



Sensors & MEMS

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Hall ICs

Omnipolar Detection Hall ICs Detects S- or N-pole Magnetic Fields and Turns the Output ON (active Low).								
Part No.	Supply Voltage (V)	Operate Point(mT)		Period (ms)	Current Consumption (Avg.)(μ A)	Output	Operating Temperature (°C)	Package (mm)
		S-pole	N-pole					
BU52092GWZ	1.65 to 3.6	+2.4	-2.4	50	4.4	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52055GWZ	1.65 to 3.6	+4.1	-4.1	50	5	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52054GWZ	1.65 to 3.6	+6.3	-6.3	50	5	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52095GWZ	1.65 to 3.6	+9.5	-9.5	50	4.4	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52097GWZ	1.65 to 3.6	+15.0	-15.0	50	4.4	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52098GWZ	1.65 to 3.6	+24.0	-24.0	50	4.4	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
New BU52792GWZ	2.7 to 5.5	+2.4	-2.4	50	3.2	CMOS	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BD7411G	4.5 to 5.5	+3.4	-3.4	—	2.0(mA)	CMOS	-40 to +85	SSOP5
Omnipolar Detection Hall ICs with Polarity Discrimination (Polarity Detection for Both S and N Features Dual Outputs) Features 2 Outputs to Discriminate Between N- and S-pole Detection.								
BU52272NUZ	1.65 to 3.6	+2.4	-2.4	50	4.4	CMOS (2 Outputs : S, N pole)	-40 to +85	VSON04Z1114A (1.1×1.4)H=0.4 Max.
New BU52072GWZ	1.65 to 3.6	+2.4	-2.4	50	4.4	CMOS (2 Outputs : S, N pole)	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52273NUZ	1.65 to 3.6	+4.1	-4.1	50	4.4	CMOS (2 Outputs : S, N pole)	-40 to +85	VSON04Z1114A (1.1×1.4)H=0.4 Max.
New BU52073GWZ	1.65 to 3.6	+4.1	-4.1	50	4.4	CMOS (2 Outputs : S, N pole)	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52274NUZ	1.65 to 3.6	+6.3	-6.3	50	4.4	CMOS (2 Outputs : S, N pole)	-40 to +85	VSON04Z1114A (1.1×1.4)H=0.4 Max.
New BU52074GWZ	1.65 to 3.6	+6.3	-6.3	50	4.4	CMOS (2 Outputs : S, N pole)	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52075GWZ	1.65 to 3.6	+9.5	-9.5	50	5	CMOS (2 Outputs : S, N pole)	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52077GWZ	1.65 to 3.6	+15.0	-15.0	50	5	CMOS (2 Outputs : S, N pole)	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
BU52177GXZ	1.65 to 3.6	+15.0	-15.0	50	5	CMOS (2 Outputs : S, N pole)	-40 to +85	XCSP30L1 (0.65×0.65)H=0.33 Max.
BU52078GWZ	1.65 to 3.6	+24.0	-24.0	50	5	CMOS (2 Outputs : S, N pole)	-40 to +85	UCSP35L1 (0.8×0.8)H=0.4 Max.
Bipolar Latch Hall IC Detects Turn of Pole (S→N or N→S)(N-pole→S-pole : Out put High→Low S-pole→N-pole : Out put Low→High)								
BU52040HFV	1.65 to 3.3	+3.0	-3.0	0.5	200	CMOS	-40 to +85	HVSOF5

Ambient Light Sensor ICs

Analog Current Output type Ambient Light Sensor ICs								
Part No.	Supply Voltage (V)	Sensitivity Variations (%)	Illuminance Measurement Range (lx)	High Sensitivity	IR Cut	I/F	Operating Temperature (°C)	Package
BH1603FVC	2.4 to 5.5	±15	0 to 100,000	—	—	Linear Current Output (Source)	-40 to +85	WSOF6
BH1620FVC	2.4 to 5.5	±15	0 to 100,000	—	—	Linear Current Output (Source)	-40 to +85	WSOF5
BH1680FVC	2.4 to 5.5	±15	0 to 50,000	✓	✓	Linear Current Output (Source)	-40 to +85	WSOF5
BH1682FVC	2.3 to 5.5	±3 μ A	0 to 55,000	—	✓	Logarithmic Current Output (Source)	-40 to +80	WSOF5
Digital 16bit Serial Output type Ambient Light Sensor ICs								
BH1721FVC	2.4 to 3.6	±15	0 to 65,000	—	—	I ² C	-40 to +85	WSOF5
BH1730FVC	2.4 to 3.6	±15	0 to 65,000 (1/128 lx step)	✓	—	I ² C	-40 to +85	WSOF6
BH1726NUC	2.3 to 3.6	±15	0 to 30,000 (1/512 lx step)	✓	✓	I ² C	-40 to +85	WSON008X2120

