to +85	29 x 12.6 x 18
<b>SDP36</b>	500	D	10 to 90% VDD	0.02 ( $\pm 3\%$ of reading)	3.0 to 3.6	3.8	-20 to +85	8.5 x 5.4 x 3.5
<b>SDP37</b>	125	D	10 to 90% VDD	0.064 ( $\pm 3\%$ of reading)	3.0 to 3.6	3.8	-20 to +85	8.5 x 5.4 x 3.5
<b>SDP2000</b>	3500	D	0.25 to 4.5	0.2 ( $\pm 1.5\%$ of reading)	4.75 to 5.25	5.2	-10 to +60	30.5 x 22.1 x 30

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O



AUTHORIZED DISTRIBUTOR

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>1210A-001D-3L</b>	6.9	D	100 mV	$\pm 0.3\%$ Span Non-Linearity	—	1.5	-40 to +125	16.2 x 16.8
<b>1210A-001D-3S</b>	6.9	D	100 mV	$\pm 0.3\%$ Span Non-Linearity	—	1.5	-40 to +125	16.2 x 16.8
<b>1210A-001G-3S</b>	6.9	G	100 mV	$\pm 0.3\%$ Span Non-Linearity	—	1.5	-40 to +125	16.2 x 16.8
<b>1210A-002D-3L</b>	13.79	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-002D-3N</b>	13.79	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-002D-3S</b>	13.79	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-005D-3L</b>	34.48	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-005D-3S</b>	34.48	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-005G-3S</b>	34.48	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015A-3L</b>	103.45	A	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015A-3N</b>	103.45	A	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015A-3S</b>	103.45	A	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015D-3L</b>	103.45	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015D-3S</b>	103.45	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015G-3L</b>	103.45	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-015G-3S</b>	103.45	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-030A-3L</b>	206.9	A	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-030D-3L</b>	206.9	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-030D-3S</b>	206.9	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-100D-3L</b>	689.66	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-100D-3S</b>	689.66	D	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-100G-1S</b>	689.66	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-100G-3L</b>	689.66	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-100G-3N</b>	689.66	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2
<b>1210A-100G-3S</b>	689.66	G	100 mV	$\pm 0.1\%$ Span Non-Linearity	—	1.5	-40 to +125	14.7 x 15.2

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>1210A-10WD-3S</b>	2.49	D	40 mV	±0.3% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1220A-002D-3S</b>	13.79	D	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-005D-3L</b>	34.48	D	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-005D-3S</b>	34.48	D	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-005G-3N</b>	34.48	G	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-005G-3S</b>	34.48	G	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-015A-3L</b>	103.45	A	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-015A-3S</b>	103.45	A	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-015D-3L</b>	103.45	D	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-030G-3N</b>	206.9	G	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1220A-030G-3S</b>	206.9	G	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>1230-002D-3N</b>	13.79	D	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-015A-3L</b>	103.45	A	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-015A-3S</b>	103.45	A	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-015D-3L</b>	103.45	D	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-015D-3S</b>	103.45	D	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-030A-3S</b>	206.9	A	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-030D-3S</b>	206.9	D	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1230-100D-3S</b>	689.66	D	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	14.7 x 15.2
<b>1240-015A-3S</b>	103.45	A	50 mV	±0.1% Span Non-Linearity	–	–	-40 to +125	14.7 x 15.2
<b>13A-002G</b>	13.79	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>13A-005G</b>	34.48	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>13A-010G</b>	68.97	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>13A-015A</b>	103.45	A	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>13A-015G</b>	103.45	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>13A-030G</b>	206.9	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>13A-100G</b>	689.66	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>1451-005G-T</b>	34.48	G	60 mV	±0.25% Non-Linearity	3	–	-40 to +125	7.6 x 7.6
<b>1451-015A-N</b>	103.45	A	60 mV	±0.25% Non-Linearity	3	–	-40 to +125	7.6 x 7.6
<b>1451-015A-T</b>	103.45	A	60 mV	±0.25% Non-Linearity	3	–	-40 to +125	7.6 x 7.6
<b>1451-030A-T</b>	206.9	A	60 mV	±0.25% Non-Linearity	3	–	-40 to +125	7.6 x 7.6
<b>1451-100G-T</b>	689.66	G	60 mV	±0.25% Non-Linearity	3	–	-40 to +125	7.6 x 7.6
<b>1471-015A-T</b>	103.45	A	60 mV	±0.25% Non-Linearity	3	–	-40 to +125	7.6 x 7.6
<b>17-015A</b>	103.45	A	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>17-015G</b>	103.45	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>17-030A</b>	206.9	A	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4
<b>17-030G</b>	206.9	G	100 mV	±0.1% Span Non-Linearity	–	1.5	-40 to +125	ϕ11.4

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

# PRESSURE / Pressure Sensor - Analog



AUTHORIZED DISTRIBUTOR

Part Number	Pressure Range (kPa)	Pressure Type	Full Scale Output (V)	Accuracy (%FSO)	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>17-050G</b>	344.83	G	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>17-100G</b>	68.97	G	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>325401000-00</b>	100	A	—	±0.05% or ±0.2% Non-Linearity	5	—	-40 to +125	6.2 x 6.4
<b>325407000-00</b>	700	A	—	±0.05% or ±0.2% Non-Linearity	5	—	-40 to +125	6.2 x 6.4
<b>325412000-00</b>	1200	A	—	±0.05% or ±0.2% Non-Linearity	5	—	-40 to +125	6.2 x 6.4
<b>33A-001D</b>	6.9	D	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>33A-002D</b>	13.79	D	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>33A-005D</b>	34.48	D	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>33A-015D</b>	103.45	D	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>43A-015A</b>	103.45	A	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>4425-001D</b>	6.9	D	100 mV	±0.15% Span Non-Linearity	12	—	-40 to +125	15.2 x 13.7
<b>4425-005D</b>	34.48	D	100 mV	±0.15% Span Non-Linearity	12	—	-40 to +125	15.2 x 13.7
<b>4425-015D</b>	103.45	D	100 mV	±0.15% Span Non-Linearity	12	—	-40 to +125	15.2 x 13.7
<b>4425-100D</b>	689.66	D	100 mV	±0.15% Span Non-Linearity	12	—	-40 to +125	15.2 x 13.7
<b>47-015A</b>	103.45	A	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4
<b>47-030A</b>	206.9	A	100 mV	±0.1% Span Non-Linearity	—	1.5	-40 to +125	φ11.4

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O



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## 3 Prototype

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## 4 Manufacture

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Part Number	Pressure Range	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
NPA-600B-10WD	10" H2O	D	Serial	5	—	-40 to +125	SOIC-14, Barb port
NPA-600B-001D	1 PSI	D	Serial	5	—	-40 to +125	SOIC-14, Barb port
NPA-600B-005D	5 PSI	D	Serial	5	—	-40 to +125	SOIC-14, Barb port
NPA-600B-015D	15 PSI	D	Serial	5	—	-40 to +125	SOIC-14, Barb port
NPA-600B-030D	30 PSI	D	Serial	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-02WG	2" H2O	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-05WG	5" H2O	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-02WD	2" H2O	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-05WD	5" H2O	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-10WG	10" H2O	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-001G	1 PSI	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-005G	5 PSI	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-015G	15 PSI	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-030G	30 PSI	G	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-015A	15 PSI	A	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-030A	30PSI	A	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-10WD	10" H2O	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-001D	1 PSI	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-005D	5 PSI	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-015D	15 PSI	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port
NPA-700B-030D	30PSI	D	I <sup>2</sup> C	5	—	-40 to +125	SOIC-14, Barb port

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

Part Number	Pressure Range	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
KP253XTMA1	60 to 165	B	SPI	3.135 to 5.25	10	-40 to +125	DSOF-8
KP254XTMA2	40 to 115	B	SPI	3.135 to 5.25	10	-40 to +125	DSOF-8
DPS310XTSA1	300–1200 hPa	B	I <sup>2</sup> C and SPI	1.7 to 3.6	1.7 µA for pressure measurement, 1.5µA for Temperature measurement @1Hz sampling rate, Standby: 0.5 µA	-40 to +85	LGA-8 2.0 x 2.5 x 1.0
DPS368XTSA1	300–1200 hPa	B	I <sup>2</sup> C and SPI	1.7 to 3.6	1.7 µA for pressure measurement @1Hz sampling rate, Standby: 0.5 µA	-40 to +85	LGA-, 2.0 x 2.5 x 1.1
DPS422XTSA1	300–1200 hPa	B	I <sup>2</sup> C and SPI	1.7 to 3.6	1.7 µA for pressure measurement, 2µA for temperature measurement @1Hz sampling rate, Standby: <1 µA	-40 to +85	LGA-8 2.0 x 2.5 x 0.73

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1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

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## PRESSURE / Pressure Sensor – Digital



Part Number	Pressure Range	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90809LXG-EAD-100	-1.2 to 0.05bar	D	SENT	4.5 to 5	8	-40 to +150	S016 cavity
MLX90818LXZ-BAE-015	0.1 to 4bar	A	SENT	4.5 to 5	8	-40 to +150	DFN cavity
MLX90818LXZ-BAE-016	0.1 to 3bar	A	SENT	4.5 to 5	8	-40 to +150	DFN cavity
MLX90818LXZ-BAE-017	0.1 to 4bar	A	SENT	4.5 to 5	8	-40 to +150	DFN cavity

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O



Part Number	Pressure Range (Pa)	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
SDP800-500Pa	±500	D	lPC	3.0 to 5.5	3.8	-20 to +80	29 x 12.6 x 18
SDP810-500Pa	±500	D	lPC	3.0 to 5.5	3.8	-20 to +80	29 x 12.6 x 18
SDP800-125Pa	±125	D	lPC	3.0 to 5.5	3.8	-20 to +80	29 x 12.6 x 18
SDP810-125Pa	±125	D	lPC	3.0 to 5.5	3.8	-20 to +80	29 x 12.6 x 18
SDP31	±500	D	lPC	3.3	3.8	-40 to +85	8.5 x 5.4 x 3.5
SDP32	±125	D	lPC	3.3	3.8	-40 to +85	8.5 x 5.4 x 3.5

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

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Part Number	Pressure Range	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
LPS33HWTR	260-1260hPa	A,B	SPI/I <sup>2</sup> C	1.7 to 3.6	3 µA	-40 to +85	CCLGA-10L 3.3 x 3.3
LPS22HHTR	260 to 1260 hPa	A, B	SPI, I <sup>2</sup> C or MIPI I3CSM interfaces	1.7 to 3.6	4 µA	-40 to +85	HLGA-10L 2.0 x 2.0 x 0.73
LPS22HDTR	261 to 1260 hPa	A, B	SPI/I <sup>2</sup> C	1.7 to 3.6V	3 µA	-40 to +85	HLGA-10L 2.0 x 2.0 x 0.76

A: Absolute, B: Barometric, D: Differential, G: Gauge      1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O



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Part Number	Pressure Range (kPa)	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
325534008-00	100	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +125	9 x 9
325534009-00	100	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +125	9 x 9
325534009-50	100	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +125	9 x 9
325535009-00	1400	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +125	9 x 9
325536008-00	100	G	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	13 x 10.16

A: Absolute, B: Barometric, D: Differential, G: Gauge      1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O



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# PRESSURE / Pressure Sensor - Digital



Part Number	Pressure Range kPa	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
325536009-00	-100	G	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	13 x 10.16
325540009-00	100	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	6.2 x 6.4
325540009-50	100	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	6.2 x 6.4
325541009-00	1400	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	6.2 x 6.4
325541009-50	1400	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	6.2 x 6.4
325541010-00	3000	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	6.2 x 6.4
325541030-00	3000	A	I <sup>2</sup> C	2.2 to 3.6	—	-40 to +85	6.2 x 6.4
325561000-00	100	A	I <sup>2</sup> C	—	—	-40 to +85	4.75 x 4.25
325561000-50	100	A	I <sup>2</sup> C	—	—	-40 to +85	4.75 x 4.25
4515-DS5A002DP	2068.96	D	I <sup>2</sup> C	5.0	—	-10 to +85	12.5 x 9.9
4515-DS5B002DP	2068.96	D	I <sup>2</sup> C	5.0	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK002DPL	2068.96	D	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK004DP	2068.96	D	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK004GP	2068.96	G	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK005DP	2068.96	D	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK005GP	2068.96	G	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK020DPL	2068.96	D	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS3BK030DPL	2068.96	D	I <sup>2</sup> C	3.3	—	-10 to +85	12.5 x 9.9
4515D0-DS5BS002DS	2068.96	D	SPI	5.0	—	-10 to +85	12.5 x 9.9
4525D0-DS5AI001DP	2068.96	D	I <sup>2</sup> C	5.0	—	-10 to +85	12.5 x 9.9
5525DS0-DB001DS	6.89	D	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +125	12.5 x 7.9
5525DS0-SB001GS	6.89	G	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +125	12.5 x 7.9
5525DS0-SB005GS	34.48	G	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +125	12.5 x 7.9
MS560702BA03-00	200	A	I <sup>2</sup> C	1.5 to 3.6	—	-40 to +85	3 x 3 x 0.9
MS560702BA03-50	200	A	I <sup>2</sup> C	1.5 to 3.6	—	-40 to +85	3 x 3 x 0.9
MS561101BA03-00	100	A	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +85	5 x 3 x 1
MS561101BA03-50	100	A	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +85	5 x 3 x 1
MS563702BA03-50	200	A	I <sup>2</sup> C	1.5 to 3.6	—	-40 to +85	3 x 3 x 0.9
MS563730BA03-50	3000	A	I <sup>2</sup> C	1.5 to 3.6	—	-20 to +85	14.7 x 15.2
MS580301BA01-00	100	A	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +125	6.2 x 6.4
MS580302BA01-00	200	A	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +85	6.2 x 6.4
MS580305BA01-00	500	A	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +85	6.2 x 6.4
MS580314BA01-00	1400	A	I <sup>2</sup> C	1.8 to 3.6	—	-40 to +85	6.2 x 6.4

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

Part Number	Pressure Range	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>BMP280</b>	300 to 1100 hPa	B	I <sup>2</sup> C and SPI	V <sub>DDG</sub> : 1.2 to 3.6 V <sub>DD</sub> : 1.71 to 3.6	2.74 µA @ 1 Hz	-40 to +85	2.0 × 2.5 × 0.95
<b>BMP388</b>	300 to 1250 hPa	B	I <sup>2</sup> C and SPI	V <sub>DDG</sub> : 1.2 to 3.6 V <sub>DD</sub> : 1.65 to 3.6	2.7 µA @ 1 Hz	-40 to +85	2.0 × 2.0 × 0.75

