

Next-Gen Components

Drones

- ✓ Key trends
- ✓ Industry outlook
- ✓ 42 Supplier profiles
- ✓ 42 Top products

global  sources

Electronic Components

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Next-Gen Components Drones

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Brushless types on micromotor R&D agenda

Emerging applications, including drones, spur line diversification, while overall robust demand fuels output expansion.

Micromotor R&D in China continues to highlight brushless types even as production remains dominated by mature brushed units. For a number of makers, the advanced category now has a growing share of output. Brushless kinds currently account for about 20 percent of Guangdong Chaoli Motor Co. Ltd's turnout. At Shenzhen Kinmore Motor Co. Ltd, which began development in recent years, the current portion is 5 percent.

Suppliers look forward to greater opportunities for brushless units in new applications. Some are eyeing the rapidly developing drones market, which globally will post nearly 7 percent annual growth. This will climb from \$6.4 billion in 2015 to \$11.5 billion in 2024, according to the Teal Group. Commercial drones will have a larger share, rising to 14 percent in 2024 from 11 percent in 2014.

Guangdong Chaoli offers micromotors for drones such as DC coreless and brushless variants, which have an aggregate production share of about 10 percent. Shenzhen Maintex Pinpoint Technique Co. Ltd has brushless units for this application, currently accounting for less than 5 percent of yield.

Local manufacturers' focus on brushless units also represents the trend for high precision and efficiency, low noise and long life span. This is while companies still keep improvements in mainstream brushed variants as an objective.

Suppliers adopt high-quality manufacturing inputs such as magnetic materials and bearings to realize reliable product performance. They are boosting the release of variants that use rare-earth

permanent magnets, specifically NdFeB, to broaden the predominantly ferrite-based local selection. At present, about 50 percent of Guangdong Chaoli's yield consists of NdFeB and 30 percent of that of Shenzhen Kinmore.

Miniaturization is still a trend in the line. Shenzhen Kinmore offers models 6 to 52mm in diameter. iNeed (HK) Ltd turns out mainly 3 to 4mm SMD, 4mm coreless, 6 to 7mm and 10 to 12mm cylindrical vibration motors.

There are also types that integrate the drivers for a simpler and more compact configuration.

Spurring these initiatives are the Internet of Things, cloud computing and 3D printing, in addition to traditionally strong markets in the communications, consumer electronics, home appliances and automotive industries. The last four take up more than 80 percent of global micromotor production. The aviation, and industrial, agricultural, construction and mining equipment sectors are the rest.

Combined, these applications will fuel growth for the category in the years ahead. The worldwide micromotor segment is projected to hit \$35.6 billion in 2020 from \$28.3 billion in 2015 with almost 5 percent CAGR, according to MarketsandMarkets.

In China, makers expect rising demand to result in an annual increase of production exceeding 10 percent in coming years. Shenzhen Kinmore targets to reach 20 percent higher sales value in 2016. Its manufacturing capacity is 90 million units per year. Shenzhen Maintex Pinpoint, which raised annual capability to 40 million

units from 35 million, is aiming for 50 percent total revenue surge in the months ahead.

China remains the world's manufacturing base for the line, with an expanding yield share to reach about 80 percent by 2017 from an estimated 22.1 billion-unit turnout. The number of suppliers has increased from about 700 to more than 1,000 at present. Domestic enterprises continue to dominate, exceeding 80 percent of the total. The key production hubs are in the provinces of Guangdong, Jiangsu and Zhejiang.

DC units lead

Local makers offer AC, DC, servo, stepping and SMD types. Typical products are smaller than 160mm in diameter, and have rated power of less than 750W.

DC micromotors form the mainstream supply, and come in brushed and brushless kinds. Brushed models dominate output for the configuration's basic design and low price.

Based on the material used, there are permanent-magnet and electromagnetic options. The former leads production with a portion exceeding 90 percent. It is categorized further into rare-earth and ferrite variants, with the latter mostly offered.

To meet various requirements, manufacturers accept custom voltage, current, power, speed and torque specifications as well as dimensions.