Color Sensor ICs

Digital 16bit Serial Output type Color Sensor ICs												
Part No.	Supply Voltage (V)	λ (nm)					Illuminance Measurement Range (lx)	High Sensitivity	IR Cut	I/F	Operating Temperature (°C)	Package
		Red	Green	Blue	Clear	IR						
BH1745NUC	2.3 to 3.6	620	540	460	585	—	0 to 40,000	✓	✓	I ² C	-40 to +85	WSON008X2120
New BH1747NUC	2.3 to 3.6	630	540	460	585	825	0 to 80,000	✓	✓	I ² C	-40 to +85	WSON008X2120

Optical Sensor for Heart Rate Monitor ICs

Optical Sensor for Heart Rate Monitor ICs							
Part No.	Analog Supply Voltage (V)	IO Supply Voltage (V)	Sampling Rate (Hz)	Red Light, IR Cut	I/F	Operating Temperature (°C)	Package (mm)
BH1790GLC	2.5 to 3.6	1.7 to 3.6	32/64	✓	I ² C	-20 to +85	WLG A010V28 (2.8×2.8)H=1.0 Max.
New BH1792GLC	2.5 to 3.6	1.7 to 3.6	32/128/256/512/1024	✓	I ² C	-20 to +85	WLG A010V28 (2.8×2.8)H=1.0 Max.

Pressure Sensor ICs

Digital Pressure Sensor ICs with Built-in Temperature Compensation Function

New

Part No.	Supply Voltage (V)	Pressure Range (hPa)	Relative Pressure Accuracy (hPa)	Absolute Pressure Accuracy (hPa)	Average Current Consumption (μA)	I/F	Operating Temperature (°C)	Package (mm)
BM1383AGLV	1.7 to 3.6	300 to 1,100	±0.12	±1	3.0	I ² C	-40 to +85	CLGA12V025M (2.5×2.5)H=1.0 Max.
BM1386GLV	1.7 to 3.6	300 to 1,300	±0.12	±1	3.0	I ² C	-40 to +85	CLGA10V020A (2.0×2.0)H=1.0 Max.

Temperature Sensor ICs

Analog Output Temperature Sensor IC

Part No.	Supply Voltage (V)	Temperature Accuracy(°C)		Temperature Sensitivity(mV/°C)	Output Voltage(V) (Ta=+30°C, VDD=3V)	Supply Current (μA)	Operating Temperature (°C)	Package
		Ta=+30°C	Ta=-30, +100°C					
BD1020HFV	2.4 to 5.5	±1.5	±2.5	-8.2	1.3	4.0	-30 to +100	HVSOF5

Digital Output Temperature Sensor IC

Part No.	Supply Voltage (V)	Temperature Accuracy(°C) Ta=-20 to +85°C	Current Consumption (μA)	I/F	Operating Temperature (°C)	Package
BH1900NUX	2.7 to 3.6	±3.0	75.0	I ² C	-30 to +95	VSON008X2030

Low Power Thermostat Output Temperature Sensor IC

Part No.	Supply Voltage (V)	Detect Temperature (°C)	Detect Temperature Accuracy (°C)	Current Consumption (Operation/Power down) (μA)	Output Type		Operating Temperature (°C)	Package
					Type	Active		
BDJxxx0HFV Series	2.4 to 5.5	60/70/80	±2.5	7.5/0.3	Open Drain	L	-30 to +100	HVSOF5

*Low Power Thermostat Output Temperature Sensor ICs : Detection temperature (xxx : 055, 060, 065, 070, 080) is applied in the BDJxxx0HFV of part No.

