

# endrich news

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## OUR PRODUCT OF THE MONTH: SINGLE CHANNEL CAPACITIVE PROXIMITY / TOUCH CONTROLLER



*IQS231A/B*

### FEATURES

- Integrated SAR user interface offering a simple GPIO output
- Quick release detection – effectively prevent false triggers from remaining
- Quick release sensitivity options
- Wide range of control for sensing in high power RF environments
- Pin compatible with devices of same package type  
(IQS229 DFN10, all ProxSense TSOT23-6 devices<sup>1</sup>, IQS211A WLCSP-8 device)
- 1.8V (-2%) to 3.6V input voltage
- Capacitive resolution down to 0.02 fF
- Capacitive load capability up to 200 pF



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**OVERVIEW OF LEAD TIMES UNTIL THE END OF FEBRUARY 2021**

Dear Endrich customers,  
 due to the Corona pandemic and the availability of various raw materials, such as the semiconductor IC shortage, the lead times of our manufacturers have currently increased, in some cases drastically. Today we would like to inform you about the changed lead times of our affected products and suppliers. The details are based on information from our suppliers and are to be understood as average values. We would like to ask you to take the current lead times for new orders into account and to store them in your merchandise management system.

Also taking Chinese New Year into account, we would like to ask you to place your orders with us in good time so that we can also offer you more planning security. This overview is preliminary and valid until the end of February 2021. Please note that lead times may change at any time.

SUPPLIER	PRODUCT LINE	LEAD TIME IN WEEKS
2J	Antennas	4 – 6
ABC	Inductive components	10 – 16
Adda	Fans	28 – 34
Alliance	All	15 – 18
Audiowell	Ultrasonic	8 – 10
Aurel	RF modules	9 – 12
Azoteq	All	12 – 18
Baolong	Vibration motors	14 – 20
BSE	Microphones	14 – 20
Changzhou Chinasound	Speaker and buzzer	14 – 20
Chequers	Quartz SMD	12 – 14
Chequers	Oscillators	14 – 16
Chequers	SAW filters	22 – 26
Chequers	Ceramic resonators	12 – 14
Chequers	Ceramic IF Filter kHz Resonators	16 – 18
Citizen	General lighting	10 – 12
Citizen	Non-general lighting	12 – 14
Citizen	wired clock crystals	20
Citizen	CM200C	32
Citizen	CM315 (3.2 x 1.5 mm)	Allocation
Citizen	SMD smaller 3 x 1.5 mm	56 – 64
Cosmo	Optocouplers	14 – 22
Cosmo	Metal Oxide Semiconductor Relay	14 – 24

SUPPLIER	PRODUCT LINE	LEAD TIME IN WEEKS
Crocus	TMR Sensors	10 – 12
Crown	Fans	34 – 36
CT Micro	Optocouplers	21 – 34
CT Micro	Metal Oxide Semiconductor Relay	21 – 34
Dominant	SMD LED	11 – 13
E&C	Resistors	8 – 30
Ecofit/Etri	Standard fans	18 – 20
Ecofit/Etri	Non-standard fans	30 – 32
ERIS	Diodes	10 – 52
ESMT	All	15 – 18
EVE	Batteries (primary)	14 – 16
Everlight	IR Sensors	16 – 20
Everlight	LED & LED Display	18 – 20
Everlight	LED-Highpower	18 – 20
Excel Cell	Metal Oxide Semiconductor Relay	10 – 22
Excel Cell	Resetting fuses	8 – 20
FANSO	Batteries (primary)	14 – 16
Fibocom	GSM/LTE	14 – 16
Fidelix	All	15 – 18
Fulltech	Fans	26 – 28
GigaDevice	All	15 – 18
Harvatek	IR Sensors	14 – 20
Harvatek	SMD LED	on demand