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

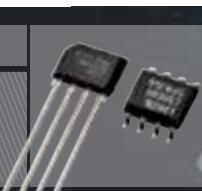
Part Number	Pressure Range kPa	Pressure Type	Digital Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>FXPQ3115BV</b>	20 to 115	A	I <sup>2</sup> C	1.95 to 3.6	–	-40 to +85	LGA 3 x 5
<b>MPL3115A2</b>	20 to 115	A	I <sup>2</sup> C	1.95 to 3.6	–	-40 to +85	LGA 3 x 5
<b>MPXH6101Axx</b>	15 to 105	A	Analog	4.75 to 5.25	7	-40 to +125	SSOP & ported SSOP
<b>MPXHZ6116A6</b>	20 to 115	A	Analog	4.75 to 5.25	6	-40 to +125	SSOP
<b>MPXHZ6130Axx</b>	15 to 130	A	Analog	4.75 to 5.25	6	-40 to +125	SSOP & ported SSOP
<b>MPXHZ6115Axx</b>	15 to 115	A	Analog	4.75 to 5.25	6	-40 to +125	SOP & ported SOP / SSOP & ported SOP
<b>MP3H6115AC6</b>	15 to 115	A	Analog	2.7 to 3.3	4	-40 to +125	Ported SSOP

A: Absolute, B: Barometric, D: Differential, G: Gauge

1kPa = 10 mbar = 10 hPa = 0.145 psi = 4.015 in H<sub>2</sub>O

MLX91216/17

## HIGH-SPEED CURRENT SENSORS



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## PROXIMITY

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Part Number	Number of Sensing Channels	Output Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>PCAP02AE</b>	8	I <sup>2</sup> C, SPI	2.1 to 3.6	0.0025 @ 2.5 Hz	-40 to +125	QFN-32 5 x 5
<b>PCAP04</b>	6	I <sup>2</sup> C, SPI	3.0 to 3.6	0.0023 @ 2.5 Hz	-40 to +85	QFN-24 4 x 4

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Part Number	Number of Sensing Channels	Output Interface	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
<b>LC717A30UR</b>	8	I <sup>2</sup> C, SPI	2.6 to 5.5	800	-40 to +105	VCT-28
<b>LC717A00AJ</b>	8	I <sup>2</sup> C, SPI	2.6 to 5.5	320 to 740	-45 to +105	SSOP-30
<b>LC717A00AR</b>	8	I <sup>2</sup> C, SPI	2.6 to 5.5	320 to 740	-40 to +105	VCT-28
<b>LC717A10AJ</b>	16	I <sup>2</sup> C, SPI	2.6 to 5.5	570 to 1300	-40 to +105	SSOP-30
<b>LC717A10AR</b>	16	I <sup>2</sup> C, SPI	2.6 to 5.5	570 to 1300	-40 to +105	VCT-28
<b>LC717A10PJ</b>	16	I <sup>2</sup> C, SPI	2.6 to 5.5	570 to 1300	-40 to +105	SSOP-30
<b>LC717A30UJ</b>	8	I <sup>2</sup> C, SPI	2.6 to 5.5	800	-40 to +105	SSOP-30

## PROXIMITY / Touch Controller - Resistive



Part Number	Touch Panel	Resolution	Output Interface	Power Consumption (µA)	Multi-Touch	Proximity Sensing	Package Type / Size (mm)
<b>BU21029GUL</b>	4-Wire	12-bit	I <sup>2</sup> C	800	Yes	Yes	VCSP50L2 (CSP 16-Ball) 2.00 x 2.00 x 0.55
<b>BU21029MUV</b>	4-Wire	12-bit	I <sup>2</sup> C	800	Yes	Yes	VQFN (20-Pin) 4.00 x 4.00 x 1.00
<b>BU21021GUL</b>	4-Wire	12-bit	I <sup>2</sup> C, SPI	400	Yes	Yes	VCSP50L2 (CSP 25-Ball) 2.70 x 2.65 x 0.55
<b>BU21023GUL</b>	4-Wire	10-bit	I <sup>2</sup> C, SPI	400	Yes	Yes	VCSP50L2 (CSP 25-Ball) 2.60 x 2.60 x 0.55
<b>BU21023MUV</b>	4-Wire	10-bit	I <sup>2</sup> C, SPI	400	Yes	Yes	VQFN (28-Pin) 5.00 x 5.00 x 1.00
<b>BU21025GUL</b>	4-Wire	12-bit	I <sup>2</sup> C	120	Yes	Yes	VCSP50L2 (CSP 12-Ball) 2.00 x 1.50 x 0.55

## PROXIMITY / IR Reflective Proximity Sensor



Part Number	Detection Range Max (cm)	Output Interface	Output Range	Power Consumption (µA)	Multi-Touch	Proximity Sensing	Package Type / Size (mm)
TSL26721	~45	I <sup>2</sup> C	16-bit	2.4 to 3.6	0.2	-30 to +70	DFN (2 x 2 x 0.65)
TMD2672	~45	I <sup>2</sup> C	16-bit	2.6 to 3.6	0.195	-30 to +85	MOD8(2.36 x 3.94 x 1.35)
TMD2620	~15	I <sup>2</sup> C	16-bit	1.7 to 2.0	0.03	-30 to +85	OLGA8 (2 x 3.1 x 1)



Part Number	Detection Range Max (cm)	Output Interface	Output Range	Power Consumption (µA)	Multi-Touch	Proximity Sensing	Package Type / Size (mm)
VCNL3020	20	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.002	-30 to +85	SMD - 10
VCNL36687S	20	I <sup>2</sup> C	12-bit	1.65 to 1.95	0.16	-30 to +85	SMD 3.05 x 2.0 x 1.0
TSSP4038	200	Analog	High or Low	2.5 to 5.5	0.8	-30 to +85	Through-hole
VCNL4010	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.005	-30 to +85	SMD 3.9 x 3.9 x 0.7
VCNL4020	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.005	-30 to +85	SMD 4.9 x 2.4 x 0.8
VCNL4020X01	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.005	-40 to +105	SMD 4.9 x 2.4 x 0.8
VCNL4040M30E	200	I <sup>2</sup> C	16-bit	2.5 to 3.6	0.3	-30 to +85	SMD 4.0 x 2.0 x 1.1
VCNL4200	1500	I <sup>2</sup> C	12 or 16-bit	2.5 to 3.6	0.35	-30 to +85	SMD 8.0 x 3.0 x 1.8

## PROXIMITY / Optical Sensor

Part Number	Detection Range (mm)	Forward Voltage (V)	Reverse Voltage (V)	Peak Wave-length (nm)	Maximum Dark Current (nA)	Output Current (µA)	Operating Temperature (°C)	Package Type / Size (mm)
RPR-220UC30N	5 to 12	2	10	800	10000	800	-25 to +85	Through-hole 6.4 x 4.9 x 6.5



Part Number	Detection Range (mm)	Forward Voltage (V)	Reverse Voltage (V)	Peak Wave-length (nm)	Maximum Dark Current (nA)	Output Current (µA)	Operating Temperature (°C)	Package Type / Size (mm)
VCNT2020	0.2 to 2.5	1.25 to 1.7	5	940	30	1.6 mA, typical	-25 to +85	SMD 2.5 x 2 x 0.8H
TCND5000	2 to 25	1.2	1.2	940	1	0.12, typical	-40 to +85	SMD 6 x 4.3 x 3.75



Part Number	Transmitting Channels	Receive Channel	Frequency Range (GHz)	TX Output Power (dBm)	RX LNA Gain (dB)	Supply Voltage (V)	Supply Current (mA)	Package Type / Size (mm)
BGT24MTR11E6327XUMA1	1	1	24.00 to 24.25	5 to 15	26	3.3	150	VQFN-32
BGT24MTR12E6327XUMA1	1	2	24.00 to 24.25	6 to 15	26	3.3	210	VQFN-32
BGT24MR2E6327XUMA1	0	2	24.00 to 24.25	–	26	3.3	90	VQFN-32
BGT24AR2E6433XUMA1	0	2	24.00 to 24.25	–	26	3.3	90	VQFN-32
BGT24AR4E6433XUMA1	0	4	24.00 to 24.25	–	26	3.3	220	VQFN-32
BGT24AT2E6433XUMA1	2	0	24.00 to 24.25	7 to 13	26	3.3	280	VQFN-32
BGT24ATR11E6433XUMA1	1	1	24.00 to 24.25	5 to 15	26	3.3	150	VQFN-32
BGT24ATR12E6433XUMA1	1	2	24.00 to 24.25	6 to 15	26	3.3	210	VQFN-32
BGT24LTER11N16E6327XTSA1	1	1	24.00 to 24.25	2 to 10	26	3.3	55	TSNP-16-9

## PROXIMITY / Time-of-Flight Laser Range Sensor



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Part Number	Detection Range Max (mm)	Output Interface	Output Range	Laser Safety	Supply Voltage (V)	Supply Current (mA)	Operating Temperature (°C)	Package Type /
VL6180XV0NR/1	100	I <sup>2</sup> C	16-bit	Class 1 (IEC 60825-1:2007)	2.6 to 3.0	0.3	-20 to +70	LGA-12 Optical 4.8 x 2.8 x 1.0
VL53L0CXV0DH/1	2000	I <sup>2</sup> C	16-bit	Class 1 (IEC 60825-1:2014 - 3rd edition)	2.6 to 3.5	20	-20 to +70	Optical LGA12 4.40 x 2.40 x 1.00
VL53L1CXV0FY/1	4000	I <sup>2</sup> C	16-bit	Class 1 (IEC 60825-1:2014 - 3rd edition)	2.6 to 3.5	20	-20 to +85	Optical LGA12 4.9 x 2.5 x 1.56



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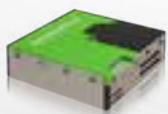
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Part Number	Internal Resistance (kOhm)	Resistance T.C. (% degree C)	Thermistor Resistance (kOhm)	Responsitivity (V/W)	Noise Voltage (nVRms)	Diaphragm Size (mm)	Operating Temperature (°C)	Package Type / Size (mm)
ZTP-101T	200	0.1	30 ±3%	110 Typical	62	1.5 x 1.5	-20 to +100	T0-39 (TO-5)
ZTP-115	50	0.15	10 ±3%	60 Typical	30	1.0 x 1.0	-20 to +100	T0-39 (TO-5)
ZTP-135SR	60	0.12	100 ±3%	62 Typical	32	1.4 x 1.4	-20 to +100	T0-46 (TO-18)
ZTP-135SR-F1	60	0.12	100 ±3%	38 Typical	32	1.4 x 1.4	-20 to +100	T0-46 (TO-18)
ZTP-135	60	0.12	10 ±3%	60 Typical	32	1.4 x 1.4	-20 to +100	T0-46 (TO-18)
ZTP-135H	60	0.12	100 ±3%	58 Typical	32	1.4 x 1.4	-20 to +100	T0-46 (TO-18)
ZTP-135L	60	0.12	100 ±3%	58 Typical	32	1.4 x 1.4	-20 to +100	T0-46 (TO-18)
ZTP-315	50	0.12	30 ±1%	32 Typical	30	2.6 x 2.6	-20 to +100	T0-46 (TO-18)
ZTP-135BS	60	-0.03 Typical	100 ±3%	54 Typical	32	1.4 x 1.4	-20 to +100	T0-46 (TO-18)
ZTP-148SR	85	0.12	100 ±2%	61 Typical	37	1.0 X 1.0	-20 to +100	T0-46 (TO-18)



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Part Number	Internal Resistance (kOhm)	Resistance T.C. (% degree C)	Thermistor Resistance (kOhm)	Responsitivity (V/W)	Noise Voltage (nVRms)	Diaphragm Size (mm)	Operating Temperature (°C)	Package Type / Size (mm)
G-TPM0-101	70,000	-0.06%/K	100	7 ±2.1mV	45nV/Hz $\frac{1}{2}$	0.8 x 0.8	-20 to +85	T0-5



**Particulate Matter Sensor  
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Part Number	Field-of-View (degree)	Object Temperature Range (°C)	Temperature Accuracy ( $\pm$ ) (°C)	Measurement Resolution (°C)	Output Interface	Supply Voltage (V)	Quiescent Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90614KSF-AAA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +125	TO-39 / 4.1(h) x 9.1(d)
MLX90614KSF-ABA-000	120	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +125	TO-39 / 4.1(h) x 9.1(d)
MLX90614KSF-ACC-000	35	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +125	TO-39 / 8.1(h) x 10.2(d)
MLX90614ESF-AAA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-ABA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-ACA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-BAA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-BBA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-BCA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-ACC-000	35	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 8.1(h) x 10.2(d)

**MLX90641**

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# TEMPERATURE / Digital Infrared Thermometer



Part Number	Field-of-View (degree)	Object Temperature Range (°C)	Temperature Accuracy ( $\pm$ ) (°C)	Measurement Resolution (°C)	Output Interface	Supply Voltage (V)	Quiescent Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
MLX90614KSF-AAA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +125	TO-39 / 4.1(h) x 9.1(d)
MLX90614KSF-ABA-000	120	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +125	TO-39 / 4.1(h) x 9.1(d)
MLX90614KSF-ACC-000	35	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +125	TO-39 / 8.1(h) x 10.2(d)
MLX90614ESF-AAA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-ABA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-ACA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-BAA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-BBA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-BCA-000	90	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-ACC-000	35	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 8.1(h) x 10.2(d)
MLX90614ESF-BCC-000	35	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 8.1(h) x 10.2(d)
MLX90614ESF-ACF-000	10	-70 to +380	0.5	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 17.2(h) x 9.1(d)
MLX90614ESF-BCF-000	10	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 17.2(h) x 9.1(d)
MLX90614ESF-BCH-000	12	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 8.3(h) x 9.1(d)
MLX90614ESF-BCI-000	5	-70 to +380	0.5	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 20.2(h) x 9.1(d)
MLX90614ESF-ACK-000	15	-70 to +380	1	0.02	SMBus/PWM	4.5 to 5.5	0.006	-40 to +85	TO-39 / 8.1(h) x 10.2(d)
MLX90614ESF-BCK-000	15	-70 to +380	1	0.02	SMBus/PWM	2.6 to 3.6	0.006	-20 to +85	TO-39 / 8.1(h) x 10.2(d)
MLX90632SLD-BCB-000	50	-20 to +200	1	0.02	I <sup>2</sup> C	3 to 3.6	0.0025	-20 to +85	QFN / 1(h) x 3(d)
MLX90614ESF-DAA-000	90	-70 to +380	0.2	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-DCA-000	90	-70 to +380	0.2	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 4.1(h) x 9.1(d)
MLX90614ESF-DCC-000	35	-70 to +380	0.2	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 8.1(h) x 10.2(d)
MLX90614ESF-DCH-000	12	-70 to +380	0.2	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 8.3(h) x 9.1(d)
MLX90614ESF-DCI-000	5	-70 to +380	0.2	0.02	SMBus/PWM	2.6 to 3.6	0.006	-40 to +85	TO-39 / 20.2(h) x 9.1(d)
MLX90615SSG-DAA-000	100	-40 to +115	0.2	0.02	SMBus/PWM	2.6 to 3.4	0.003	-40 to +85	TO-46 / 2.7(h) x 5.4(d)
MLX90615SSG-DAG-000	80	-40 to +115	0.2	0.02	SMBus/PWM	2.6 to 3.4	0.003	-40 to +85	TO-46 / 2.7(h) x 5.4(d)
MLX90621ESF-BAA-000	120 x 25	-40 to +300	1	0.02	I <sup>2</sup> C	2.5 to 3.3	0.009	-40 to +85	TO-39 / 5.51(h) x 9.3(d)
MLX90621ESF-BAB-000	60 x 15	-40 to +300	1	0.02	I <sup>2</sup> C	2.5 to 3.4	0.009	-40 to +85	TO-39 / 11.15(h) x 9.3(d)
MLX90621ESF-BAD-000	40 x 10	-40 to +300	1	0.02	I <sup>2</sup> C	2.5 to 3.5	0.009	-40 to +85	TO-39 / 14.15(h) x 9.3(d)
MLX90640ESF-BAA-000	110 x 75	-40 to +300	1	0.02	I <sup>2</sup> C	2.9 to 3.6	0.015	-40 to +85	TO-39 / 5.7(h) x 9.3(d)
MLX90640ESF-BAB-000	55 x 40	-40 to +300	1	0.02	I <sup>2</sup> C	2.9 to 3.6	0.015	-40 to +85	TO-39 / 11.25(h) x 9.3(d)



