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)		Pulse Drive Period (ms)	Supply Current (Avg.) (μA)	Output	Operating Temperature (°C)	Package (mm)
		S-pole	N-pole					
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

New	BU52271NUZ	1.65 to 3.60	+1.7	−1.7	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	VSON04Z1114A 1.1×1.4, H=Max 0.4
New	BU52422NUZ	1.65 to 3.60	+2.4	−2.4	50	4.4	Open Drain (2 Outputs: S, N pole)	−40 to +85	VSON04Z1114A 1.1×1.4, H=Max 0.4
	BU52272NUZ	1.65 to 3.60	+2.4	−2.4	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	VSON04Z1114A 1.1×1.4, H=Max 0.4
	BU52072GWZ	1.65 to 3.60	+2.4	−2.4	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	UCSP35L1 0.8×0.8, H=Max 0.4
	BU52273NUZ	1.65 to 3.60	+4.1	−4.1	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	VSON04Z1114A 1.1×1.4, H=Max 0.4
	BU52073GWZ	1.65 to 3.60	+4.1	−4.1	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	UCSP35L1 0.8×0.8, H=Max 0.4
	BU52274NUZ	1.65 to 3.60	+6.3	−6.3	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	VSON04Z1114A 1.1×1.4, H=Max 0.4
	BU52074GWZ	1.65 to 3.60	+6.3	−6.3	50	4.4	CMOS (2 Outputs: S, N pole)	−40 to +85	UCSP35L1 0.8×0.8, H=Max 0.4
	BU52075GWZ	1.65 to 3.60	+9.5	−9.5	50	5.0	CMOS (2 Outputs: S, N pole)	−40 to +85	UCSP35L1 0.8×0.8, H=Max 0.4
	BU52077GWZ	1.65 to 3.60	+15.0	−15.0	50	5.0	CMOS (2 Outputs: S, N pole)	−40 to +85	UCSP35L1 0.8×0.8, H=Max 0.4
	BU52078GWZ	1.65 to 3.60	+24.0	−24.0	50	5.0	CMOS (2 Outputs: S, N pole)	−40 to +85	UCSP35L1 0.8×0.8, H=Max 0.4

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)

Part No.	Supply Voltage (V)	Operate Point (mT)		Pulse Drive Period (ms)	Supply Current (Avg.) (μA)	Output	Operating Temperature (°C)	Package (mm)
		S-pole	N-pole					
BU52040HFV	1.65 to 3.30	+3.0	−3.0	0.5	200	CMOS	−40 to +85	HVSOF5

Geomagnetic Sensor IC

3-Axis Digital Magnetometer IC

Part No.	Supply Voltage (V)	Magnetic Measurement (μT)	Magnetic Sensitivity (μT/LSB)	Current Consumption (μA)	I/F	Operating Temperature (°C)	Package (mm)
BM1422AGMV	1.7 to 3.6	±1,200	0.042	150	I²C	−40 to +85	MLGA010V020A 2.0×2.0, H=Max 1.0

Current Sensor IC

Contactless Current Sensor IC

Part No.	Supply Voltage (V)	Magnetic Measurement (μT)	Magnetic Sensitivity (μT/LSB)	Current Consumption (μA)	I/F	Operating Temperature (°C)	Package (mm)
BM14270AMUV-LB	2.7 to 5.5	±280	0.045	70	I²C	−40 to +125	VQFN20QV3535 3.5×3.5, H=Max 1.0

Ambient Light Sensor ICs

Analog Current Output type Ambient Light Sensor ICs

Part No.	Supply Voltage (V)	Sensitivity Variations (%)	Illuminance Measurement (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

Digital 16bit Serial Output type Ambient Light Sensor ICs

BH1721FVC	2.4 to 3.6	±15	0 to 65,000	—	—	I²C	−40 to +85	WSOF5
BH1730FVC	2.4 to 3.6	±15	0 to 65,000 (1/128 lx step)	✓	—	I²C	−40 to +85	WSOF6
BH1726NUC	2.3 to 3.6	±15	0 to 30,000 (1/512 lx step)	✓	✓	I²C	−40 to +85	WSON008X2120

Color Sensor IC

Digital 16bit Serial Output type Color Sensor IC

Part No.	Supply Voltage (V)	λp (nm)				Illuminance Measurement (lx)	High Sensitivity	IR Cut	Fricker detection	I/F	Operating Temperature (°C)	Package (mm)
		Red	Green	Blue	IR							
BH1749NUC	2.3 to 3.6	630	540	460	825	0 to 80,000	✓	✓	–	I²C	−40 to +85	WSON008X2120
New BU27006MUC	1.7 to 3.6	630	540	460	825	0 to 50,000	✓	✓	✓	I²C	−40 to +85	WQFN12X2520A 2.5×2.0, H=Max 0.55

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 Frequency (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	✓	I²C	−20 to +85	WLGA010V28 2.8×2.8, H=Max 1.0
BH1792GLC	2.5 to 3.6	1.7 to 3.6	32/64/128/256/1,024	✓	I²C	−20 to +85	WLGA010V28 2.8×2.8, H=Max 1.0

Pressure Sensor ICs

Digital Pressure Sensor ICs with Built-in Temperature Compensation Function

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)
BM1386GLV	1.7 to 3.6	300 to 1,300	±0.12	±1	3.0	I²C	−40 to +85	CLGA10V020A 2.0×2.0, H=Max 1.0

Temperature Sensor ICs

Analog Output Temperature Sensor IC

Part No.	Supply Voltage (V)	Temperature Accuracy (°C)		Temperature Sensitivity (mV/°C)	Output Voltage (V) (T_a=+30°C, V_{DD}=3V)	Supply Current (μA)	Operating Temperature (°C)	Package
		T_a=+30°C	T_a=−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) T_a=−20 to +85°C	Current Consumption (μA)	I/F	Operating Temperature (°C)	Package
BH1900NUX	2.7 to 3.6	±3	75	I²C	−30 to +95	VSON008X2030