A micromotor is composed of a stator, rotor, shaft and outer housing. The main materials and components are enameled copper and electric wires, magnetic materials, metal, plastic and bearings. Silicon steel sheet, ferrite, AlNiCo and NdFeB are the options in magnetic inputs. All materials come from local providers, except when specified.

Despite rising labor costs, makers are keeping prices unchanged in 2016 to attract more orders amid fierce competition in the line.

Drones represent new wave of innovation from China

Drones have helped usher in a new period of innovation in China. That is the hypothesis posited by The Verge writer Thomas Ricker. By now, a pattern has emerged in the evolution of countries with innovative industries. They start out by copying things from overseas, producing affordable versions of the products. Their manufacturing processes improve slowly until eventually they are using their new knowledge to innovate and become leaders in emerging or older industries ripe for disruption. This pattern can roughly be seen in Japan, South Korea and Taiwan. China has already been transitioning out of its copycat phase and moving into real innovation for a while. Perhaps "hoverboards," also known as two-wheeled self-balancing scooters, have been the most visible realization of this for many outside China, but Ricker is arguing that the now-ubiquitous quadcopter drone is the best representation of the country's innovation.

The largest drone company in the world is DJI, based in Shenzhen. It is most responsible for the boom in popularity of consumer quadcopters. Ricker points

to the plethora of China companies showing off their latest products at the Consumer Electronics Show this year such as Yuneec and Ehang. These companies have certainly been pushing innovation in the drone market. Ehang debuted a drone that can accommodate a person inside at CES and Yuneec is competing with DJI in high-quality camera drones. DJI has also expanded recently into agriculture. Yet, smaller China manufacturers are making waves as well.

While it might seem like a gimmick, tiny drones made some headlines recently when one company's UAV became an Amazon best-seller. The US Federal Aviation Administration was gearing up for a million new drones this past holiday season. Many of those drones were likely coming from China companies, especially DJI.

But smaller drone manufacturers have an advantage on price and for first-time users, affordable products might be preferable as frequent crashes are part of the learning process for flying drones. That has made less expensive RC drones such as this one popular among beginners.

Supplier comparison table

Company name	Supplier ranking	Year established	Main products & services	Main markets	Total annual sales (\$mn)	Total annual exports (\$mn)	
AsiaLink International Technology Corp.	★★★★★☆☆	1997	Electronics and mechanical integration contract manufacturing services	Worldwide	4.6	3.2	CONTACT SUPPLIER
Changsha Shengtao Electronics Technology Co. Ltd	★★★★☆☆☆	2003	PCBs, PCB assemblies	North America, Europe, Asia	13.5	8.2	CONTACT SUPPLIER
Changzhou FHD Electronics Co. Ltd	★★★★☆☆☆	2010	Buzzers, speakers, receivers, alarm parts	North America, Europe, South Korea, Japan, Middle East	1bn	600	CONTACT SUPPLIER
Cheng Weei Technology Corp.	★★★★☆☆☆	1994	Connectors, wire harnesses, cable assemblies	Europe, North America	33	28	CONTACT SUPPLIER
Chyao Shiunn Electronic Industrial Ltd	★★★★☆☆☆	1985	Connectors, headers, jumpers, sockets	Worldwide	60	45	CONTACT SUPPLIER
Comfortable Electronic Co. Ltd	★★★★★★	1972	Battery holders, snaps, clips; metal contacts; wire harnesses, assemblies	Asia, Europe, North America	11	9.5	CONTACT SUPPLIER
Dailywell Electronics Co. Ltd	★★★★☆☆☆	1997	Toggle, push-button, rocker, slide, tactile switches	Worldwide	15	10	CONTACT SUPPLIER
Dongguan Citiland Electronics Technology Co. Ltd	★★★★☆☆☆	1982	Power supplies	Asia, Australasia, Central/South America, Europe, Middle East, Africa, North America	13	7	CONTACT SUPPLIER
Dongguan Jiezhong Industrial Co. Ltd	★★★★★★	2000	Turned, CNC-machined, stamped metal, die-casting parts	North America, Europe	10	8	CONTACT SUPPLIER

Global Sources supplier rankings

★★★★★★

Suppliers are ranked using a 6-star ranking system. Companies with a higher star ranking provide more business information and verification reports on their Global Sources online homepages. Suppliers rated 5 or 6 stars have a Credit Check report from First Advantage or Sino-Trust and a Supplier Capability Assessment report provided by Bureau Veritas online. The rankings are correct at the time of publication and may be subject to change.