**OVERVIEW OF LEAD TIMES UNTIL THE END OF FEBRUARY 2021**

SUPPLIER	PRODUCT LINE	LEAD TIME IN WEEKS
Holtek	All	> 36
Inpaq	Inductive components	6 – 22
Inpaq	GSM/LTE	16 – 18
Inpaq	Antennas	8 – 10
Inpaq	Transient voltage suppression components	12 – 32
Inpaq	Multilayer varistors	12 – 28
Inpaq	Varistors SMD	22 – 32
Inventronics	LED drivers and programmers	4 – 21
JSC	All	15 – 18
LEDIL	Optics, reflectors (stock Finland)	2
LEDIL	Optics, reflectors (stock China)	on demand
MORNSUN	AC/DC + DC/DC Converter modules	6 – 30
MPS	Analog IC – industrial	24 – 26
MPS	Analog IC – automotive	28 – 34
MPS	MagAlpha Sensors Industry	24 – 26
MPS	MagAlpha Sensors Automotive	28 – 34
New Japan Radio NJR	Opto electronics	type dependent 22 – 32
New Japan Radio NJR	WaveEYE [Radar]	type dependent 22 – 32
NICERA	Current Sensors, Hall Sensors, Pyrosensors	12 – 16
NJR	All	18 – 22
NMB	Fans	38 – 40
OmniPreSense	Radar sensors	8 – 10 / high volumes 18 – 21
OSA-Opto	SMD LED	6 – 8
Panasonic	WiFi/Bluetooth	10 – 12
Panasonic	Capacitors	26 – 28
PDC	Passive components	10 – 18
ProTek Devices	Transient voltage suppression components	8 – 36

SUPPLIER	PRODUCT LINE	LEAD TIME IN WEEKS
ProTek Devices	Protection thyristors	12 – 24
Qianyuan	Finger protection grille	30 – 32
Qinlong	Speaker and buzzer	14 – 20
RCD	Resistors	8 – 16
RFbeam	Radar sensors	13 – 15 / 20 – 22 for K-LD2 / K-LD7, K-LC7
Semitec	NTC's	12 – 16
Semitec	Current control diodes	16 – 20
Semitec	Power thermistors	18 – 22
Semitec	Suppressor diodes	16
Sensolute	Vibration sensors	8 – 12
SFI	Multilayer varistors	10 – 12
SFI	Gas arrester	10 – 12
Sitime	MEMS oscillators	18 – 20
SMI	Oscillators	14 – 17
Suncon	Capacitors	22 – 24
Susumu	Thin film resistors and shunts	14 – 22
Tateyama	NTC's	8 – 12
TDK-Micronas	Hall Sensors	type dependent 16 – 30
TEWA	Temperature Sensors	12 – 16
TST	Oscillators	14 – 17
TST	Filters	15 – 18
Tyco	LED-holder	on demand
Vansonic	Speaker and microphones	14 – 20

## MHJ-1401F MULTIBAND GNSS L1L2 ANTENNA (B1, L1, E1, G1, L2)

HAVE A LOOK

The MHJ-1401F Multiband GNSS active antenna uses Maruwa's distinctive materials technology to provide unrivalled circularly-polarized gain from a uniquely small volume. It enables excellent performance in tightly integrated devices that require good positional accuracy. By combining a high-quality dielectric antenna with a high-performance low-noise amplifier the MHJ-1401F active antenna provides an excellent solution for applications needing active gain input.