Amplifier for Human Body Detector IC

Pyroelectric Infrared Sensor Amplifier

Part No.	Supply Voltage (V)	DRAIN Voltage (V)	AMP1/AMP2 Gain (dB)	Output Type	Package
BD9251FV	2.97 to 6	2.3	46 Max.	Analog/CMOS	SSOP-B14

Switch Controller ICs

Capacitive Switch Controller ICs

New

Part No.	Supply Voltage (V)	Cap Switch (ch)	LED_Driver (ch)	LED_PWM Control	Matrix Control	I/F	MCU (bit)	Program Memory	Intermittent Motion	Package
BU21170MUV	3.0 to 5.5	5	5	✓	—	I ² C	32	ROM	—	VQFN020V4040
BU21079F	3.0 to 5.5	8	—	—	4×4	I ² C	32	ROM	✓	SOP16
BU21077MUV	2.7 to 5.5	8	—	—	Adjustable	I ² C	32	RAM	✓	VQFN020V4040
BU21072MUV	3.0 to 5.5	10	6	✓	4×4	I ² C	32	ROM	—	VQFN024V4040
BU21078MUV	3.0 to 5.5	12	8	✓	6×6	I ² C	32	ROM	—	VQFN028V5050
BU21078FV	3.0 to 5.5	12	8	✓	6×6	I ² C	32	ROM	—	SSOP-B28
BU21180FS	3.0 to 5.5	20	—	—	—	I ² C	32	ROM	—	SSOP-A32

Touch Screen Controller ICs

Resistive type

New

Part No.	Supply Voltage (V)	MCU (bit)	Resolution	Touch Detection	Stand-by Current (μA)	Active Current (mA)	Host I/F	Operating Temperature (°C)	Package (mm)	Automotive Grade AEC-Q100
BU21029MUV	1.65 to 3.6	—	4096×4096	2 point/Single	100	0.8	I ² C	-20 to +85	VQFN020V4040	—
BU21029GUL	1.65 to 3.6	—	4096×4096	2 point/Single	100	0.8	I ² C	-20 to +85	VCSP50L2 (2.0×2.0, t=0.55)	—
BU21028FV-M	2.7 to 3.6	—	4096×4096	2 point/Single	100	0.8	I ² C	-40 to +85	SSOP-B20	YES
BU21023MUV	2.7 to 3.6	8	1024×1024	2 point/Single	60	4	I ² C/SPI	-20 to +85	VQFN028V5050	—
BU21023GUL	2.7 to 3.6	8	1024×1024	2 point/Single	60	4	I ² C/SPI	-20 to +85	VCSP50L2 (2.6×2.6, t=0.55)	—
BU21024FV-M	2.7 to 3.6	8	1024×1024	2 point/Single	60	4	I ² C/SPI	-40 to +85	SSOP-B28	YES
BU21027MUV	2.7 to 3.6	32	4096×4096	2 point/Single	70	8	I ² C	-20 to +85	VQFN020V4040	—
BU21025GUL	1.65 to 3.6	—	4096×4096	Single	0.8	0.12	I ² C	-30 to +85	VCSP50L2 (2.0×1.5, t=0.55)	—
BU21026MUV	1.65 to 3.6	—	4096×4096	Single	0.8	0.12	I ² C	-30 to +85	VQFN020V4040	—

Touch Screen I/F LSIs Supporting SPI/I²C

(LAPIS Semiconductor products)

Part No.	Supply Voltage (V)	MCU	Resolution	Touch Detection	Stand-by Current (μA)	Active Current (mA)	Host I/F	Operating Temperature (°C)	Package (mm)	Automotive Grade
ML26700CGD	2.7 to 3.6	—	4096×4096	Single	30	0.42	I ² C	-40 to +85	WQFN12 3.0×3.0, t=0.55	YES
ML26700SGD	2.7 to 3.6	—	4096×4096	Single	30	0.56	SPI	-40 to +85	WQFN12 3.0×3.0, t=0.55	YES

Accelerometers

(Kionix products)