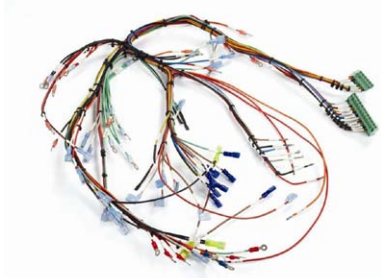
Company name	Supplier ranking	Year established	Main products & services	Main markets	Total annual sales (\$mn)	Total annual exports (\$mn)	
Dongguan Juli FRP Products Co. Ltd	★★★★☆☆	2011	Carbon-fiber, fiberglass products	North America, Europe	10	5	CONTACT SUPPLIER
Dongguan Large Electronics Co. Ltd	★★★★★★	2000	Batteries, battery solutions	North America, Europe, Asia	5bn to 10bn	500	CONTACT SUPPLIER
Dongguan Tangxia Shuangxin Hardware Products Fty	★★★★★★	2000	Metal hardware products	North America, Europe, Asia	18	15	CONTACT SUPPLIER
Dongguan WCON Hardware Electronics Co. Ltd	★★★★★★	1999	Connectors, industrial terminal blocks, cable assemblies for computers & peripheral devices	North America, Europe, Asia	25	15	CONTACT SUPPLIER
Electronic Components Technology Co. Ltd	★★★★☆☆	1996	Electronic components	Asia, Middle East	30	20	CONTACT SUPPLIER
Entertec Technology Inc.	★★★★★★	1997	RF, coaxial connectors, cable assemblies	Worldwide			CONTACT SUPPLIER
Franmar International Inc.	★★★★★★	1997	Power supplies	North America, Europe	420	360	CONTACT SUPPLIER
Fully Hong Electronics Co. Ltd	★★★★☆☆	2002	PCBs, PCB assemblies	North America, Europe, Asia	75	50	CONTACT SUPPLIER
Ganzhou Zhongshenglong Electronics Co. Ltd	★★★★☆☆	2014	PCBs	North America, Europe	20	15	CONTACT SUPPLIER
HNC Co. Ltd	★★★★☆☆	1989	Fuses, magnet wires, communication cables	Southeast Asia, Japan	8	8	CONTACT SUPPLIER
Jiangyin Precision Electrical Equipment Co. Ltd	★★★★☆☆	1996	Thermal protectors, thermostats, thermo switches	North America, Europe, Southeast Asia	200	60	CONTACT SUPPLIER
Kingka Tech Industrial Ltd	★★★★☆☆	2010	CNC-machined aluminum parts, heat sinks	North America, Europe	10	8	CONTACT SUPPLIER