AUTHORIZED DISTRIBUTOR

Part Number	Object Temperature Range (°C)	Temperature Accuracy ( $\pm$ ) (°C)	Measurement Resolution (°C)	Output Interface	Supply Voltage (V)	Quiescent Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
G-TPMO-014	-20 to +120	$\pm$ 5	$\pm$ 0.1	1 hz	4 to 6	10	-10 to +85	25 X 35
G-TPMO-025	0 to +300	<4	$\pm$ 0.1	1 hz	3.3	10	-10 to +85	25 X 35

## TEMPERATURE / Temperature Sensor - Analog



Part Number	Temperature Accuracy ( $\pm$ ) ( $^{\circ}\text{C}$ )	Sensor Gain (mV/ $^{\circ}\text{C}$ )	Supply Voltage (V)	Quiescent Current ( $\mu\text{A}$ )	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
<b>BDJ0600AHFV</b>	2.5	N/A, Thermostat Interrupt Output Only, 60C Detect Temp	2.4 to 5.5	7.5	-30 to +100	HVSOF5 (5-pin) 1.6 x 1.6 x 0.6
<b>BDJ0700AHFV</b>	2.5	N/A, Thermostat Interrupt Output Only, 70C Detect Temp	2.4 to 5.5	7.5	-30 to +100	HVSOF5 (5-pin) 1.6 x 1.6 x 0.6
<b>BDJ0800AHFV</b>	2.5	N/A, Thermostat Interrupt Output Only, 80C Detect Temp	2.4 to 5.5	7.5	-30 to +100	HVSOF5 (5-pin) 1.6 x 1.6 x 0.6



Part Number	Temperature Accuracy ( $\pm$ ) ( $^{\circ}\text{C}$ )	Sensor Gain (mV/ $^{\circ}\text{C}$ )	Supply Voltage (V)	Quiescent Current ( $\mu\text{A}$ )	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
<b>STLM20W87F</b>	$\pm 0.5$	$\pm 0.5$	2.4 to 5.5	2.4 to 5.5	-55 to +130	SC70-5, UDFN4
<b>STLM20DD9F</b>	$\pm 0.5$	$\pm 0.5$	2.4 to 5.5	2.4 to 5.5	-40 to +85	UDFN-4L
<b>LM135</b>	$\pm 1$	$\pm 0.5$	3.01 máx	—	-55 to +150	To-92, SO-8
<b>LM235</b>	$\pm 1$	$\pm 0.5$	3.01 máx	—	-40 to +120	To-92, SO-8
<b>LM335</b>	$\pm 1$	$\pm 0.5$	3.01 máx	—	-40 to +100	To-92, SO-8



AUTHORIZED DISTRIBUTOR

Part Number	Temperature Accuracy ( $\pm$ ) ( $^{\circ}\text{C}$ )	Sensor Gain (mV/ $^{\circ}\text{C}$ )	Supply Voltage (V)	Quiescent Current ( $\mu\text{A}$ )	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
<b>GA10K3D1031-UL</b>	$\pm 1\%$	-4.40%	—	—	0 to +95	Ring lug
<b>GA100K6D234</b>	$\pm 0.2^{\circ}\text{C}$	-4.68%	—	—	-40 to +125	Leaded
<b>GA10K3435DM010</b>	$\pm 1\%$	-3.87%	—	—	-40 to +125	Overmold probe
<b>GA10K4D25</b>	$\pm 0.2^{\circ}\text{C}$	-4.04%	—	—	-40 to +125	Flag terminal

## TEMPERATURE / Temperature Sensor - Digital



Part Number	Temperature Accuracy ( $\pm$ ) ( $^{\circ}\text{C}$ )	Output Interface	Supply Current (mA)	Resolution (bit)	Supply Voltage (V)	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
<b>AS6200</b>	$\pm 0.4$ (0 to +65)	I <sup>2</sup> C	6 $\mu\text{A}$ @ 4 samples/sec	12	1.8 to 3.6	-40 to +125	WLCSP / 1.5 x 1.0
<b>AS6204</b>	$\pm 0.4$ (0 to +65)	I <sup>2</sup> C	6 $\mu\text{A}$ @ 4 samples/sec	12	1.8 to 3.6	-40 to +125	WLCSP / 1.5 x 1.0
<b>AS6200C</b>	$\pm 0.2$ (-20 to +810)	I <sup>2</sup> C	6 $\mu\text{A}$ @ 4 samples/sec	12	1.8 to 3.6	-40 to +125	WLCSP / 1.5 x 1.0

## TEMPERATURE / Temperature Sensor - Digital



Part Number	Temperature Accuracy ( $\pm$ ) $(^{\circ}\text{C})$	Output Interface	Supply Current (mA)	Resolution (bit)	Supply Voltage (V)	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
LM75B	2	I <sup>2</sup> C	0.3	11	2.8 to 5.5	-55 to +125	SOT96-1, SOT505-1, SOT996-2, SOT1069-2
PCT2075	1	I <sup>2</sup> C	0.40	11	2.7 to 5.5	-55 to +125	SOT96-1, SOT505-1, SOT1069-2, SOT1353-1
PCT2202	1	I <sup>2</sup> C	0.45	12	1.65 to 1.95	-40 to +125	WLCS6 (0.69 x 1.09 x 0.382)
SA56004X	2	I <sup>2</sup> C	0.5	11	3.0 to 3.6	-40 to +125	SOT96-1, SOT505-1, SOT782-1
SE95	1	I <sup>2</sup> C	1.00	11, 13	2.8 to 5.5	-55 to +125	SOT96-1, SOT505-1
SE97B	1	I <sup>2</sup> C	0.40	11	3.0 to 3.6	-40 to +125	SOT1069-2
SE98A	1	I <sup>2</sup> C	0.4	11	1.7 to 3.6	-40 to +125	SOT1069-2
NHS3100	$\pm 0.3$	NFC, I <sup>2</sup> C, SPI	0.4	12	1.72 to 3.6	-40 to +85	HVQFN-24
NHS3100UK	$\pm 0.3$	NFC, I <sup>2</sup> C, SPI	0,003 to 0,15	12	1.72 to 3.6	-40 to +85	WL CSP-25
NHS3100W8	$\pm 0.3$	NFC, I <sup>2</sup> C, SPI	0,003 to 0,15	12	1.72 to 3.6	-40 to +85	W8 (gold bumps on die)
NHS3152	$\pm 0.3$	NFC, I <sup>2</sup> C, SPI	0,003 to 0,15	12	1.72 to 3.6	-40 to +85	HVQFN-24
NHS3152UK	$\pm 0.3$	NFC, I <sup>2</sup> C, SPI	0,003 to 0,15	12	1.72 to 3.6	-40 to +85	WL CSP-25



Part Number	Temperature Accuracy ( $\pm$ ) $(^{\circ}\text{C})$	Output Interface	Supply Current (mA)	Resolution (bit)	Supply Voltage (V)	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
STS30	$\pm 0.3$	I <sup>2</sup> C	2	16	2.4 to 5.5	-40 to +85	2.5 x 2.5 x 0.9
STS31	$\pm 0.2$	I <sup>2</sup> C	2	16	2.4 to 5.5	-40 to +85	2.5 x 2.5 x 0.9



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Part Number	Temperature Accuracy ( $\pm$ ) $(^{\circ}\text{C})$	Output Interface	Supply Current (mA)	Resolution (bit)	Supply Voltage (V)	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
STTS75	$\pm 0.5$	I <sup>2</sup> C	0.001	9, 10, 11, 12	2.7 to 5.5	-55 to +125	TSSOP8 or SO8
STD575	$\pm 0.5$	I <sup>2</sup> C	0.001	9, 10, 11, 12	2.7 to 5.5	-55 to +125	TSSOP8
STCN75	$\pm 0.5$	I <sup>2</sup> C	0.001	9	2.7 to 5.5	-55 to +125	TSSOP8
STLM75	$\pm 0.5$	I <sup>2</sup> C	0.001	9	2.7 to 5.5	-55 to +125	TSSOP8 or SO8
STTS751	$\pm 0.5$	I <sup>2</sup> C / SMBus	0.002	8	3	-40 to +125	UDFN-6L or SOT23-6L
STTS2004	$\pm 1$	I <sup>2</sup> C / SMBus	0.002	9	3	-40 to +125	TDFN8



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Part Number	Temperature Accuracy ( $\pm$ ) $(^{\circ}\text{C})$	Output Interface	Supply Current (mA)	Resolution (bit)	Supply Voltage (V)	Operating Temperature ( $^{\circ}\text{C}$ )	Package Type / Size (mm)
G-NICO-018	$\pm 0.1$	SPI, I <sup>2</sup> C	12.5 $\mu\text{A}$	—	3.0	-40 to +125	4 X 4
G-NIMO-003	$\pm 0.2$ to 1	I <sup>2</sup> C	18 $\mu\text{A}$	—	3.0	-40 to +125	2.5 X 2.5

Part Number / Series	R25 (Ohm)	Tolerances	Temperature Coefficient (%/K)	Operating Temperature (°C)	Package Type / Size (mm)
<b>RL0503-xxx</b>	2K to 100K	±1°C	-3.8 to -4.9	-50 to +150	Epoxy coated with insulated leads
<b>03006-xxx</b>	250 to 1M	2% to 10%	-3.34 to -5.26	-50 to +150	Glass encapsulated - MELF
<b>AL03006-xxx</b>	250 to 1M	2% to 10%	-3.34 to -5.26	-50 to +204	DO-35 glass encapsulated
<b>EC95xxx</b>	1K to 100K	±1°C or ±2°C	-4.04 to -4.68	-80 to +150	Epoxy coated chip with 0.008"OD leads
<b>DC95xxx</b>	2K to 100K	±1°C or ± 2°C	-4.04 to -4.68	-80 to +150	Epoxy coated chip with 0.012"OD leads
<b>TK95xxx</b>	2K to 100K	±1°C or ±2°C	-4.04 to -4.68	-80 to +150	Epoxy coated chip with insulated leads
<b>MC65xxx</b>	2252 to 100K	±0.05°C or ±0.1°C or ±0.15°C	-4.04 to -4.39	-40 to +105	Epoxy coated with insulated leads
<b>RL10xx</b>	75 to 350K	±10%	-3.42 to -5.23	-50 to +150	Bare discs with uninsulated leads
<b>RL20xx</b>	25 to 100K	±10%	-3.42 to -5.23	-50 to +150	Bare discs with uninsulated leads
<b>RL30xx</b>	10 to 30K	±10%	-3.42 to -5.23	-50 to +150	Bare discs with uninsulated leads
<b>RL40xx</b>	50 to 10K	±10%	-3.83 to -5.18	-50 to +150	Bare discs with uninsulated leads
<b>RLxxxx</b>	1K to 10K	±1°C	-4.50	-50 to +150	Interchangeable discs
<b>DKxxx</b>	2K to 100K	±3% or ±5% or ±10%	-3.89 to -4.36	-40 to +250	Glass encapsulated
<b>THxxx</b>	2K to 100K	±5%	-3.34 to -5.26	-40 to +250	DO-35 glass encapsulated
<b>C100xx</b>	3K to 100K	±2% or ±5% or ±10%	-4.04 to -4.39	-80 to +150	Epoxy Coated
<b>MA100xxx</b>	2252 to 10K	±0.05°C or ±0.1°C or ±0.15°C	4.39	0 to +50	0.030" OD cap with insulated leads
<b>MA300xxx</b>	5K or 10K	±0.1°C or ±0.15°C	4.39	0 to +50	0.375" OD S/S disc with insulated leads
<b>SCxxx</b>	2.3K to 100K	±0.05°C or ±0.1°C or ±0.2°C	-4.04 to -4.39	-40 to +150	0.032" or 0.050" OD cap with insulated leads
<b>NHQxxx</b>	100 to 500K	±5% or ±10%	—	-40 to +125	1206 size
<b>NHQMxxx</b>	40 to 500K	±5% or ±10%	—	-40 to +125	0805 size
<b>NHQMMxxx</b>	30 to 200K	±5% or ±10%	—	-40 to +125	0603 size
<b>NKAxxx</b>	50 to 50K	±1% or ±2% or ±10%	-4.39 to	-40 to +190	Insulated chip and leads
<b>NKxxx</b>	50 to 50K	±1% or ±2% or ±5% or ±10%	-3.74 to -4.39	-40 to +155	Epoxy coated chip
<b>FP07xxx</b>	2K to 270K	±25%	-3.45 to -4.50	-80 to +200	Fast tip with 0.1sec still air response
<b>ABxxx</b>	51 to 20M	±1% to ±25%	-3.26 to -5.47	-40 to +175	0.0125"-0.022" OD with #38 or #40 or #44 AWG Ni/Cu leads
<b>A-1996</b>	2786	—	-4.5	-40 to +190	Twistlock sensor with an integral connector
<b>A-1737</b>	30000	±5%	4.34	-40 to +210	Radial leaded flexible sensor assembly with Molex terminal
<b>GE-1920</b>	2828	±1.3%	-4.39	-40 to +100	Threaded plated steel with integral connector