Amplifier for Human Body Detector IC

Pyroelectric Infrared Sensor Amplifier

Part No.	Supply Voltage (V)	DRAIN Voltage (V)	Amp.1/Amp.2 Gain (dB)	Output type	Package
BD9251FV	2.97 to 6.00	2.3	Max 46	Analog/CMOS	SSOP-B14

Capacitive Switch Controller ICs

Capacitive Switch Controller ICs

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	✓	–	I²C	32	ROM	–	VQFN020V4040
BU21079F	3.0 to 5.5	8	–	–	4×4	I²C	32	ROM	✓	SOP16
BU21077MUV	2.7 to 5.5	8	–	–	4×4	I²C	32	RAM	✓	VQFN020V4040
BU21072MUV	3.0 to 5.5	10	6	✓	4×4	I²C	32	ROM	–	VQFN024V4040
BU21078MUV	3.0 to 5.5	12	8	✓	6×6	I²C	32	ROM	–	VQFN028V5050
BU21078FV	3.0 to 5.5	12	8	✓	6×6	I²C	32	ROM	–	SSOP-B28
☆BU21181FS	3.0 to 5.5	18	–	–	–	I²C	32	ROM	✓	SSOP-A32
BU21180FS	3.0 to 5.5	20	–	–	–	I²C	32	ROM	–	SSOP-A32

☆: Under Development

Touch Screen Controller ICs

Resistive type

Part No.	Supply Voltage (V)	MCU (bit)	Resolution	Touch Detection	Standby 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 points/Single	100	0.8	I²C	−20 to +85	VQFN020V4040	—
BU21029GUL	1.65 to 3.6	—	4096×4096	2 points/Single	100	0.8	I²C	−20 to +85	VCSP50L2 2.0×2.0, t=0.55	—
BU21023MUV	2.7 to 3.6	8	1024×1024	2 points/Single	60	4.0	I²C/SPI	−20 to +85	VQFN028V5050	—
BU21023GUL	2.7 to 3.6	8	1024×1024	2 points/Single	60	4.0	I²C/SPI	−20 to +85	VCSP50L2 2.6×2.6, t=0.55	—
BU21024FV-M	2.7 to 3.6	8	1024×1024	2 points/Single	60	4.0	I²C/SPI	−40 to +85	SSOP-B28	YES
BU21027MUV	2.7 to 3.6	32	4096×4096	2 points/Single	70	8.0	I²C	−20 to +85	VQFN020V4040	—
BU21025GUL	1.65 to 3.6	—	4096×4096	Single	0.8	0.12	I²C	−30 to +85	VCSP50L2 2.0×1.5, t=0.55	—
BU21026MUV	1.65 to 3.6	—	4096×4096	Single	0.8	0.12	I²C	−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	Halogen free Support*1	Automotive Grade
ML26700CGD	2.7 to 3.6	—	4096×4096	Single	30	0.42	I²C	−40 to +85	WQFN12-0303-0.50	✓	—
ML26700SGD	2.7 to 3.6	—	4096×4096	Single	30	0.42	SPI	−40 to +85	WQFN12-0303-0.50	✓	—

*1 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.

Accelerometers

(Kionix products)

3-Axis Accelerometers

Part No.	Axis	Full-Scale Range	I/F Output	Current Consumption (μA)	Size, No. of Pins, Package	Features	Automotive Grade AEC-Q100
KX122-1037	3	User-selectable 2g, 4g, 8g	Digital SPI/I²C	10 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	—
KX124-1051	3	User-selectable 2g, 4g, 8g	Digital SPI/I²C	10 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	—
KX126-1063	3	User-selectable 2g, 4g, 8g	Digital SPI/I²C	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, V_{DD}=7pin	—
KX127-1068	3	User-selectable 2g, 4g, 8g	Digital SPI/I²C	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, V_{DD}=9pin	—
KXTJ3-1057	3	User-selectable 2g, 4g, 8g, 16g	Digital I²C	10 to 135	2×2×0.9mm, 12pin, LGA	User-configurable wakeup function, V_{DD}=7pin	—
KX003-1077	3	User-selectable 2g, 4g, 8g, 16g	Digital I²C	10 to 135	2×2×0.9mm, 12pin, LGA	User-configurable wakeup function, V_{DD}=9pin	—
New **KX132-1211**	3	User-selectable 2g, 4g, 8g, 16g	Digital SPI/I²C	0.67 to 148	2×2×0.9mm, 12pin, LGA	512B FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Mechanical resonance frequency (−3dB) 3.8kHz (xy), 2.7kHz (z)	—
New **KX134-1211**	3	User-selectable 8g, 16g, 32g,64g	Digital SPI/I²C	0.67 to 148	2×2×0.9mm, 12pin, LGA	512B FIFO/FILO, Wide range of ODRs from 0.781Hz to 25.6kHz, Mechanical resonance frequency (−3dB) 8.2kHz (x), 8.5kHz (y), 5.6kHz (z)	—
KXTC9 series	3	1.5g to 6.0g	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/I²C	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.

6-Axis Combo Sensor

(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 I²C/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 I²C/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 (µT)	Operating Temperature (°C)	Size, No. of Pins, Package	Features
KMX62-1031	6	User-selectable 2g, 4g, 8g, 16g	Digital I²C	10 to 395	±1,200	−40 to +85	3×3×0.9mm, 16pin, LGA	E-compass Solution, Magnetic field change, Free fall

☆: Under Development