Buyer's Guide

Company name	Supplier ranking	Year established	Main products & services	Main markets	Total annual sales (\$mn)	Total annual exports (\$mn)	
King Net Enterprise Co. Ltd	★★★★★	1989	Connectors, connector assemblies, gooseneck lamps	US, Europe, Japan	10	8	CONTACT SUPPLIER
Megatone Electronics Corp.	★★★★★	1973	PCB assemblies	Central/ South America, Europe, Middle East, Africa, North America	45 to 50	45 to 50	CONTACT SUPPLIER
Shanghai RayMac Precision Mechanical Co. Ltd	★★★★☆☆	2012	Inductance coils	North America, Europe	>15	10	CONTACT SUPPLIER
Shenzhen BAK Technology Co. Ltd	★★★★☆☆	2002	Lithium batteries, power banks	Europe, Asia	10	9.5	CONTACT SUPPLIER
Shenzhen Cener Enterprise Ltd	★★★★☆☆	2001	Inductors, coils, transformers, filters, chip beads	Asia, Australasia, South America, Europe, Middle East, Africa, North America	17	7	CONTACT SUPPLIER
Shenzhen Hailei New Energy Co. Ltd	★★★★☆☆	2012	Batteries, battery packs, scooters	North America, Europe	20	15	CONTACT SUPPLIER
Shenzhen Indus-Connector Ltd	★★★★☆☆	2014	Waterproof circular sensor connectors	North America, Europe	2	1.5	CONTACT SUPPLIER
Shenzhen Sunshine Circuits Technology Co. Ltd	★★★★★	2001	PCBs	North America, Western Europe, Asia	100	95	CONTACT SUPPLIER
Shenzhen UFO Source Energy Battery Technology Co. Ltd	★★★★★	2005	Lithium battery cells, packs	North America, Europe	20	15	CONTACT SUPPLIER
Shenzhen Uniontop Electronic Co. Ltd	★★★★☆☆	2014	Power supplies, cables	US, Europe, Asia	1bn	15	CONTACT SUPPLIER
Shenzhen Well-Wisdom PCB Co. Ltd	★★★★☆☆	2004	PCBs	US, Europe, Asia	20	10	CONTACT SUPPLIER

Company name	Supplier ranking	Year established	Main products & services	Main markets	Total annual sales (\$mn)	Total annual exports (\$mn)	
Showwell Group Co. Ltd	★★★★☆☆	1997	Power inductors, choke coils, power & AF transformers	Worldwide	7		CONTACT SUPPLIER
Sograce Technology Co. Ltd	★★★★☆☆	2006	PCBs, PCB assemblies	North America, Europe	10	8	CONTACT SUPPLIER
Songtech Enterprise Co. Ltd	★★★★☆☆	1995	RF connectors, PCB assemblies	North America, Europe	8	0.1	CONTACT SUPPLIER
Sun Strong Precision Metal International Ltd	★★★★☆☆	1979	Sheet metal stamping, fabrication	US, EU, Israel, China	40	40	CONTACT SUPPLIER
SWB Connectors Co. Ltd	★★★★☆☆	2003	Electronic connectors, cables, wire harnesses	Worldwide	9	6	CONTACT SUPPLIER
Taiwan Prosperity Electric Co. Ltd	★★★★☆☆	1973	Miniature lamps	North America, Europe	7	6.9	CONTACT SUPPLIER
Topa Technology Ltd	★★★★☆☆	2008	NiCd, Ni-MH, Li-polymer, LiFePO ₄ , Li-ion batteries	North America, Europe, Asia	18.5	11.5	CONTACT SUPPLIER
Topscom Precision Industry Co. Ltd	★★★★★★	1995	PCBs, PCB assemblies	North America, Europe	480	400	CONTACT SUPPLIER
Up Teks Co. Ltd	★★★★★★	1987	Microcontrollers/ microprocessors, ICs, transistors, diodes, thyristors; capacitors, varistors, resistors, inductors, potentiometers; filters, oscillators; switches, sensors; RF modules; connectors	Worldwide	11	8	CONTACT SUPPLIER
Win Industry Co. Ltd	★★★★★★	1978	Plastic parts for consumer electronics	Asia, Australasia, Central/ South America, Europe, Middle East, Africa, North America	15 to 20	15 to 20	CONTACT SUPPLIER

Next-gen components for drones



Wire harness with 300V, 200 C ratings

AsiaLink International Technology Corp. (Taiwan)

★★★★☆

Model ASWH_P11-05

[CONTACT SUPPLIER](#)

Wire harness; UL 1180 wire, 16AWG; 6 or 12-pin terminal block; 14 or 18AWG ring lug; fully insulated male/female disconnect terminal; 300V; 200 C operating temperature; RoHS