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Advanced Sensors

Part Number / Series	R25 (Ohm)	Tolerances	Temperature Coefficient (%/K)	Operating Temperature (°C)	Package Type / Size (mm)
<b>GE-2102</b>	10K	±1.5%	-4.39	-40 to +120	1/2" hose, nylon inline sensor with integrated connector
<b>GE-2103</b>	10K	±1.5%	-4.39	-40 to +120	1 1/4" hose, nylon inline sensor with integrated connector
<b>GE-1935</b>	10K	±1.5%	-4.39	-40 to +120	3/4" hose, nylon inline sensor with integrated connector
<b>JS6780</b>	2795	±2.5%	-4.46	-40 to 85	Flange mount with harness and connector
<b>GE-1571</b>	2820	±4.86%	-4.5	-40 to 150	Stainless steel probe with harness wires and connector
<b>WTF083B001</b>	2828	±1.3%	-4.39	-40 to +100	Threaded plated steel with integral sealed USCAR connector
<b>GE-1711</b>	10K	±5%	-4.39	-40 to +180 (at housing)	Threaded brass probe with harness wires and Delphi Metri-Pack Connector
<b>GE-1797</b>	10K	±5%	-4.39	-40 to +180 (at housing)	Threaded stainless steel probe with harness wires and Delphi Metri-Pack Connector
<b>GE-1711ATM</b>	10K	±5%	-4.39	-40 to +180 (at housing)	Threaded brass probe with harness wires and Amphenol-Sine ATM Connector
<b>GE-1797ATM</b>	10K	±5%	-4.39	-40 to +180 (at housing)	Threaded stainless steel probe with harness wires and Amphenol-Sine ATM Connector
<b>JS8741A</b>	2.7K	±5%	-4.39	-40 to +120	Spring Clip of Galvanized Steel
<b>JS8741B</b>	10K	±5%	-4.39	-40 to +120	Spring Clip of Galvanized Steel
<b>JS8741C</b>	30K	±5%	-4.39	-40 to +120	Spring Clip of Galvanized Steel
<b>JI-103C1R2-L301</b>	10K	±2% or ±0.2°C	-4.39	-50 to +105	Double insulated chip and leads
<b>JI-103C1R2-L102</b>	10K	±2% or ±0.2°C	-4.39	-50 to +105	Double insulated chip and leads
<b>JI-103C1R2-L252</b>	10K	±2% or ±0.2°C	-4.39	-50 to +105	Double insulated chip and leads
<b>JI-F103WN-L301</b>	10K	±2% or ±0.2°C	-4.39	-50 to +105	Double insulated chip and leads
<b>JI-F103WN-L102</b>	10K	±2% or ±0.2°C	-4.39	-50 to +105	Double insulated chip and leads
<b>JI-F103WN-L252</b>	10K	±2% or ±0.2°C	-4.39	-50 to +105	Double insulated chip and leads

Part Number / Series	R25 (Ohm)	Tolerances	Temperature Coefficient (%/K)	Operating Temperature (°C)	Package Type / Size (mm)
NCU15WB473D6SRC	47k	0.5	-4.56*	-40 to +150	1.0 x 0.5
NCU15WB473E6SRC	47k	3	-4.56*	-40 to +150	1.0 x 0.5
NCU15WB473F6SRC	47k	1	-4.56*	-40 to +150	1.0 x 0.5
NCU15WB473J6SRC	47k	5	-4.56*	-40 to +150	1.0 x 0.5
NCU15WF104D6SRC	100k	0.5	-6.8*	-40 to +150	1.0 x 0.5
NCU15WF104E6SRC	100k	3	-6.8*	-40 to +150	1.0 x 0.5
NCU15WF104F6SRC	100k	1	-6.8*	-40 to +150	1.0 x 0.5
NCU15WF104J6SRC	100k	5	-6.8*	-40 to +150	1.0 x 0.5
NCU15XH103D6SRC	10k	0.5	-5.408*	-40 to +150	1.0 x 0.5
NCU15XH103E6SRC	10k	3	-5.408*	-40 to +150	1.0 x 0.5
NCU15XH103F6SRC	10k	1	-5.408*	-40 to +150	1.0 x 0.5
NCU15XH103J6SRC	10k	5	-5.408*	-40 to +150	1.0 x 0.5
NCU15WB473D60RC	47k	0.5	-6.48*	-40 to +125	1.0 x 0.5
NCU15WB473E60RC	47k	3	-6.48*	-40 to +125	1.0 x 0.5
NCU15WB473F60RC	47k	1	-6.48*	-40 to +125	1.0 x 0.5
NCU15WB473J60RC	47k	5	-6.48*	-40 to +125	1.0 x 0.5
NCU15WF104D60RC	100k	0.5	-6.8*	-40 to +125	1.0 x 0.5
NCU15WF104E60RC	100k	3	-6.8*	-40 to +125	1.0 x 0.5
NCU15WF104F60RC	100k	1	-6.8*	-40 to +125	1.0 x 0.5
NCU15WF104J60RC	100k	5	-6.8*	-40 to +125	1.0 x 0.5
NCU15XH103D60RC	10k	0.5	-5.408*	-40 to +125	1.0 x 0.5
NCU15XH103E60RC	10k	3	-5.408*	-40 to +125	1.0 x 0.5
NCU15XH103F60RC	10k	1	-5.408*	-40 to +125	1.0 x 0.5
NCU15XH103J60RC	10k	5	-5.408*	-40 to +125	1.0 x 0.5

\* = approximate value



Part Number / Series	R25 (Ohm)	Tolerance (%)	Max Steady State Current (Amps)	Operating Temperature (°C)	Package Type / Size (mm)
GA100K6MBD1	100K	±0.2°C 0 to 70°C	-4.68	-40 to +125	Leaded
GA100K6MCD1	100K	±0.1°C @ 25°C	-4.68	-40 to +125	Leaded
GA10K3A1A	10K	±0.1°C 0 to 70°C	-4.4	-40 to +125	Leaded
GA10K3A1A-UL	10K	±0.1°C 0 to 70°C	-4.4	-40 to +125	Leaded
GA10K3MBD1	10K	±0.2°C 0 to 70°C	-4.4	-40 to +125	Leaded
GA10K3MCD1	10K	±0.1°C @ 25°C	-4.4	-40 to +125	Leaded
GA10K3D1217	10K	±1% 25°C to 85°C	-4.4	-40 to +125	Pipe mount

# TEMPERATURE / Thermistor



Part Number / Series	R25 (Ohm)	Tolerances	Temperature Coefficient (%/K)	Operating Temperature (°C)	Package Type / Size (mm)
<b>NTCS0805</b>	2K2 to 680K	1%, 2%, 3%, 5%	-3.69 to -4.53	-40 to +150	Surface Mount, 0805
<b>NTCS0603</b>	2K to 100K	1%, 2%, 3%, 5%	-3.59 to -4.52	-40 to +150	Surface Mount, 0603
<b>NTCS0402</b>	4K7 to 100K	1%, 2%, 3%, 5%	-3.03 to -4.48	-40 to +150	Surface Mount, 0402
<b>NTCS...SMT</b>	100K to 210K	1%	-3.93	-40 to +150	Surface Mount, 0402, 0603, 0805
<b>NTCSMELF</b>	10K to 100K	5%	-4.38	-40 to +150	Surface Mount, MELF
<b>NTHS1206</b>	6K to 220K	1%, 2%, 3%, 5%, 10%	-3.84 to -4.50	-40 to +125	Surface Mount, 1206
<b>NTHS0805</b>	4.7K to 200K	1%, 2%, 3%, 5%, 10%	-3.84 to -4.50	-40 to +125	Surface Mount, 0805
<b>NTHS0603</b>	6.8K to 220K	1%, 2%, 3%, 5%, 10%	-3.84 to -4.50	-40 to +125	Surface Mount, 0603
<b>NTHS0402</b>	10K to 250K	3%, 5%, 10%	-3.84 to -4.50	-40 to +125	Surface Mount, 0402
<b>NTCC200/300</b>	4.7K to 20K	1%, 2%, 3%, 5%	-3.75 to -4.22	-55 to +175	Wire Bondable Die
<b>NTCLE100</b>	3R3 to 470K	2%, 3%, 5%	-3.22 to -4.97	-40 to +125	Radial Through-Hole
<b>M, C, T</b>	30R to 1M	1%, 5%, 10%; 0.2°C, 0.5°C, 1.0°C	-3.84 to -5.23	-40 to +125	Radial Through-Hole
<b>NTCLE203</b>	2K to 470K	1%, 2%, 3%, 5%	-3.87 to -4.97	-40 to +125	Radial Through-Hole
<b>NTCLE203...SB0</b>	2K06 to 30K	0.5°C	-3.87 to -4.51	-55 to +150	Radial Through-Hole
<b>NTCLE213</b>	2K1 to 100K	1%, 2%, 3%, 5%	-3.85 to -4.57	-55 to +150	Radial Through-Hole
<b>NTCLE201</b>	3K to 10K	0.5°C	-4.37	-40 to +125	Radial Through-Hole
<b>NTCLE300</b>	3K to 10K	0.5°C	-4.37	-40 to +125	Radial Through-Hole
<b>NTCLE305</b>	2K06 to 10K	0.5°C	-3.85 to -4.39	-40 to +125	Radial Through-Hole
<b>NTCLE400</b>	2K2 to 100K	3%	-4.38 to -4.47	-40 to +85	Long Lead Through-Hole
<b>NTCLE413</b>	4K7 to 100K	1%, 3%, 5%	-3.75 to -4.57	-40 to +105	Radial Through-Hole
<b>NTCLE428</b>	4K7 to 100K	1%, 3%, 5%	-3.75 to -4.47	-40 to +105	Radial Through-Hole
<b>NTCLG100</b>	10K to 220K	5%	-4.10 to -4.38	-40 to +200	Axial Through-Hole
<b>NTCALUG01A</b>	4K7 to 100K	1%, 2%, 3%, 5%	-3.75 to -4.57	-40 to +150	Assembly
<b>NTCALUG01T</b>	10K	1%, 2%,	-3.75 to -4.39	-40 to +150	Assembly
<b>NTCALUG02A</b>	4K7 to 100K	1%, 2%, 3%	-3.75 to -4.57	-55 to +125	Assembly
<b>NTCALUG03A</b>	10K to 47K	2%, 3%	-4.10 to -4.39	-40 to +125	Assembly
<b>NTCALUG54A</b>	10K	2%, 3%	-3.75 to -4.39	-40 to +150	Assembly
<b>NTCALUG85A</b>	10K	2%	-3.75 to -4.39	-40 to +150	Assembly
<b>NTCALUG91A</b>	10K	2%, 3%	-3.75 to -4.39	-40 to +150	Assembly
<b>NTCACAP</b>	2K7 to 10K	1%, 2%	-4.39	-55 to +60	Assembly
<b>NTCAFLEX</b>	10K to 122K	1%, 3%	-3.93 to -4.41	-40 to +125	Assembly
<b>NTCAIMME3C90373/ NTCAIMME3C90686</b>	10K	3%	-4.39	-25 to +105	Assembly
<b>NTCASCW</b>	1K to 470K	1%, 2%, 5%	-3.87 to -4.95	-25 to +100	Assembly
<b>NTCLP450</b>	100K	3%	-4.57	-40 to +105	Assembly
<b>PTCSL03</b>	20 to 120	—	—	-40 to +165	Radial Through-Hole
<b>TFPT1206</b>	100R to 10K	0.5%, 1%, 5%	0.41	-55 to +150	Surface Mount, 1206
<b>TFPT0805</b>	100R to 5K	0.5%, 1%, 5%	0.41	-55 to +150	Surface Mount, 0805
<b>TFPT0603</b>	100R to 1K	0.5%, 1%, 5%	0.41	-55 to +150	Surface Mount, 0603

# Amphenol

## Advanced Sensors

Part Number / Series	R <sub>25</sub> (Ohm)	Tolerance (%)	Max Steady State Current (Amps)	Operating Temperature (°C)	Package Type / Size (mm)
<b>CL-11</b>	0.7	25	12	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-21</b>	1.3	25	8	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-30</b>	2.5	25	8	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-40</b>	5	25	6	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-50</b>	7	25	5	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-60</b>	10	25	5	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-70</b>	16	25	4	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-80</b>	47	25	3	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-90</b>	120	25	2	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-101</b>	0.5	25	16	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-110</b>	10	25	3.2	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-120</b>	10	25	1.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-130</b>	50	25	1.6	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-140</b>	50	25	1.1	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-150</b>	5	25	4.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-160</b>	5	25	2.8	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-170</b>	16	25	2.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-180</b>	16	25	1.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-190</b>	25	25	2.4	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-200</b>	25	25	1.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-210</b>	30	25	1.5	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-11A</b>	0.07	25	12	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-21A</b>	1.3	25	8	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-30A</b>	2.5	25	8	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-40A</b>	5	25	6	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-50A</b>	7	25	5	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-60A</b>	10	25	5	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-70A</b>	16	25	4	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-80A</b>	47	25	3	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-90A</b>	120	25	2	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-101A</b>	0.5	25	16	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-110A</b>	10	25	3.2	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-120A</b>	10	25	1.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-130A</b>	50	25	1.6	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-140A</b>	50	25	1.1	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-150A</b>	5	25	4.7	-50 to +175	Epoxy coated disc, PCB mount
<b>CL-160A</b>	5	25	2.8	-50 to +175	Epoxy coated disc, PCB mount

## TEMPERATURE / Thermistor - Inrush Current Limiters

### Amphenol

Advanced Sensors

Part Number / Series	R25 (Ohm)	Tolerance (%)	Max Steady State Current (Amps)	Operating Temperature (°C)	Package Type / Size (mm)
CL-170A	16	25	2.7	-50 to +175	Epoxy coated disc, PCB mount
CL-180A	16	25	1.7	-50 to +175	Epoxy coated disc, PCB mount
CL-190A	25	25	2.4	-50 to +175	Epoxy coated disc, PCB mount
CL-200A	25	25	1.7	-50 to +175	Epoxy coated disc, PCB mount
CL-210A	30	25	1.5	-50 to +175	Epoxy coated disc, PCB mount