3-Axis Accelerometers

Part No.	Axis	Full-Scale Range	I/F Output	Current Consumption (µA)	Size, Pins, and Package Type	Features	Automotive Grade AEC-Q100
KX122-1037	3	User-selectable 2g, 4g, 8g	Digital SPI/I ² C	0.9 to 145	2 × 2 × 0.9mm, 12pin, LGA	2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Directional Tap/Double-Tap™, Free fall, Orientation Detection	—
New KX124-1051	3	User-selectable 2g, 4g, 8g	Digital SPI/I ² C	0.9 to 145	3 × 3 × 0.9mm, 16pin, LGA	2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Directional Tap/Double-Tap™, Free fall, Orientation Detection	—
New KX126-1063	3	User-selectable 2g, 4g, 8g	Digital SPI/I ² C	0.9 to 145	2 × 2 × 0.9mm, 12pin, LGA	Pedometer function, 2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Directional Tap/Double-Tap™, Free fall, Orientation Detection	—
New KXCJB-1041	3	User-selectable 2g, 4g, 8g	Digital I ² C	10 to 135	3 × 3 × 0.45mm, 10pin, LGA	Low Current Consumption, User-configurable wakeup function, Ultra thin type	—
New KX112-1042	3	User-selectable 2g, 4g, 8g	Digital SPI/I ² C	0.9 to 145	2 × 2 × 0.6mm, 12pin, LGA	2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Directional Tap/Double-Tap™, Free fall, User-configurable wakeup function, Thin type	—
New KXTJ3-1057	3	User-selectable 2g, 4g, 8g, 16g	Digital I ² C	0.9 to 155	2 × 2 × 0.9mm, 12pin, LGA	User-configurable wakeup function	—
New KX224-1053	3	User-selectable 8g, 16g, 32g	Digital SPI/I ² C	0.9 to 145	3 × 3 × 0.9mm, 16pin, LGA	2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Mechanical resonance frequency(−3dB)6kHz(xy), 3.6kHz(z)	—
New KX222-1054	3	User-selectable 8g, 16g, 32g	Digital SPI/I ² C	0.9 to 145	2 × 2 × 0.9mm, 12pin, LGA	2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Mechanical resonance frequency(−3dB)6kHz(xy), 3.6kHz(z)	—
KXTC9 series	3	2g to 6g	Analog	170 to 310	3 × 3 × 0.9mm, 10pin, LGA	Factory Programmable Internal Low Pass Filter	—
☆KX220 series	3	up to 40g	Analog	170 to 310	3 × 3 × 0.9mm, 10pin, LGA	Factory Programmable Internal Low Pass Filter	—
☆KX123-6000	3	User-selectable 2g, 4g, 8g	Digital SPI/I ² C	10 to 145	3 × 3 × 0.9mm, 16pin, LGA	AEC-Q100 qualified, Operating Temperature −40 to 85°C, 2KB FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Directional Tap/Double-Tap™, Free fall, Orientation Detection	YES*

*For Automotive Non-Safety Directional Tap/Double-Tap™ is a trademark of Kionix.

☆ : Under Development

6-Axis Combo Sensors

(Kionix products)

3-Axis Accelerometer + 3-Axis Gyroscope

Part No.	Axis	Gyroscope Full-Scale Range	Accelerometer Full-Scale Range	Accelerometer Sensitivity	Resolution	Size, No. of Pins, Package	I/F Output	Wakeup	Operating Temperature (°C)	V _{CC} (V)
☆KXG07	6	±2048, ±1024, ±512, ±256, ±128, ±64°/Sec	2g, 4g, 8g, 16g	16384(±2g), 8192(±4g), 4096(±8g), 2048(±16g), Counts/g	16	3 × 3 × 0.9mm, 16pin, LGA	Digital I ² C/SPI	Yes	−40 to +85	1.8 to 3.6
☆KXG08	6	±2048, ±1024, ±512, ±256, ±128, ±64°/Sec	2g, 4g, 8g, 16g	16384(±2g), 8192(±4g), 4096(±8g), 2048(±16g), Counts/g	16	2.5 × 3 × 0.95mm, 14pin, LGA	Digital I ² C/SPI	Yes	−40 to +85	1.8 to 3.6

3-Axis Accelerometer + 3-Axis Magnetometer

Part No.	Axis	Accelerometer Full-Scale Range	I/F Output	Current (µA)	Magnetometer Range	Operating Temperature (°C)	Size, Pins, and Package Type	Features
New KMX62-1031	6	User-selectable 2g, 4g, 8g, 16g	Digital I ² C	10 to 395	±1,200µT	−40 to +85	3 × 3 × 0.9mm, 16pin, LGA	E-compass Solution, Magnetic field change, Free fall

☆ : Under Development

Infrared Image Sensor

(LAPIS Semiconductor products)

Infrared(IR) Sensor

Part No.	Feature	Pixel	Measurement Range (°C)	Temperature Resolution (without Lens) (°C)	Output Type	Read Speed	Supply Voltage (V)	Operating Temperature (°C)	Package	Halogen Free Support
ML8540	2000 pixels thermopile type Thermal image sensor	47row × 48column 2256 pixels	−30 to +300(Variable)	0.5	Analog	6FPS	4.5 to 5.5	−30 to +85	C-QFN24	✓

A check mark of halogen free support means that we will be able to ship out the halogen free products. For details, please inquire to the sales.