PCB assembly based on press fit

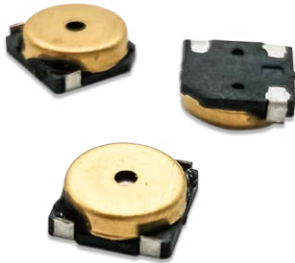
Changsha Shengtao Electronics Technology Co. Ltd (mainland China)

★★★★☆

Model YF-M31

[CONTACT SUPPLIER](#)

PCB assembly; 0.4mm BGA IC; 0201 chips; press-fit technology; materials procurement, in-house testing; SMT, THT or mixed assembly; high-mix/low and mid-volume; RoHS



SMD electromagnetic transducer

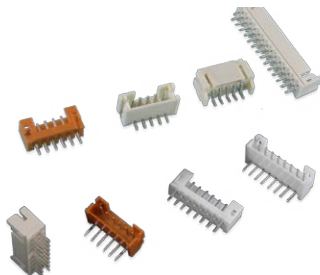
Changzhou FHD Electronics Co. Ltd (mainland China)

★★★★☆

Model BM5020ST-0340-12

[CONTACT SUPPLIER](#)

SMD electromagnetic transducer; 4,000Hz resonant frequency; 3V rated, 2 to 4V operating voltage; 100mA maximum rated current at 50% duty; 50x20mm; 0.1g; RoHS, ISO/TS 16949:2009



Wire-to-board wafer with 2mm pitch

Cheng Weei Technology Corp. (Taiwan)

★★★★☆

Model CP-W20-XX

[CONTACT SUPPLIER](#)

Wire-to-board wafer; DIP, single row, 2mm pitch; 100V, 2A AC/DC; 10mohm maximum contact, 1,000Mohm minimum insulation resistance; 800VAC/min withstand voltage; tin-plated brass pins, UL94V-0-rated nylon 66 housing



4 to 60-pole power connectors

Chyao Shiunn Electronic Industrial Ltd
(Taiwan)

CONTACT SUPPLIER

★★★★☆☆

Model JS-1191D-XX, JS-1191U-XX, JS-1191V

Power connectors; four to 60 poles; tin-plated phosphor bronze contacts, nail; liquid-crystal polymer 6807 base, 6130 slider; 50V, 0.5A AC/DC; 200VAC/min withstand voltage; -25 to 85 C



RoHS-compliant coin cell battery clip

Comfortable Electronic Co. Ltd (Taiwan)

CONTACT SUPPLIER

★★★★★

Model BC-4801

Coin cell battery clip for 4.8x1.4mm batteries; 0.25mm-thick nickel-plated phosphor bronze; RoHS



Toggle switch lasts 40,000 cycles

Dailywell Electronics Co. Ltd (Taiwan)

CONTACT SUPPLIER

★★★★☆☆

Model 1MS1T67B38M1QES

Toggle switch; UL94V-0-rated diallyl phthalate case, stainless steel housing; 120VAC or 28VDC 5A, 250VAC 2A for silver-plated contacts, 20VAC/DC 0.4VA maximum for gold-plated contacts; 40,000-cycle life span; RoHS



12 to 24VDC, 0.1 to 2.5A AC/DC adapter

Dongguan Citiland Electronics Technology Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆☆

Model DQS301-xxxxyy-z

AC/DC adapter; 90 to 264VAC, 47/63Hz input; 12 to 24VDC, 0.1 to 2.5A, maximum 28.8W output; CEC VI, FCC, CE, EMI, EMC, LVD, EN 60950, UL 60950



Part for unmanned equipment

Dongguan Jiezhong Industrial Co. Ltd
(mainland China)

CONTACT SUPPLIER

★★★★★

Model Unmanned Equipment Parts

CNC-machined turned part for unmanned equipment; aluminum; 8x12cm; 110g



Carbon-fiber multicopter frame

Dongguan Juli FRP Products Co. Ltd

(mainland China)

CONTACT SUPPLIER

★★★★☆☆

Model Carbon Fiber Tube and Carbon Fiber Sheets

Multicopter frame; 100% carbon fiber, 0.5 to 10mm-thick; CNC-machined; 6 to 50mm or custom tube diameter; REACH, RoHS