### muRata

INNOVATOR IN ELECTRONICS

Part Number / Series	R25 (Ohm)	Tolerance (%)	Max Steady State Current (mA)	Operating Temperature (°C)	Package Type / Size (mm)
PRG18BB101MS1RB	100	20	200	-20 to +75	1.6 x 0.8
PRG18BB221MS1RB	220	20	90	-20 to +75	1.6 x 0.8
PRG18BB330MS1RB	33	20	600	-20 to +75	1.6 x 0.8
PRG18BB470MS1RB	47	20	420	-20 to +75	1.6 x 0.8
PRG18BB471MS1RB	470	20	40	-20 to +75	1.6 x 0.8
PRG21AR420MS1RA	42	20	590	-20 to +75	2.0 x 1.25
PRG21AR100MS5RA	10	20	3750	-40 to +105	2.0 x 1.25
PRG21AR150MS5RA	15	20	2500	-40 to +105	2.0 x 1.25
PRG21AR220MS5RA	22	20	1710	-40 to +105	2.0 x 1.25
PRG21AR4R7MS5RA	4.7	20	8000	-40 to +105	2.0 x 1.25
PRG21AR8R2MS5RA	8.2	20	2440	-40 to +105	2.0 x 1.25
PRG21BC2R2MS5RA	2.2	20	9000	-40 to +85	2.0 x 1.25
PRG21BC3R3MS5RA	3.3	20	7500	-40 to +85	2.0 x 1.25
PRG21BC4R7MS5RA	4.7	20	8000	-40 to +85	2.0 x 1.25
PRG21BC6R8MS5RA	6.8	20	5500	-40 to +85	2.0 x 1.25

### VISHAY

Part Number / Series	R25 (Ohm)	Tolerance (%)	Max Steady State Current (Amps)	Operating Temperature (°C)	Package Type / Size (mm)
PTCEL	60 to 500	130 to 140	40	-40 to +105	Radial Through-Hole

## TEMPERATURE / PTC Thermistor - Overheat Detection

**muRata**  
INNOVATOR IN ELECTRONICS

Part Number / Series	Sensing Temp 1 (°C)	Sensing Temp 2 (°C)	Max Voltage (V)	R25 (ohm)	Operating Temperature (°C)	Package Type / Size (mm)	Grade
PRF18AR471QS5RB	135	150	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18AS471QS5RB	145	—	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BA471QS5RB	125	140	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BB471QS5RB	115	130	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BB471RS5RB	115	130	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BC471QS5RB	105	120	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BC471RS5RB	105	120	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BD471QS5RB	95	110	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BD471RS5RB	95	110	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BE471QS5RB	85	100	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BE471RS5RB	85	100	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BF471QS5RB	75	90	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BF471RS5RB	75	90	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BG471QS5RB	65	80	32	470	-40 to +150	1.6 x 0.8	Automotive
PRF18BG471RS5RB	65	80	32	470	-40 to +150	1.6 x 0.8	Automotive

## TEMPERATURE / RTD Platinum Element

**Amphenol**  
Advanced Sensors

Part Number / Series	R0°C (Ohm)	Tolerance	Supply Current (mA)	Operating Temperature (°C)	Temperature Coefficient (ppm/K)	Package Type / Size (mm)
Exhaust Gas High Temp Sensor CTTS-186019-F02A	200	±1.5°C from 300 to 850°C & ±4.5°C from -40 to +300°C	2.7mA (max)	-40 to +850	—	Stainless steel sheathed sensor with harness leads and connector



Part Number / Series	R0°C (Ohm)	Tolerance	Supply Current (mA)	Operating Temperature (°C)	Temperature Coefficient (ppm/K)	Package Type / Size (mm)
PTS1206	100R, 500R, 1K	0.3°C, 0.6°C	0.1	-55 to +175	3850	Surface Mount, 1206
PTS0805	100R, 500R	0.3°C, 0.6°C	0.1	-55 to +175	3850	Surface Mount, 0805
PTS0603	100R	0.3°C, 0.6°C	0.1	-55 to +175	3850	Surface Mount, 0603



## SENSOR EVALUATION TOOLS

Evaluation Tools ..... 141

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**NXP**

**ROHM**  
SEMICONDUCTOR

**SENSIRION**  
THE SENSOR COMPANY

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**VISHAY**

Evaluation Board Part Number	Related Part Number / Series	Description
<b>T6613-EVAL</b>	T6613 Series	CO2 Sensor Evaluation Kit
<b>T6615-EVAL</b>	T6615 Series	Dual Channel CO2 Module Evaluation Kit
<b>T6713-EVAL</b>	T6713 Series	CO2 Sensor Module Evaluation Kit
<b>T6713-5k-EVAL</b>	T6713-5k	CO2 Module 0-5000 PPM Evaluation Kit
<b>AAS-AQS-UNO</b>	SM-PWM-01C	Air Quality Evaluation Board (Base & Dust)
<b>AAS-AQS-UNO-RH-CO2</b>	SM-PWM-01C, T9602, T6713	Air Quality Evaluation Board (Base, CO2, RH, T & Dust)
<b>A-2130</b>	CL Series	Inrush Current Limiter Kit



Evaluation Board Part Number	Related Part Number / Series	Description
<b>AS5050A-QF_EK_AB</b>	AS5050A	AS5050A Adaptor Board
<b>AS5055A-QF_EK_AB</b>	AS5055A	AS5055A Adaptor Board
<b>AS5172B-TS_EK_AB</b>	AS5172A/B	AS5172 Adaptor Board
<b>AS5200L-MF_EK_AB</b>	AS5200L	AS52200L Adaptor Board
<b>AS5304-TS_EK_AB</b>	AS5304	AS5304 Adaptor board
<b>AS5306-TS_EK_AB</b>	AS5306	AS5306 Adaptor Board
<b>AS5311-TS_EK_AB</b>	AS5311	AS5311 Adaptor Board
<b>AS5510-SO_EK_AB</b>	AS5510	AS5510 SOIC8 Adapterboard
<b>AS5510-WL_EK_AB</b>	AS5510	AS5510 WLCSP Adapterboard
<b>AS5510-WL_EK_DB</b>	AS5510	AS5510 Demoboard
<b>AS5600L-SO_EK_AB</b>	AS5600L	AS5600L Adapterboard (SOIC8)
<b>AS5600L-WL_EK_AB</b>	AS5600L	AS5600L Adapterboard (WLCSP)
<b>AS6200-WL_DK_ST</b>	AS6200	AS6200 Development Kit
<b>AS6200-WL_EK_AB</b>	AS6200	AS6200 Adaptor Board
<b>AS6200C-WL_EK_AB</b>	AS6200C	Digital temperature sensor eval kit
<b>AS6200C-WL_EK_AB</b>	AS6200C	Digital temperature sensor eval kit
<b>AS7000_DEMOKIT</b>	AS7000	AS7000 Demokit
<b>AS7000_RETROFITBOARD</b>	AS7000	AS7000 Retrofitboard
<b>AS7024_ADD-ON BOARD</b>	AS7024	AS7024 Add-On Board
<b>AS7024-EVALKIT</b>	AS7024	Evalkit for AS7024
<b>AS7024-WRISTBAND</b>	AS7024	Wristband with AS7024
<b>AS7261 DEMO KIT</b>	AS7261	Demo Kit AS7261 - iSPI v3
<b>AS7262 DEMO KIT</b>	AS7262	Demo Kit AS7262 - iSPI v3
<b>AS7263 DEMO KIT</b>	AS7263	Demo Kit AS7263 - iSPI v3
<b>AS7264N DEMO KIT</b>	AS7264N	Demo Kit AS7264N - iSPI v3
<b>AS7265X DEMO KIT</b>	AS7265x	Demo Kit AS7265x Multispect chipset v3

# SENSOR EVALUATION TOOLS



Evaluation Board Part Number	Related Part Number / Series	Description
<b>CCS811-LG_EK_ST</b>	CCS811	CCS811 Evaluation kit
<b>CMV50000_COLOR_EK</b>	CMV50000	CMV50K color evaluation kit
<b>CMV50000_MONO_EK</b>	CMV50000	CMV50K monochrome evaluation kit
<b>CMV8000 EVALUATION K</b>	CMV8000	CMV8000 EVALUATION KIT
<b>EVALBOARD_DRAGSTER</b>	DR16K	EvalBoard Dragster
<b>EVALBOARD_DRAGSTER</b>	DR2K7	EvalBoard Dragster
<b>EVALBOARD_DRAGSTER</b>	DR4K3.5	EvalBoard Dragster
<b>EVALBOARD_DRAGSTER</b>	DR4K7	EvalBoard Dragster
<b>EVALBOARD_DRAGSTER</b>	DR6K7	EvalBoard Dragster
<b>EVALBOARD_DRAGSTER</b>	DR8K3.5	EvalBoard Dragster
<b>EVALBOARD_DRAGSTER</b>	DR8K7	EvalBoard Dragster
<b>ENS210-QF_EK_ST</b>	ENS210	ENS210 Demo Kit
<b>ENS210-QF_EK_ST</b>	ENS210	ENS210 Demo Kit
<b>ENS210-QF_EK_ST</b>	ENS210	ENS210 Demo Kit
<b>NANOUSB2.2</b>	NanEye Module	NanEye USB2.0 Eval Kit
<b>NanEye_FOB_2.0</b>	NanEye Module	NanEye Fiber Optic Box 2.0
<b>NANOUSB2.2</b>	NanEye-Stereo Module	NanEye USB2.0 Eval Kit
<b>NanEye_FOB_2.0</b>	NanEye-Stereo Module	NanEye Fiber Optic Box 2.0
<b>PCAP02-EVA MODULE</b>	PCAP02AE	PCap02-EVA-AD V1.0 plug-in module
<b>PCAP02-EVA-KIT V1.0</b>	PCAP02AE	PCap02-EVA-KIT V1.0
<b>PCAP04-EVA-BOARD</b>	PCAP04	PCap04-EVA-BOARD
<b>PCAP04-EVA-KIT</b>	PCAP04	PCap04-EVA-KIT V1.0
<b>TCS3400-EVM</b>	TCS34003	Evaluation module for the TCS3400
<b>TCS3400-DB</b>	TCS34003	Daughter board for the TCS3400
<b>TCS3400-EVM</b>	TCS34303	Evaluation module for the TCS3400
<b>TCS3400-DB</b>	TCS34303	Daughter board for the TCS3400
<b>TCS3472 EVM REV. 2.0</b>	TCS34721	TCS3472 EVM Rev. 2.0
<b>TCS3472 EVM REV. 2.0</b>	TCS34723	TCS3472 EVM Rev. 2.0
<b>TCS3701-DB</b>	TCS3701	Daughter board for the TCS3701
<b>TCS3701-EVM</b>	TCS3701	Evaluation module for the TCS3701
<b>TMD2620-EVM</b>	TMD2620	Evaluation module for the TMD2620
<b>TMD2620-DB</b>	TMD2620	Daughter board for the TMD2620
<b>TMD2672EVM</b>	TMD2672	TMD2672 Evaluation Module
<b>TMD2725-DB</b>	TMD27253	Daughter board for the TMD2725
<b>TMD2725-EVM</b>	TMD27253	Evaluation module for the TMD2725
<b>TMD2772EVM</b>	TMD27721	TMD2772 Evaluation Module
<b>TMD2772-DB</b>	TMD27721	TMD2772x Daughter Board
<b>TMD2772EVM</b>	TMD27723	TMD2772 Evaluation Module
<b>TMD2772-DB</b>	TMD27723	TMD2772x Daughter Board



Evaluation Board Part Number	Related Part Number / Series	Description
<b>TMD3702VC-DB</b>	TMD37024VC	Daughter board for the TMD3702VC
<b>TMD3702VC-EVM</b>	TMD37024VC	Evaluation module for the TMD3702VC
<b>TMG3992-DB</b>	TMG39921	Daughter Board for the TMG3992x
<b>TMG3992EVM</b>	TMG39921	Evaluation Module for the TMG3992x
<b>TMG3992-DB</b>	TMG39923	Daughter Board for the TMG3992x
<b>TMG3992EVM</b>	TMG39923	Evaluation Module for the TMG3992x
<b>TMG3993EVM</b>	TMG39931	Evaluation Module for the TMG3993xFN
<b>TMG3993EVM</b>	TMG39933	Evaluation Module for the TMG3993xFN
<b>TMG4903 EVM REV. 2.0</b>	TMG49033	TMG4903 EVM Rev. 2.0
<b>TSL2540-DBX</b>	TSL25403	Daughter board for the TSL2540
<b>TSL2540-EVMX</b>	TSL25403	Evaluation module for the TSL2540
<b>TSL2591X EVM</b>	TSL25911	TSL2591x EVM Rev. 3.0
<b>TSL2591X EVM</b>	TSL25913	TSL2591x EVM Rev. 3.0
<b>TSL2740-DB</b>	TSL27403	Daughter board for the TSL2740
<b>TSL2740-EVM</b>	TSL27403	Evaluation module for the TSL2740
<b>TSL2771EVM2</b>	TSL27721	TSL2771x Evaluation Module
<b>TSL2771EVM2</b>	TSL27723	TSL2771x Evaluation Module



Evaluation Board Part Number	Related Part Number / Series	Description
BMA253 shuttle board	BMA253	The BMA253 PCB Shuttle Board (includes BMA253 acceleration sensor)
BMA280 shuttle board	BMA280	The BMA280 PCB Shuttle Board (includes BMA280 acceleration sensor)
BMA423 shuttle board	BMA423	The BMA423 PCB Shuttle Board (includes BMA423 acceleration sensor)
BMA456 shuttle board	BMA456	The BMA456 PCB Shuttle Board (includes BMA456 acceleration sensor)
BMA400 shuttle board	BMA400	The BMA400 PCB Shuttle Board (includes BMA400 acceleration sensor)
BMM150 shuttle board	BMM150	The BMM150 PCB Shuttle Board (includes BMM150 Magnetometer)
BMG250 shuttle board	BMG250	The BMG250 PCB Shuttle Board (includes BMG250 gyroscope)
BMI055 shuttle board	BMI055	The BMI055 PCB Shuttle Board (includes BMI055 Inertial Measurement unit)
BMI085 shuttle board	BMI085	The BMI085 PCB Shuttle Board (includes BMI085 Inertial Measurement unit)
BMI088 shuttle board	BMI088	The BMI088 PCB Shuttle Board (includes BMI088 Inertial Measurement unit)
BMI160 shuttle board	BMI160	The BMI160 PCB Shuttle Board (includes BMI160 Inertial Measurement unit)
BMX055 shuttle board	BMX055	The BMX055 PCB Shuttle Board (includes BMX055 integrated 9-axis sensor)
BMX160 shuttle board	BMX160	The BMX160 PCB Shuttle Board (includes BMX160 integrated 9-axis sensor)
BHA250 shuttle board	BHA250	The BHA250 PCB Shuttle Board (includes BHA250 smart sensor hub)
BHI160 shuttle board	BHI160	The BHI160 PCB Shuttle Board (includes BHI160 smart sensor hub)
BHI260 shuttle board	BHI260	The BHI260 PCB Shuttle Board (includes BHI260 smart sensor hub)