PARAMETER	SPECIFICATIONS
Cover Band	B1, L1, E1, G1, L2
Gain (Passive)	0 (@1575.42 MHz) Bic (Typ)
	-2 (@1227.60 MHz) Bic (Typ)
Gain (Active)	30 (@1575.42 MHz) Bic (Typ)
	27 (@1227.60 MHz) Bic (Typ)
Voltage	2.7 V to 5.5 V
Current	28 mA (Typ)
Beamwidth	135 (@1575.42 MHz) Degrees (Typ)
	115 (@1227.60 MHz) Degrees (Typ)
Axial Ratio	< 3.0 dB (@ zenith)
VSWR	< 2.0
Impedance	50 Ohms
Noise Figure	2.8 dB
Waterproof	IP67
Operating Temp.	-40 °C to +85 °C
Weight	29 grams

### FEATURES

- Ultra-compact L1 / L2 active antenna with Maruwa ceramic technology
- World's top class ultra-thin, compact models (MW Ø19.6 x 60 mm)
- No need of ground plane
- High precision positioning with RTK support
- Super wide band width which enables reception of satellite signals from super wide range
- Body is waterproof of IP67 rating
- Made in Maruwa factory from scratch
- Vast experience of customisation (band width, connector, enclosure)
- Less susceptible to the influence of human body

### APPLICATIONS

- Asset Tracking
- Emergency Location
- Vehicle
- Wildlife Tracking
- Seismic Monitors / Measuring



## IQS231 SINGLE CHANNEL CAPACITIVE PROXIMITY / TOUCH CONTROLLER FOR SAR APPLICATIONS

HAVE A LOOK



The IQS231A/B ProxSense® IC is a self-capacitance controller designed for applications where an awake / activate on proximity function is required. The IQS231A/B is an ultra-low power solution that uses unique release and/or movement detection for applications that require long- term detection.

The IQS231A/B operates standalone or I2C and features configuration via OTP (One Time Programmable) bits. Switching from I2C to standalone during runtime is also possible in order to access all settings while offering the simplicity of a standalone output.

### FEATURES

- Integrated SAR user interface offering a simple GPIO output
- Quick release detection – effectively prevent false triggers from remaining
- Quick release sensitivity options
- Wide range of control for sensing in high power RF environments
- Pin compatible with devices of same package type (IQS229 DFN10, all ProxSense TSOT23-6 devices<sup>1</sup>, IQS211A WLCSP-8 device)
- 1.8 V (-2 %) to 3.6V input voltage
- Capacitive resolution down to 0.02 fF
- Capacitive load capability up to 200 pF
- External threshold adjustment pin (minimize need for pre-empted OTP adjustments)
- Minimal external components (direct input strap)
- Standalone failsafe mode (backwards compatible failsafe output, short pulses on output to indicate operational device)
- Default OTP options focus on safety and passing SAR lab qualification, OTP changes offer performance advantages
- I<sub>2</sub>C interface option (improved compatibility)
- Extended controls in I<sub>2</sub>C mode (setup in I<sub>2</sub>C, runtime with standalone output)
- Optional input for synchronized implementations (input to instruct IC when to sense)
- Synchronization output – failsafe pulses may be used by the master to synchronize on. Sensing is done after each pulse
- Synchronization input – Sensing is only done while Sync input is low
- Low power sensing: 30 Hz (default), 100 Hz, 8 Hz, 4 Hz (sub 6 uA mode)
- Constant sampling rates during all power modes with rapidly debounced output changes
- Advanced temperature & interference compensation option

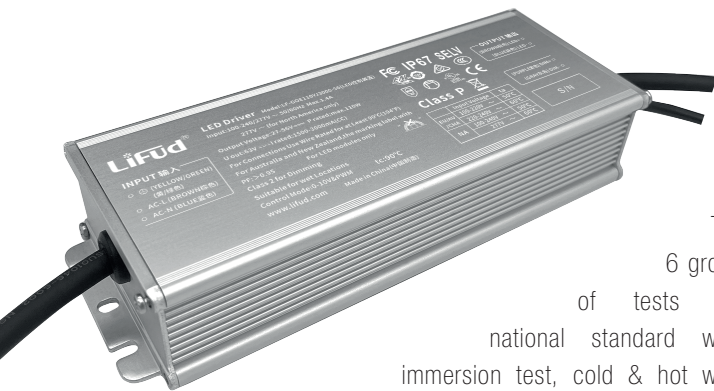


### APPLICATIONS

- SAR sensor
- Integrated hybrid designs (RF and capacitive sensing combined)
- Movement sensing applications (user interaction detection, anti-theft)
- Hold detection for screen activation
- On-ear detection

**OUTDOOR LED DRIVER – PROGRAMMABLE SERIES**

Lifud has released a brand new IP67 high power LED driver—LF-GOExxxYx. This series is equipped with excellent waterproof ability that passed strict design verification. In the verification, 6 groups of tests are conducted, 75 pcs of products are involved and the most time consuming test item reaches 2,000 hrs.