Smart solar power bank

Dongguan Large Electronics Co. Ltd

(mainland China)

CONTACT SUPPLIER

★★★★★

Model SolarPC-G2

Smart solar power bank; 10,000mAh; thin-film solar panel; 5V, 1.5A input from solar panel, 5V, 2A input from mains; 1, 2A output for simultaneous charging; Bluetooth, 10m range



Female pin connector terminal

Dongguan Tangxia Shuangxin Hardware

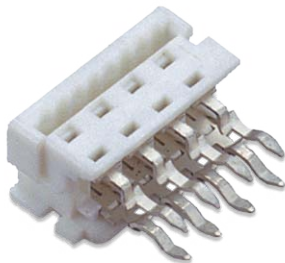
Products Fty (mainland China)

CONTACT SUPPLIER

★★★★★

Model ST0101

Female pin connector terminals for cables; nickel-plated stamped copper; 32x8x0.2mm; 0.6g



Wire-to-board connector

Dongguan WCON Hardware Electronics Co. Ltd **CONTACT SUPPLIER**

(mainland China)

★★★★★

Model 3910-XX

Wire-to-board connector; phosphor bronze contacts, tin-over-nickel plating, UL94V-0-rated PBT with 30% glass fiber insulator; 1.2A; 500VAC/DC withstand voltage



360-degree robot servo

Electronic Components Technology Co. Ltd

(mainland China)

CONTACT SUPPLIER

★★★★☆☆

Model SM-S4315R

Robot servo; 360-degree rotation; analog modulation; 60 degrees/0.19sec at 4.8V, 60 degrees/0.16sec at 6V; one metal, two plastic gears; double-row ball bearing; JR connector; 60g



IP68-rated RF devices

Entertec Technology Inc. (Taiwan)

★★★★★

CONTACT SUPPLIER

Model IP 68 Quick Type/Panel Type/Antenna Series

Water-resistant RF devices; quick type, anti-UV; panel type, anti-UV, acid-, alkali-resistant; antenna, anti-UV; GSM, 3/4G, Wi-Fi, WLAN, GPS; 0.81 to 10mm cable outer diameter, Teflon; PVC jacket



60W AC/DC adapter

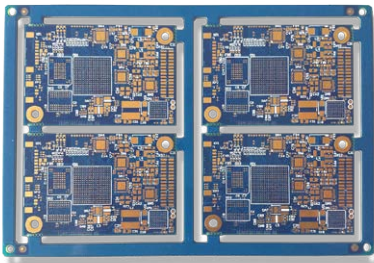
Franmar International Inc. (Taiwan)

★★★★★

CONTACT SUPPLIER

Model FRA060-S15-4

AC/DC adapter; 12 to 48VDC output voltage; 60W output; ≥85% efficiency; open-, short-circuit, overvoltage, -load protection; CEC V or VI, UL, cUL, TÜV-GS, CB, CE, PSE, FCC, CCC, SAA, C-Tick, MEPS, LPS



8-layer PCB with immersion gold

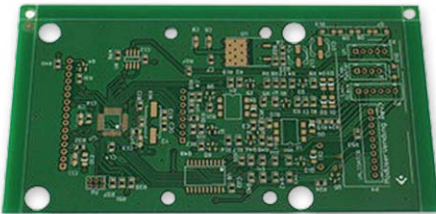
Fully Hong Electronics Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆

Model TERMT051.002.0000R0

SMD terminal block; low inserting force cage clamp; push-button wire release; UL94V-0-rated housing; 3.8mm height; UL



Double-sided PCB

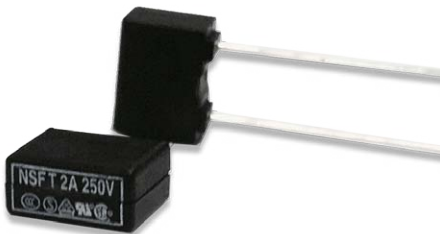
Ganzhou Zhongshenglong Electronics Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆

Model WS-X3

Double-sided PCB; ENIG surface finish; epoxy-plugged vias; controlled impedance



Current micro fuse

HNC Co. Ltd (Hong Kong)

★★★★☆

CONTACT SUPPLIER

Model SLT250V2A-TR

Current microfuse; time-lag type; for devices with <250VAC rated voltage; 500mA to 3.15A interrupting current at 250VAC 35A, 4A at 250VAC 40A, 5A at 250VAC 50A; IEC 60127-3, UL, CSA, VDE, CCC, PSE, EK



UL-listed thermal protector

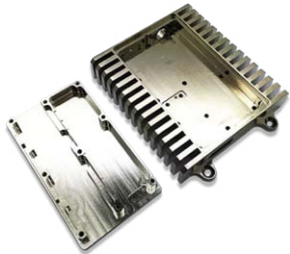
Jiangyin Precision Electrical Equipment Co. Ltd
(mainland China)

CONTACT SUPPLIER

★★★★☆☆

Model BRMS

Thermal protector; snap-action type; 45 to 130±5 C or custom action temperature; resets at 2/3 of open temperature with ±15 C tolerance; >10,000 cycles under rated conditions; UL



CNC-machined UAV part

Kingka Tech Industrial Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆☆

Model KF810

CNC-machined UAV part; 6063 aluminum alloy; extrusion; various surface treatments available



IP67-rated mini connector

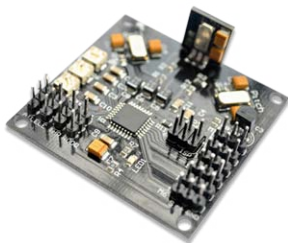
King Net Enterprise Co. Ltd (Taiwan)

CONTACT SUPPLIER

★★★★★

Model M903-4G

Mini 4-pin connector; solder or board-mount type; gold pins; 5A; IP67 rating



PCB assembly for drone controllers

Megatone Electronics Corp. (Taiwan)

CONTACT SUPPLIER

★★★★★

Model Drone Control Board

PCB assembly; SMT; FR-4 PCB; 3-axis gyroscope; full servo signal output; normal ESC/analog servo supported; 50x50mm



Inductance coil assembly for PCBs

Shanghai RayMac Precision Mechanical Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆☆

Model Inductance Coil Used in Electronic Circuit Boards

Inductance coil and assembly; brass; custom base material



1,800mAh RC battery pack

Shenzhen BAK Technology Co. Ltd

(mainland China)

★★★★☆☆

Model LP366888451P

RC battery; 4S1P; 1,800mAh capacity; 14.8V; 40C discharge rate

CONTACT SUPPLIER



SMD inductor, transformer

Shenzhen Cener Enterprise Ltd

(mainland China)

★★★★☆☆

Model CKCS, CKCH, CKO, CKCD, CKUU, CKEE, CKPC, CKER

SMD inductor, high power; transformer, high-voltage direct current transmission for lower circuit pressure drop and circuit loss

CONTACT SUPPLIER



4,500mAh battery for UAVs

Shenzhen Hailei New Energy Co. Ltd

(mainland China)

★★★★☆☆

Model HL-UAV-0846132SP

UAV battery; nickel, cobalt, manganese; 4,500mAh capacity; 22.2V; ≤80mohm internal resistance; 35C discharge rate; 6S connection; 48x48x135mm; 650g

CONTACT SUPPLIER



M12 A-coded panel-mount connector

Shenzhen Indus-Connector Ltd

(mainland China)

★★★★☆☆

Model 12D009

M12 connector; A-coded, male, panel-mount, fix screw locking; nylon 66+glass fiber body; gold-plated brass contacts; 18 to 26AWG; 30 to 250V, 1.5 to 4A; -10 to 80 C; IP67 or IP68 rating

CONTACT SUPPLIER



8-layer rigid-flex HDI PCB for drones

Shenzhen Sunshine Circuits Technology

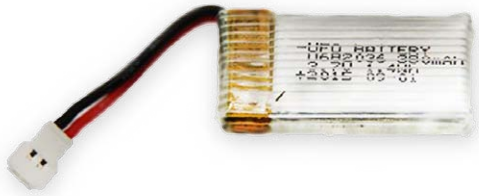
Co. Ltd (mainland China)