# SENSOR EVALUATION TOOLS



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Evaluation Board Part Number	Related Part Number / Series	Description
BNO055 shuttle board	BNO055	The BNO055 PCB Shuttle Board (includes BNO055 absolute orientation sensor)
BMF055 shuttle board	BMF055	The BMF055 PCB Shuttle Board (includes BMF055 custom programmable 9-axis motion sensor)
BMP280 shuttle board	BMP280	The BMP280 PCB Shuttle Board (includes BMP280 pressure sensor)
BMP388 shuttle board	BMP388	The BMP388 PCB Shuttle Board (includes BMP388 pressure sensor)
BME280 shuttle board	BME280	The BME280 PCB Shuttle Board (includes BME280 combined humidity and pressure sensor)
BME680 shuttle board	BME680	The BME680 PCB Shuttle Board (includes BME680 environmental sensor)



Evaluation Board Part Number	Related Part Number / Series	Description
<b>S2GO_CUR-SENSE_TLI4970</b>	TLI4970-D050T4	Infineon's S2Go_CurrentSenseTLI4970 boards offer a unique customer and evaluation experience – the boards are equipped with one TLI4970 current sensor and come with a ready to use Arduino library. Customers can now develop their own system solutions by combining Shield2Go boards together with Infineon My IoT adapters. My IoT adapters are gateways to external hardware solutions like Arduino and Raspberry PI, which are popular IoT evaluation platforms. All this enables the fastest evaluation and development of IoT system on the market.
<b>TLI4970050 MS2GO</b>	TLI4970-D050T4	The Current Sensor 2GO is a budget-priced evaluation board equipped with a current sensor combined with an ARM® Cortex™-M0 CPU. The Current Sensor 2GO has a complete set of on-board devices, including an on-board debugger. Build your own application and gadget with the Current Sensor 2GO.
<b>S2GO PRESSURE DPS310</b>	DPS310	S2Go_Pressure_DPS310 is an Arduino shield including DPS310. It comes together with Arduino library and it is pin-to-pin compatible with Infineon XMC2Go MCU board and can be easily connected to different Arduino boards by using Infineon Shield 2Go Adapter.
<b>EVAL SHSBV03SPI</b>	DPS310	Shuttle board DPS310 SPI
<b>KIT DPS310 2G SHV02</b>	DPS310	Infineon wireless sensor hub 2.0
<b>EVAL SHNBV01</b>	DPS310	Infineon sensor hub nano hosts one DPS310 barometric pressure sensor and XMC1000 32-bit ARM Cortex-M0 MCU. The sensor hub nano can communicate to PC or Android™ smart phone wirelessly, thanks to integrated Bluetooth™ 4.0 and battery. Infineon sensor hub nano can be used for quick testing and evaluation of DPS310 in the final application and it works as a platform to develop Android apps.
<b>EVAL_IM69D120_FLEXKIT</b>	IM69D120	The flex evaluation kit allows simple and easy evaluation of XENSIV™ MEMS microphone IM69D120. The flex board can be easily connected to audio testing setup. The evaluation kit includes five IM69D120 mounted on flex board and one adapter board.
<b>EVAL_IM69D130_FLEXKIT</b>	IM69D130	The flex evaluation kit allows simple and easy evaluation of XENSIV™ MEMS microphone IM69D130. The flex board can be easily connected to audio testing setup. The evaluation kit includes five IM69D130 mounted on flex board and one adapter board.
<b>S2GO MEMSMIC IM69D</b>	IM69D130	Infineon's Shield2Go boards offer a unique customer and evaluation experience – the boards are equipped with two High-performance digital MEMS Microphone IM69D130 and come with a ready to use Arduino library. Customers can now develop their own system solutions by combining Shield2Go boards together with Infineon My IoT adapters. My IoT adapters are gateways to external hardware solutions like Arduino and Raspberry PI, which are popular IoT hardware platforms. All this enables the fastest evaluation and development of IoT system.
<b>TLV493D-A1B6 MS2GO</b>	TLV493D-A1B6	The 3D Magnetic Sensor 2GO is a budget-priced evaluation board equipped with a magnetic sensor for three dimensional measurement combined with an ARM® Cortex™-M0 CPU. The 3D Magnetic Sensor 2GO has a complete set of on-board devices, including an on-board debugger. Build your own application and gadget with the 3D Magnetic Sensor 2GO.
<b>SP001491834</b>	All 3D magnetic sensor ICs	Joystick for 3D 2 Go Eval Board
<b>SP001504602</b>	All 3D magnetic sensor ICs	Rotate knob for 3D 2 Go Eval Board

# Bad to the Bone

OSSO



**Locate Your Furry Friends Anywhere!**

No more waiting to feel it in your bones...reduce time spent around the neighborhood locating your furry friends with OSSO! Future Electronics and STMicroelectronics are proud to collaborate on OSSO, an animal tracking device. OSSO uses a GPS module, the Teseo-LIV3F, to provide superior and reliable positioning accuracy to determine precise location.

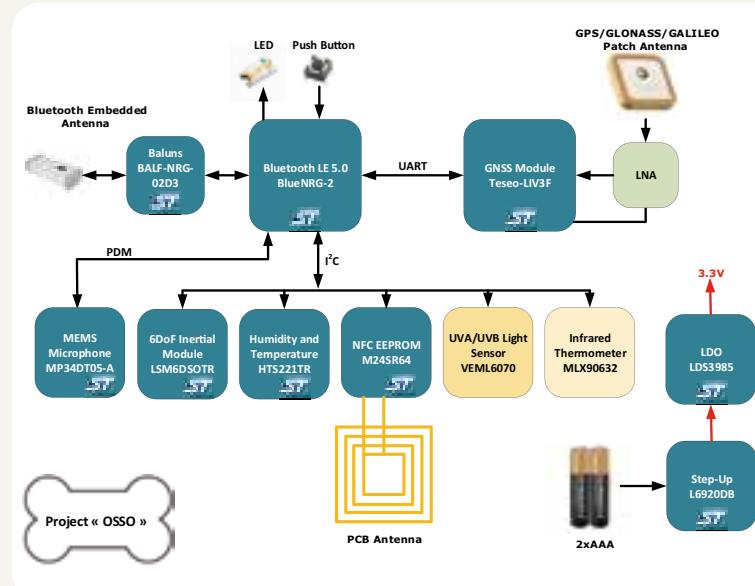
Combined with a high-performance MEMS sensor fusion and BLE 5.0 compliant IC, the multi-axis sensor systems enables accuracy for highly demanding applications such as indoor navigation and location-based services. OSSO helps you to locate your pet anytime, anywhere. See the exact location of your dog or cat directly on your smart devices.

## Features:

- Small and lightweight
- AAA battery
- Real-time tracking with GPS/GNSS module
- Bluetooth 5.0 compliant IC
- Offline tracking with serial flash

The following STMicroelectronics parts were used to develop OSSO:

- GNSS/GPS module: Teseo-LIV3F
- Bluetooth low energy 5.0 IC: BlueNRG-2
- NFC Tag: M24SR64
- Balun: BALF-NRG-02D3
- Humidity and temperature sensor: HTS221TR
- Gyro/accelerometer MEMS module: LSM6DSLTR
- Synchronous rectifier step-up converter: L6920DB
- LDO: LDS3985



# SENSOR EVALUATION TOOLS



Evaluation Board Part Number	Related Part Number / Series	Description
<b>TLE493D-W2B6 MS2GO</b>	TLE493D-W2B6	The 3D Magnetic Sensor 2GO is a budget-priced evaluation board equipped with a magnetic sensor for three dimensional measurement combined with an ARM® Cortex™-M0 CPU. The 3D Magnetic Sensor 2GO has a complete set of on-board devices, including an on-board debugger. Build your own application and gadget with the 3D Magnetic Sensor 2GO.
<b>TLE493D-A2B6 MS2GO</b>	TLE493D-A2B6	The 3D Magnetic Sensor 2GO is a budget-priced evaluation board equipped with a magnetic sensor for three dimensional measurement combined with an ARM® Cortex™-M0 CPU. The 3D Magnetic Sensor 2GO has a complete set of on-board devices, including an on-board debugger. Build your own application and gadget with the 3D Magnetic Sensor 2GO.
<b>S2GO_3D-SENSE_TLV493D</b>	TLV493D-A1B6	Infineon's S2Go_3DSense_TLV493D boards offer a unique customer and evaluation experience – the boards are equipped with one TLV493D-A1B6 magnetic sensor and come with a ready to use Arduino library. Customers can now develop their own system solutions by combining Shield2Go boards together with Infineon My IoT adapters. My IoT adapters are gateways to external hardware solutions like Arduino and Raspberry Pi, which are popular IoT evaluation platforms. All this enables the fastest evaluation and development of IoT system on the market
<b>ROTATE KNOB 3D 2 GO KIT</b>	TLV493D-A1B6, TLE493D-A2B6 and TLI493D-A2B6	Rotate and push button control element for 3D Magnetic Sensor 2GO Family. For 3D Magnetic Sensors: TLV493D-A1B6, TLE493D-A2B6 and TLI493D-A2B6.
<b>LINEAR SLIDER 2GO</b>	TLV493D-A1B6, TLE493D-A2B6 and TLI493D-A2B6	Linear Slider Adapter for 3D Magnetic Sensor 2GO Family. For 3D Magnetic Sensors: TLV493D-A1B6, TLE493D-A2B6 and TLI493D-A2B6.
<b>JOYSTICK FOR 3D 2 GO KIT</b>	TLV493D-A1B6, TLE493D-A2B6 and TLI493D-A2B6	Joystick adapter for 3D Magnetic Sensor 2GO Family. For 3D Magnetic Sensors: TLV493D-A1B6, TLE493D-A2B6 and TLI493D-A2B6.
<b>DEMO SENSE2GO1</b>	BGT24LTR11	Evaluation board to perform basic measurements with BGT24LTR11. Kit contains: Application Note and Evaluation PCB.
<b>EVAL BGT24LTR11 BOARD</b>	BGT24LTR11	Evaluation board to perform basic measurements with BGT24LTR11
<b>DEMO DISTANCE2GO</b>	BGT24MTR11	Radar demo board based on the BGT24MTR11 – FMCW & Doppler (distance, speed, and direction of movement detection)
<b>KIT_ATV_24GHZ_RADAR</b>	BGTA24ATR12	This development kit allows customers to implement and test 24GHz radar applications as Doppler movement detectors, FSK or FMCW range/position measurement. It comprises a BGT24A transceiver MMIC family, e.g. BGTA24ATR12, and an AURIX™ 32-bit radar microcontroller family, e.g. SAK-TC264DA-40F200, for high-performance signal processing. The device has an FFT acceleration engine and extended memory for radar image storage.
<b>TLE4997X PROGRAMMER KIT</b>	TLE4997	The kit consists of a PGSI SI box (programming interface) and an evaluation board which allows evaluation of the linear Hall TLE 4997 family.
<b>TLE4998X PROGRAMMER KIT</b>	TLE4998	The kit consists of a PGSI SI box (programming interface) and an evaluation board which allows evaluation of the linear Hall TLE 4998 family.



Evaluation Board Part Number	Related Part Number / Series	Description
<b>EVB75030-V2</b>	MLX75030	Evaluation board for MLX75030 universal active light interface (Includes MLX75030 EvalBoard v2.0; EVB75030BB10, EVB75030LRP11, EVB75030CC95; Evaluation Software (+access to source codes)
<b>EVK75123-60-850-1</b>	MLX75023, MLX75123	Evaluation board for MLX75023 and MLX75123, TOF chipset; 60deg FOV, 850nm VCSELs (Includes EVK75123)
<b>EVK75123-110-850-1</b>	MLX75023, MLX75123	Evaluation board for MLX75023 and MLX75123, TOF chipset; 110deg FOV, 850nm VCSELs (Includes EVK75123)
<b>DVK91205</b>	MLX91205	MLX91205 Development kit (Includes: 1 x MLX91205LB mounted on PCB_ECO1; 1 x MLX91205LB mounted on PCB_ECO2; 1 x separate MLX91205LB; 3 x separate MLX91205HBs; 1 x separate PCB_ECO1; 1 x separate PCB_ECO2; 2 x shields U_12)
<b>DVK91206</b>	MLX91206	MLX91206 Development kit (Includes 1 sample each of MLX91206-CAH-001, MLX91206-CAH-002, MLX91206-CAH-003, MLX91206-CAL-001, MLX91206-CAL-002, MLX91206-CAL-003; 1 each of PCB_ECO1, PCB_ECO2, PCB_ECO3; 3 shields U_12)