The 6 groups of tests are: national standard water immersion test, cold & hot water immersion test, salt spray & UV test, thermal shock test, double 85 test (85 °C / 85 % RH) and long-term burn-in test.

The LF-GOExxxYx series is a constant current LED driver, specially designed for street lights, tunnel lights, horticulture lighting and landscape lighting projects. It has features of high efficiency (93.5%), low standby power consumption ( $\leq 3W$ ) and low THD ( $< 10\%$ ), and can be dimmed to off.



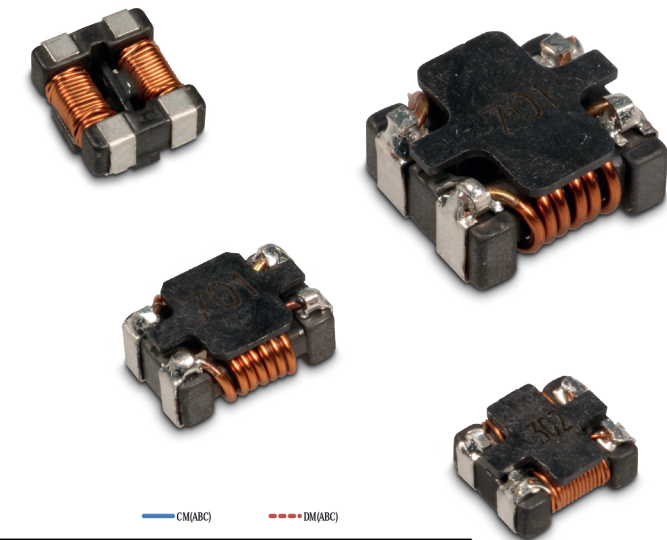
Generally, a LED driver is IP67 certified if it passes the national standard water immersion test. But in field visits and feedback from the customers, Lifud found that some IP67 certified LED drivers failed in water prevention after working for a long time in real application. That's because the product is at a static state during the certification test, while in actual application the driver must work at a dynamic state. Therefore, the waterproof ability will be affected by sudden change of temperature, wire dragging and pulling, transportation vibration, high working temperature, UV irradiation, salt spray corrosion, thermal shocking and etc.

Quality means everything for Lifud. To ensure high waterproof reliability, Lifud designs the other 5 groups of tests apart from the national standard water immersion test, to ensure the IP67 waterproof effect during long term and dynamic application in this way.

MODEL	INTRODUCTION
LF-GOExxxYE/YF (conventional)	YE: constant current, non-dimmable, output current adjustable via potentiometer YF: constant current, dimmable (0-10V/PWM/Rx), output current adjustable via potentiometer
LF-GOExxxYJ/YK (programmable)	YJ: constant power, 2-in-1 dimming, programmable, timing control, output lumen compensation YK: constant power, 2-in-1 dimming, programmable, timing control, output lumen compensation, 12V auxiliary output
LF-GOExxxYH (DALI dimming)	Constant power, DALI 2.0 dimming, programmable, 12V auxiliary power supply (optional)

**LARGE-CURRENT SMD COMMON-MODE FILTERS WITH HIGH IMPEDANCE**

ABC-ATEC introduces their new series of large-current SMD common-mode filters that have higher common-mode impedance compared with previous types and can significantly reduce noise. Due to the low height and small size of these products, it is possible to adapt to the trend towards higher density of portable devices that are becoming smaller and lighter and help to reduce noise for adapter lines and battery lines in many applications. Thanks to the completed AECQ200 qualification, these products are suitable for use in automotive applications.