Evaluation Board Part Number	Related Part Number / Series	Description
<b>DVK91207</b>	MLX91207	MLX91207 Development kit (Includes 2 MLX91207 mounted on PCB; 2 PCB; 1 core for high current; 1 core for low current)
<b>EVB90614</b>	MLX90614	Evaluation Board for MLX90614 Infrared Thermometer Module board (includes supply, USB cable, manual, software)
<b>EVB90640-41</b>	MLX90640, MLX90641	Evaluation Board for MLX90640 and MLX90641 Infrared Thermometer Module board (includes supply, USB cable, 1 sensor, software)
<b>DVK91208</b>	MLX91208	MLX91208 Development kit (Includes 3 samples each of MLX91208-CAH, MLX91208-CAL; 1 each PCB_ECO1, PCB_ECO2, PCB_ECO3; 3 shields U_12; 2 shields R_12)
<b>DVK91209</b>	MLX91209	MLX91209 Development kit (Includes 5 each MLX91209-CA; 3 separated bare PCBs; 3 ferromagnetic cores (Supra 50 SP))
<b>EVB75030-V2</b>	MLX75030	Evaluation board for MLX75030 universal active light interface (Includes MLX75030 EvalBoard v2.0; EVB75030BB10, EVB75030LRP11, EVB75030CC95; Evaluation Software (+access to source codes))
<b>EVK75123-60-850-1</b>	MLX75023, MLX75123	Evaluation board for MLX75023 and MLX75123, TOF chipset; 60deg FOV, 850nm VCSELs (Includes EVK75123)
<b>EVK75123-110-850-1</b>	MLX75023, MLX75123	Evaluation board for MLX75023 and MLX75123, TOF chipset; 110deg FOV, 850nm VCSELs (Includes EVK75123)
<b>DVK91205</b>	MLX91205	MLX91205 Development kit (Includes: 1 x MLX91205LB mounted on PCB_ECO1; 1 x MLX91205LB mounted on PCB_ECO2; 1 x separate MLX91205LB; 3 x separate MLX91205HBs; 1 x separate PCB_ECO1; 1 x separate PCB_ECO2; 2 x shields U_12)
<b>DVK91206</b>	MLX91206	MLX91206 Development kit (Includes 1 sample each of MLX91206-CAH-001, MLX91206-CAH-002, MLX91206-CAH-003, MLX91206-CAL-001, MLX91206-CAL-002, MLX91206-CAL-003; 1 each of PCB_ECO1, PCB_ECO2, PCB_ECO3; 3 shields U_12)
<b>DVK91207</b>	MLX91207	MLX91207 Development kit (Includes 2 MLX91207 mounted on PCB; 2 MLX91207; 2 PCB; 1 core for high current; 1 core for low current)
<b>DVK91208</b>	MLX91208	MLX91208 Development kit (Includes 3 samples each of MLX91208-CAH, MLX91208-CAL; 1 each PCB_ECO1, PCB_ECO2, PCB_ECO3; 3 shields U_12; 2 shields R_12)
<b>DVK91209</b>	MLX91209	MLX91209 Development kit (Includes 5 each MLX91209-CA; 3 separated bare PCBs; 3 ferromagnetic cores (Supra 50 SP))
<b>DVK91210 - SOIC8</b>	MLX91210	MLX91210KDC-CAS-101 Evaluation board; SOIC8 [+/-25A full scale] (Includes 1 board populated with sample + 3 extra samples)
<b>DVK91210 - SOIC16</b>	MLX91210	MLX91210KDF-CAS-101 Evaluation board; SOIC16 [+/-25A full scale] (Includes 1 board populated with sample + 3 extra samples)
<b>EVB922xx</b>	MLX92232	MLX92232 Evaluation board (Includes 5 each of MLX92232LUA, MLX92232LSE)
<b>PTC-04</b>	MLX90xxx, MLX91xxx	Programmer for Melexis devices. Includes: main board in metal case; power supply 100W switching adapter; USB and RS232 cable; CD
<b>PTC-04-19-4</b>	MLX90xxx	19" Rack with two supply units and four PTC04 programmers; Universal implementation; Corresponding Daughter boards to be ordered additionally. (Note: When the rack is ordered together with the corresponding PTC04 daughter boards, the latter will be integrated inside the PTC04's by Melexis before shipment)
<b>PTC-04-DB-90316</b>	MLX90xxx	Daughter board for PTC-04 programmer for all Triaxis products
<b>PTC-04-DB-HALL01</b>	MLX90251; MLX90215; MLX90277; MLX90244	Daughter board for PTC-04 programmer
<b>PTC-04-DB-HALL02</b>	MLX90264, MLX90275	Daughter board for mounting in PTC-04 programmer
<b>PTC-04-DB-HALL03</b>	MLX90288, MLX90291, MLX91206, MLX91207	Daughter board for mounting in PTC-04 programmer
<b>PTC-04-DB-HALL05</b>	MLX91208; MLX91209	Daughter board for mounting in PTC-04 programmer
<b>PTC-04-DB-Debug</b>	MLX90xxx, MLX91xxx	Universal debugging daughter board
<b>PTC-04-DB-Calib</b>	MLX90xxx, MLX91xxx	Supporting daughter board for calibration of PTC04 programmer
<b>PTC-04-DB-SPI01</b>	MLX90xxx	Daughter board for PTC-04 programmer for SPI Hall sensors
<b>PTC04-DB-Mupet</b>	MLX90xxx, MLX91xxx	Melexis Universal Program & Test protocol daughter boards

## SENSOR EVALUATION TOOLS



Evaluation Board Part Number	Related Part Number / Series	Description
<b>PTC04-DB-922xx</b>	MLX922xx	Supporting daughter board to interface with the programmable switch & latch family
<b>PTC04_DB_Pressure01</b>	MLX90807, MLX90808	Daughter board for mounting in PTC-04 programmer
<b>PTC04_sensors_multi_calibration_board</b>	MLX90xxx	Extension board for PTC-04 that allows the calibration of sensors in parallel
<b>PTC-testbench-MLX90316</b>	MLX90316	Testbench for MLX90316 (Includes 2 magnets; socket for MLX90316 TestBench; 1 Socket PCB; 1 Connection cable)
<b>PTC-testbench-Magnetic</b>	MLX90277, MLX90251, MLX90215	Testbench for magnetic devices (Includes 3 magnets; sockets for MLX90277, MLX90251, MLX90215 TestBench; 2 Socket PCB's (4SIP ,SO8 ,TSSOP16); 1 Connection cable; 3 magnets)
<b>PTC-04-19-1</b>	MLX90xxx, MLX91xxx	1 PTC04 in 19" Rack
<b>PTC-04-19-2</b>	MLX90xxx, MLX91xxx	2 PTC04 in 19" Rack



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Evaluation Board Part Number	Related Part Number / Series	Description
<b>MTHMR-N-002A</b>	NTC family	NTC Thermistor Evaluation Board
<b>IMX-070</b>	PIR family	Pyroelectric Infrared Sensor Evaluation Board with Fresnel Lens
<b>MEMS-EVAL-Board</b>	—	MEMS Interface Board
<b>SCA3100-D04-PCB</b>	SCA3100-D04	Sensor Board for SCA3100-D04 Digital Accelerometer 3 Axis Accel Range $\pm 2g$
<b>SCA3100-D07-PCB</b>	SCA3100-D07	Sensor Board for SCA3100-D07 Digital Accelerometer 3 Axis Accel Range $\pm 6g$
<b>SCA3300-PCB</b>	SCA3300-D01	Sensor Board for SCA3300-D01 Digital Accelerometer 3 Axis Accel Range $\pm 1.5g$ , $\pm 3g$ , $\pm 6g$
<b>SCA100T-D01-PCB</b>	SCA100T-D01	Sensor Board for SCA100T-D01 Analog Inclinometer, $\pm 30$ deg range
<b>SCA100T-D02-PCB</b>	SCA100T-D02	Sensor Board for SCA100T-D02 Analog Inclinometer, $\pm 90$ deg range
<b>SCA103T-D04-PCB</b>	SCA103T-D04	Sensor Board for SCA103T-D04 Analog Inclinometer, $\pm 15$ deg range
<b>SCA103T-D05-PCB</b>	SCA103T-D05	Sensor Board for SCA103T-D05 Analog Inclinometer, $\pm 30$ deg range
<b>SCC2130-D08-PCB</b>	SCC2130-D08	Sensor Boards for SCC2130-D08 3 Axis Accel Range $\pm 6g$ and X Axis Gyro 125dps
<b>SCC2230-E02-PCB</b>	SCC2130-D08	Sensor Boards for SCC2130-D08 3 Axis Accel Range $\pm 2g$ and X Axis Gyro 125dps



Evaluation Board Part Number	Related Part Number / Series	Description
<b>FRDM-K22F-AGM01</b>	FXOS8700CQ, FXAS21002CQ	Demonstration Kit
<b>FRDM-K64F-AGM01</b>	FXOS8700CQ, FXAS21002CQ	Demonstration Kit
<b>FRDM-STBC-AGM01</b>	FXOS8700CQ, FXAS21002CQ	Shield Board
<b>BRKT-STBC-AGM01</b>	FXOS8700CQ, FXAS21002CQ	Breakout Board
<b>FRDMKL25-A8471</b>	FXLS8471Q	Demonstration Kit
<b>FRDMSTBC-A8471</b>	FXLS8471Q	Shield Board



Evaluation Board Part Number	Related Part Number / Series	Description
<b>BRKTSTBC-A8471</b>	FXLS8471Q	Breakout Board
<b>FRDMKL25-A8491</b>	MMA8491Q	Demonstration Kit
<b>FRDMSTBC-A8491</b>	MMA8491Q	Shield Board
<b>BRKTSTBC-A8491</b>	MMA8491Q	Breakout Board
<b>FRDM-FXS-MULT2-B</b>	FXLS8471Q, FXOS8700CQ, MMA8652Q, FXAS-21002CQ, MPL3115A2	Shield Board
<b>RD-KL25-AGMP01</b>	FXOS8700CQ	Reference Design
<b>FRDM-KL25Z</b>	MMA8451Q	Demonstration Kit
<b>FRDM-KL27Z</b>	MMA8451Q	Demonstration Kit
<b>FRDMSTBC-A8451</b>	MMA8451Q	Shield Board
<b>BRKTSTBC-A8451</b>	MMA8451Q	Breakout Board
<b>FRDM-K64F-AGM04</b>	MMA8652Q, FXAS21002Q	Demonstration Kit
<b>FRDM-STBC-AGM04</b>	MMA8652Q, FXAS21002Q, MAG3110	Shield Board
<b>BRKT-STBC-AGM04</b>	MMA8652Q, FXAS21002Q	Breakout Board
<b>FRDMKL25-P3115</b>	MPL3115A2	Demonstration Kit
<b>FRDMSTBC-P3115</b>	MPL3115A2	Shield Board
<b>BRKTSTBC-P3115</b>	MPL3115A2	Breakout Board
<b>FRDM-K22F-AGMP03</b>	FXLS8962AF, FXAS21002CQ, MPL3115A2	Demonstration Kit
<b>FRDM-STBC-AGMP03</b>	FXLS8962AF, FXAS21002CQ, MPL3115A2	Shield Board
<b>BRKT-STBC-AGMP03</b>	FXLS8962AF, FXAS21002CQ, MPL3115A2	Breakout Board
<b>FRDMKE06DP5004</b>	MPXV5004DP	Demonstration Kit
<b>BRKTSTBCDP5004</b>	MPXV5004DP	Breakout Board
<b>935308627598</b>	935307303515; 935307749012; 935308967005	NHS3100 Starter kit for temperature monitoring (also NHS3100 general starter kit)
<b>935308627598</b>	935307865515; 935307926012	NHS3152 General starter kit

# SENSOR EVALUATION TOOLS



Evaluation Board Part Number	Related Part Number / Series	Description
<b>SensorShield-EVK-003</b>	KX224-1053 Accel, BM1383AGLV Barometric Pressure Sensor, BM1422AGMV Geomagnetic Sensor, RPR-0521RS ALS/PROX Sensor, BH1749NUC Color Sensor, BD7411G Hall Switch Sensor, BD1020HFV Temperature Sensor, BH1790GLC HRM Sensor	Sensor Shield Evaluation Platform; Arduino/MBED Interface; 8 Featured Sensors
<b>KX224-I2C-EVK-001</b>	KX224-1053 Accel	Breakout Board for KX224 Accelerometer
<b>BM1383AGLV-EVK-001</b>	BM1383A Barometric Pressure Sensor	Breakout Board for BM1383A Barometric Pressure Sensor
<b>BM1422AGMV-EVK-001</b>	BM1422AGMV Geomagnetic Sensor	Breakout Board for BM1422AGMV Geomagnetic Sensor
<b>RPR-0521RS-EVK-001</b>	RPR-0521RS ALS/PROX	Breakout Board for RPR-0521RS ALS/PROX
<b>BH1749NUC-EVK-001</b>	BH1749NUC Color Sensor	Breakout Board for BH1749NUC Color Sensor
<b>BD7411G-EVK-001</b>	BD7411G Hall Switch Sensor	Breakout Board for BD7411G Hall Switch Sensor
<b>BD1020HFV-EVK-001</b>	BD1020HFV Temperature Sensor	Breakout Board for BD1020HFV Temperature Sensor
<b>BH1790GLC-EVK-001</b>	BH1790GLC HRM Sensor	Breakout Board for BH1790GLC HRM Sensor
<b>BH1792GLC-EVK-001</b>	BH1792GLC HRM Sensor	Breakout Board for BH1792GLC HRM Sensor

## SENSIRION THE SENSOR COMPANY

Evaluation Board Part Number	Related Part Number / Series	Description
<b>SEK-SCD30</b>	SCD30	Includes 1x SEK Sensor Bridge, 1x SCD30 on FPCB, 1x adapter cable, 1x USB2.0 cable type A- Micro B
<b>SEK-SPS30</b>	SPS30	Includes 1x SEK Sensor Bridge, 1x SPS30 on FPCB, 1x adapter cable, 1x USB2.0 cable type A- Micro B
<b>SEK-SGPC3</b>	SGPC3, SHTxx, STSxx	Includes 1x SEK Sensor Bridge, 2x SGPC3 on FPCB, 1x SHTC3 on FPCB, 1x SHTW2 on FPCB, 1x SHT31-DIS-D, 1x STS31 on FPCB, 2x adapter cable, 1x USB2.0 cable type A- Micro B
<b>SEK-SHTXX/SGP30</b>	SGP3x, SHTxx, STSxx	Includes 1x SEK Sensor Bridge, 1x SGP30 on FPCB, 1x SHTC3 on FPCB, 1x SHTW2 on FPCB, 1x SHT31-DIS-B on FPCB, 1x STS31-DIS on FPCB, 2x adapter cable, 1x USB2.0 cable type A- Micro B
<b>EK-F3x</b>	SFM3000	Includes 1 x I <sup>C</sup> to USB connector, adapter cable to connect to sensor, downloadable software (sensor must be ordered separately)
<b>EK-F4x</b>	SFM4100	Includes 1 x I <sup>C</sup> to USB connector, adapter cable to connect to sensor, downloadable software (sensor must be ordered separately)
<b>EK-P3</b>	SDPx <sub>xx</sub>	Includes 1x SDP610; works with all digital SDP's
<b>EK-P4</b>	SDP3x only	Includes 1X SDP31 on PCB, 1x USB stick with adapter cable, 1x flow element
<b>EK-P5</b>	SDP8xx only	Includes 1x SDP810-500Pa, 1x sensor cable, 1x USB stick with adapter cable
<b>EK-F3X</b>	SFM3000/3200 only	Includes 1x I <sup>C</sup> to USB connector, adapter cable to connect to sensor, downloadable software (sensor must be sold separately)
<b>SHT31 Smart Gadget Development kit</b>	SHT31	Board with SHT31