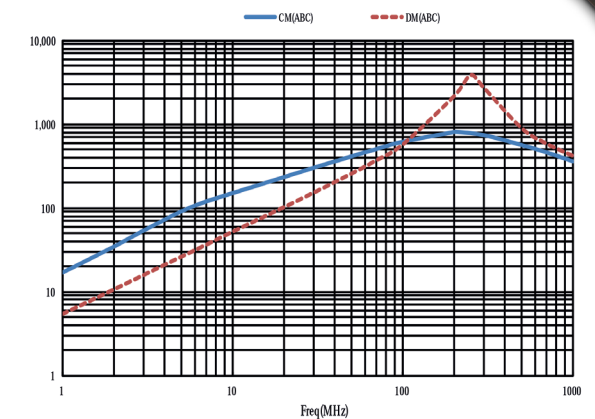


**FEATURES**

- Large-current SMD common-mode filters
- High common-mode impedance
- Best noise reduction
- AECQ200 qualified

**APPLICATIONS**

- DC common mode reduction circuit
- Head light (automotive)
- Automation equipment (industrial)
- Audio / visual systems (consumer & IT)



Typical performance curve – impedance vs frequency – on the example of AQF9045701YSB

	SERIES	ITEMS	IMPEDANCE		DCR MAX.	IDC MAX.
			TYP.	MIN.		
HAVE A LOOK	AQF9045	701	700 Ω	500 Ω	10.00 mΩ	5.00 A
HAVE A LOOK	AQF1260	701	700 Ω	500 Ω	6.00 mΩ	8.00 A
HAVE A LOOK	AQF1260	102	1000 Ω	750 Ω	14.00 mΩ	6.00 A
HAVE A LOOK	AQF7035	301	300 Ω	225 Ω	10.00 mΩ	5.00 A
HAVE A LOOK	AQF7035	701	700 Ω	500 Ω	15.00 mΩ	4.00 A



# SAFETY CERTIFIED MULTILAYER CERAMIC CHIP CAPACITORS

HAVE A  
LOOK



PROSPERITY DIELECTRIC CO., LTD. also known as "PDC" announced their new SAFETY CERTIFIED CAPACITORS Series FH&FK. These capacitors were designed for surge or lightning immunity in modem, facsimile and other equipment. The FK series are class X1/Y2 compliant, and the FH series are class X2 compliant respectively. The green type capacitors in FK/FH series are manufactured by using environmentally friendly materials without lead or cadmium. The terminations are composed of plated nickel and pure tin to feature the superior leaching resistance during soldering. There are versions with anti bending, anti arcing and AEC-Q200 on request.

## FEATURES

- High reliability and stability
- Small size and high capacitance.
- Safety standard approval by:  
TÜV IEC60384-14 / UL 60384
- RoHs compliant and HALOGEN free
- AEC-Q200 qualified (schedule: Q2/2020)

## APPLICATIONS

- General electronic application that require a lightning immunity
- Communication device (telephone, fax, ISDN, modems)
- Automotive
- Network
- Led driver

MATERIAL	VOLTAGE	SIZE	CLASS	CAPACITANCE	TOLERANCE	TEMPERATURE	TCR
COG	250 Vac	1808, 1812, 2211	X1/Y2	3 pF ~ 720 pF	0.5 pF for Cap. < 10 pF; 1 %, 2 %, 5 %, 10 %, 20 % for >= 10 pF	-55 °C to +125 °C	±30 ppm /°C
			X2	3 pF ~ 1000 pF			
X7R		1808, 1812, 2211, 2220	X1/Y2	100 pF ~ 4700 pF			±15 %
			X2	150 pF ~ 22000 pF			

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