Evaluation Board Part Number	Related Part Number / Series	Description
<b>STEVAL-MKI180V1</b>	LIS3DH	LIS3DH adapter board for a standard DIL 24 socket
<b>STEVAL-MET001V1</b>	LPS22HB	LPS22HB adapter board for a standard DIL 24 socket
<b>STEVAL-MKI013V1</b>	LIS302DL	Standard DIL 24 socket-compatible adapter board for testing the LIS302DL
<b>STEVAL-MKI015V1</b>	LIS344ALH	Adapter board for the LIS344ALH
<b>STEVAL-MKI092V2</b>	LIS331HHTR	LIS331HH adapter board for standard DIL24 socket
<b>STEVAL-MKI105V1</b>	LIS3DH	LIS3DH adapter board for standard DIL 24 socket
<b>STEVAL-MKI109V2</b>	STM32F103	eMotion: ST MEMS adapters motherboard based on STM32F103, compatible with all ST MEMS adapter boards
<b>STEVAL-MKI110V1</b>	AIS328DQ	AIS328DQ adapter board for standard DIL24 socket
<b>STEVAL-MKI125V1</b>	A3G4250D	A3G4250D adapter board for standard DIL 24 socket
<b>STEVAL-MKI135V1</b>	LIS2DH	LIS2DH adapter board for standard DIL24 socket
<b>STEVAL-MKI136V1</b>	L3GD20H	L3GD20H adapter board for standard DIL 24 socket
<b>STEVAL-MKI137V1</b>	LIS3MDL	LIS3MDL adapter board for standard DIL24 socket
<b>STEVAL-MKI141V2</b>	HTS221	HTS221 humidity sensor adapter board for standard DIL24 socket (full pinout)
<b>STEVAL-MKI151V1</b>	LIS2DH12	LIS2DH12 3-axis accelerometer adapter board for standard DIL 24 socket, compatible with STEVAL-MKI109V2
<b>STEVAL-MKI153V1</b>	H3LIS331DL	H3LIS331DL 3-axis digital accelerometer adapter board for standard DIL 24 socket, compatible with STEVAL-MKI109V2
<b>STEVAL-MKI158V1</b>	AIS3624DQ	AIS3624DQ adapter board for a standard DIL24 socket
<b>STEVAL-MKI159V1</b>	LSM9DS1	LSM9DS1 adapter board for standard DIL24 socket
<b>STEVAL-MKI160V1</b>	LSM6DS3	LSM6DS3 adapter board for standard DIL24 socket
<b>STEVAL-MKI164V1</b>	LIS2HH12	LIS2HH12 adapter board for a standard DIL24 socket
<b>STEVAL-MKI165V1</b>	LPS25HB	LPS25HB adapter board for a standard DIL 24 socket
<b>STEVAL-MKI166V1</b>	H3LIS100DL	H3LIS100DL adapter board for a standard DIL 24 socket
<b>STEVAL-MKI167V1</b>	H3LIS200DL	H3LIS200DL adapter board for a standard DIL 24 socket
<b>STEVAL-MKI168V1</b>	IIS2DH	IIS2DH adapter board for a standard DIL 24 socket
<b>STEVAL-MKI169V1</b>	I3G4250D	I3G4250D adapter board for a standard DIL 24 socket
<b>STEVAL-MKI170V1</b>	IIS328DQ	IIS328DQ adapter board for a standard DIL 24 socket
<b>STEVAL-MKI172V1</b>	LSM303AGR	LSM303AGR adapter board for a standard DIL 24 socket
<b>STEVAL-MKI173V1</b>	LSM303AH	LSM303AH adapter board for standard DIL24 socket
<b>STEVAL-MKI174V1</b>	LIS2DS12	LIS2DS12 adapter board for standard DIL24 socket
<b>STEVAL-MKI175V1</b>	LIS2DE12	LIS2DE12 adapter board for standard DIL24 socket
<b>STEVAL-MKI176V1</b>	LSM6DS3H	LSM6DS3H adapter board for standard DIL24 socket
<b>STEVAL-MKI177V1</b>	LPS35HW	LPS35HW adapter board for a standard DIL24 socket
<b>STEVAL-MKI178V1</b>	LSM6DSL	LSM6DSL adapter board for standard DIL24 socket
<b>X-NUCLEO-CCA02M1</b>	MP34DT01-M	Digital MEMS microphones expansion board based on MP34DT01-M for STM32 Nucleo.
<b>X-NUCLEO-IKS01A2</b>	LSM6DSM, LSM303AGR, LPS22HB, HTS221	Sensors expansion board for Nucleo kit containing motion, pressure, and humidity/temp sensors
<b>STEVAL-STLCS01V1</b>	BlueNRG-MS, LSM6DSM, LSM303AGR, LPS22HB, MP34DT04, BALF-NRG-01D3, LD39115J18R	SensorTile 13mm x 13mm connectable sensor node with plug on bottom side or solder

# SENSOR EVALUATION TOOLS



Evaluation Board Part Number	Related Part Number / Series	Description
<b>STEVAL-STLCS02V1</b>	STM32L476, LSM6DSM, LSM303AGR, LPS22HB, MP34DT04, BlueNRG-MS, BALF-NRG-01D3, LD-39115J18R	SensorTile 13mm x 13mm solderable sensor node (no plug)
<b>STEVAL-STLKT01V1</b>	STM32L4; MP34DT04; LSM6DSM; LSM303AGR; LPS22HB; BlueNRG-MS	SensorTile development kit - complete kit with the sensor tile and cradle adapters
<b>STSW-STLKT01</b>	Embedded Software	Embedded software samples for SensorTile
<b>STEVAL-BCNKT01V1</b>	BlueNRG-MS, LSM6DSM, LSM303AGR, LPS22HB, BALF-NRG-01D3, STBC03JR	BlueCoin Starter kit
<b>STSW-BCNKT01</b>	Embedded Software	Embedded software samples for BlueCoin: data streaming via USB and BLE, logging on SD card, gesture recognition,
<b>STEVAL-MKI139V5</b>	MP23AB01DH	Microphone coupon board based on the MP23AB01DH fully differential analog MEMS microphone
<b>STEVAL-MKI155V3</b>	MP34DT01-M	Microphone coupon board based on the MP34DT01-M digital MEMS microphone
<b>B-L475E-IOT01A</b>	IOT Sensor Node	STM32L4 Discovery kit IoT node, low-power wireless, BLE, NFC, Sensors, SubGHz, Wi-Fi
<b>P-NUCLEO-53L0A1</b>	VL53L0X	VL53L0X Nucleo Pack - Includes VL53L0X Expansion board and STM32F401RE Nucleo
<b>X-NUCLEO-53L0A1</b>	VL53L0X	Ranging sensor expansion board based on VL53L0X for STM32 Nucleo



Evaluation Board Part Number	Related Part Number / Series	Description
<b>SensorXplorer</b>	SensorXplorer	Eval kit for I <sup>2</sup> C Sensor Products
<b>VEML6030-SB</b>	VEML6030	ALS demo board
<b>VEML6040-SB</b>	VEML6040A30G	R,G,B,W demo board
<b>VCNL4040-SB</b>	VCNL4040M30E	Proximity/ALS demo board
<b>VCNL4020-SB</b>	VCNL4020-GS08	Proximity/ALS demo board
<b>VCNL36687-SB</b>	VCNL36687	Proximity sensor demo board
<b>VCNL4035X01-SB</b>	VCNL4035X01	Proximity/ALS demo board
<b>VCNL4035X01-GES-SB</b>	VCNL4035X01	Gesture demo board
<b>VEML6070-SB</b>	VEML6070	UVA demo board
<b>VCNL4200-SB</b>	VCNL4200	Long Distance Proximity/ALS demo board

Sense • Connect • Control

## Get Connected with Future Connectivity Solutions



### Empowering IoT Innovation

Wireless connectivity and the Internet of Things can open up new markets, new services and new revenue streams for your company. Let **Future Connectivity Solutions** help you do it!

[www.FutureElectronics.com/our-solutions/IoT-solutions](http://www.FutureElectronics.com/our-solutions/IoT-solutions)

# Enabling Smart Agriculture Solutions

Future Connectivity Solutions offers a market-leading portfolio of products and complimentary, innovative devices to enable **Smart Agriculture** design requirements. Optimize crop harvesting and livestock health monitoring through key applications such as:

- Livestock Position and Health Monitoring
- Irrigation Sensing and Control
- Agriculture Products Tracking
- Tractor Positioning and Guidance Systems



Livestock Position and Health Monitoring	GPS/GNSS	Sub-1GHz or LoRa	Bluetooth Low Energy	RFID/NFC	Sensors
Irrigation Sensing and Control	Sub-1GHz or LoRa	Bluetooth Low Energy	RFID/NFC	Sensors	
Agricultural Products Tracking	GPS/GNSS	Sub-1GHz or LoRa	RFID/NFC	Sensors	
Tractor	Cellular	GPS/GNSS	Bluetooth Low Energy	RFID/NFC	Sensors

# Enabling Smart Home Solutions

Future Connectivity Solutions offers a market-leading portfolio of products and complimentary, innovative devices to enable **Smart Home** design requirements. Improve home and building comfort, efficiency and security through key applications such as:

- Smart Appliances
- Smart Lighting
- Smart Locks and Doors
- Smart Thermostats



Appliances	Wi-Fi	Bluetooth Low Energy	RFID/NFC	Sensors
<b>Lighting</b>	Sub-1GHz	Bluetooth Low Energy	RFID/NFC	Sensors
<b>Smart Locks/ Door/Alarm</b>	Cellular	RFID/NFC	Sensors	
<b>Thermostat</b>	Thread	Bluetooth Low Energy	RFID/NFC	Sensors

# Enabling Smart Industry Solutions

Future Connectivity Solutions offers a market-leading portfolio of products and complimentary, innovative devices to enable **Smart Industry** design requirements. Ensure a safer, more efficient and environmentally friendly factory and workplace through key applications such as:



- Asset Tracking
- Access Control
- Smart Locks and Doors
- Cold Chain Monitoring
- Predictive Maintenance

<b>Asset Tracking</b>	Cellular	GPS/GNSS	Bluetooth Low Energy	RFID/NFC	Sensors
<b>Access Control</b>	Cellular	RFID/NFC	Sensors		
<b>Smart Locks and Doors</b>	Wi-Fi	Bluetooth Low Energy	RFID/NFC	Sensors	
<b>Cold Chain Monitoring</b>	Cellular	Sensors			
<b>Predictive Medicine</b>	Bluetooth Low Energy	W-iFi	LoRa	Sub-GHz	Sensors

# Enabling Smart Health Solutions

Future Connectivity Solutions offers a market-leading portfolio of products and complimentary, innovative devices to enable **Smart Health** design requirements. Improve personal and patient health and wellness, medical monitoring and care delivery platforms through key applications such as:

- Wearables
- Hearables
- Glucose Meters
- Smart Pillbox



Wearables	GPS/GNSS	Wi-Fi	Bluetooth Low Energy	RFID/NFC	Sensors
Hearables	NFMI	Bluetooth Low Energy	RFID/NFC	Sensors	
Glucose Meter	Bluetooth Low Energy	RFID/NFC	Sensors		
Smart Pillbox	Cellular	Sensors	Sensors		



## From Low Power Sensor to Low Power System

The **LSM6DSOX** contains a 3D MEMS accelerometer and 3D MEMS gyroscope, and tracks complex movements using the machine-learning core at low typical current consumption of just 0.55mA to minimize load on the battery. Relieving this first stage of activity tracking from the main processor saves energy and accelerates motion-based apps such as fitness logging, wellness monitoring, personal navigation, and fall detection.

The machine-learning core works in conjunction with the sensor's integrated finite-state machine logic to handle motion pattern recognition or vibration detection.

Best in class Inertial Measurement Unit (IMU)

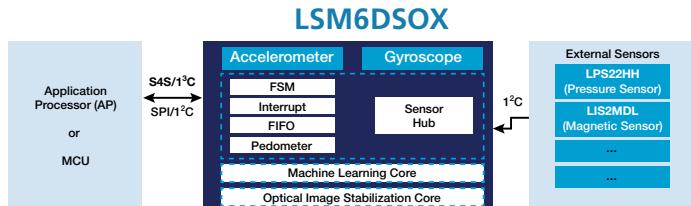
**Power Consumption** (0.55 mA combo mode HP)

**10 to 1000 times energy saving by running**

**Machine Learning on Sensor HW (vs. AP)**

**Simplified and Lean System Concept based on 2 mainstreams:**

1. Configurable power mode and high speed communication
2. Flexible HW solution running accurate algorithms



# SENSOR APPLICATION SELECTOR

Suppliers	Accelerometer	Acoustic	Air Quality / Gas	Biosensor	Environmental Combo	Flow	Gyro / Angular Rate	Humidity	Image / 3D	Inertial Combo	Light / Color	Magnetic/Hall	Occupancy / Motion	Optical Combo	Position / Speed	Pressure	Proximity	Temperature
Amphenol Advanced Sensors			✓					✓								✓		
ams			✓			✓			✓		✓				✓	✓	✓	✓
Bosch SensorTec	✓		✓		✓		✓			✓		✓				✓		
Crocus Technology																		
Cypress																		✓
Diodes												✓						
FLIR									✓									
IDT			✓			✓		✓								✓		
Infineon		✓			✓							✓	✓		✓	✓	✓	✓
Maxim Integrated				✓		✓												✓
Melexis Technologies									✓			✓	✓			✓	✓	✓
Microchip																		✓
Monolithic Power												✓						
Murata	✓	✓					✓			✓		✓	✓			✓		✓
NXP Semiconductors	✓						✓			✓		✓	✓		✓	✓		✓
ON Semiconductor								✓	✓		✓						✓	✓
Panasonic													✓				✓	
Renesas											✓				✓			✓
ROHM	✓			✓			✓			✓	✓	✓			✓	✓	✓	✓
Semtech																	✓	
Sensirion			✓					✓									✓	✓
STMicroElectronics	✓	✓					✓	✓		✓		✓				✓	✓	✓
TE Sensor Solutions	✓					✓	✓	✓							✓	✓		✓
Truly									✓									
Vishay											✓	✓			✓	✓		✓



# NEBULA IoT

## REFERENCE DESIGN BOARD

As an innovative industry leader, Future Electronics has partnered with Cypress and Murata to develop this reference board to assist with our customers' IoT needs.

- Wireless connectivity is supported by the Murata 1DX module which houses the Cypress-based CYW4343W Wi-Fi and Bluetooth Classic (BR/EDR)/BLE chipset radio.
- Nebula contains an STM32F429, an ARM Cortex-M4, with 32 bit RISC core, 2MB Flash and up to 256kB SRAM.
- Nebula supports application development through Cypress' WICED® (Wireless Internet Connectivity for Embedded Devices) platform.
- The board is equipped with 4 different interfaces to access the STM32F429 peripherals to enable developers to create any IoT application: Arduino™ Compatible Shield, mikro BUS™ Socket, Pmod™ Type 2A, USB Device.



NEB1DX-01

To purchase a **Nebula board** go to:  
[www.futureelectronics.com/nebula](http://www.futureelectronics.com/nebula)



[www.FutureElectronics.com/Sensors](http://www.FutureElectronics.com/Sensors)