★★★★★

Model SS1601RF075

Rigid-flex HDI PCB for drones; eight layers; high-Tg FR-4 polyimide base; immersion gold surface finish; 3.9mil minimum line width/spacing; 0.1mm minimum via size

CONTACT SUPPLIER



Li-polymer battery for quadcopters

Shenzhen UFO Source Energy Battery Technology Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★★

Model U682036-3.7v 380mAh 15C

Li-polymer battery; for quadcopters such as Syma X5C; 380mAh; 3.7V; 4.8A maximum discharge current; 15C maximum discharge rate; 7.8x21x40mm; 10.5g; MSDS, SDS, RoHS



Linear AC/DC power adapter

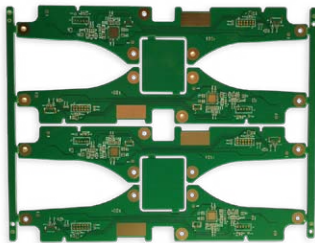
Shenzhen Uniontop Electronic Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆

Model UTL08

Linear AC/DC power adapter; 110V input voltage; 24V, 0.3A output; 7.2W; 50,000-hour MTBF; 59x45.40mm, 80g; CE, FCC, RoHS, UL



Multilayer PCB for UAVs

Shenzhen Well-Wisdom PCB Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆

Model WZ-NFEN1512D126

Multilayer PCB; for UAVs; four layers; Shengyi S1141 Tg140 FR-4 base; ENIG surface finish; 4.4mil minimum line width, 7.1mil spacing; 0.35mm minimum hole size; 1oz copper



SMD power choke coil inductor

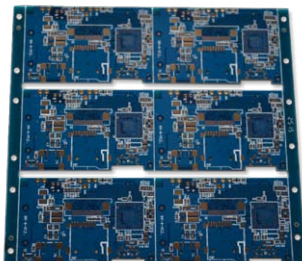
Showwell Group Co. Ltd (Taiwan)

CONTACT SUPPLIER

★★★★☆

Model 10-GL Series

SMD power choke coil inductor; switch mode, high frequency, low loss; high current, low DCR; flat bottom for reliable surface mounting; ceramic base; -40 to 105 C operating temperature



6-layer PCB for drones

Sograce Technology Co. Ltd (mainland China)

CONTACT SUPPLIER

★★★★☆

Model Sograce-011

Multilayer PCB; six layers; FR-4 base; OSP surface finish; 3mil minimum line width/spacing; 1oz copper, 1.2mm board thickness; 55x55mm; 76g; RoHS, UL, ISO/TS 16949

Edge-mount RF connector



Songtech Enterprise Co. Ltd

(Taiwan)

★★★★★☆☆

Model EZMOUNT

RF connector; edge-mount; US Patent No. 6.811.405

CONTACT SUPPLIER

Metal part for drone signal receivers



Sun Strong Precision Metal International Ltd

(Hong Kong)

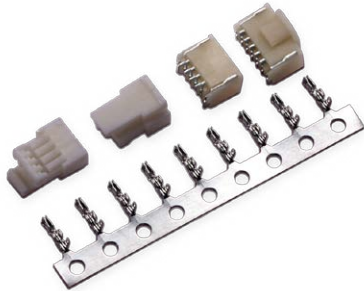
★★★★★☆☆

Model Sun Strong FEXB-CUS-002

Sheet metal part for drone signal receivers; type 304 stainless steel; degreased; progressive stamping; 15x80mm to 350x150mm blank sizes; 5g; ISO/ TS 16949

CONTACT SUPPLIER

Wire-to-board connector



SWB Connectors Co. Ltd

(mainland China)

★★★★★☆☆

Model 1002W

Wire-to-board connector; 1mm pitch; 125VAC/DC, 0.5A; 20mohm maximum contact, 100mohm minimum insulation resistance; 28 to 32AWG wires; -25 to 85 C operating temperature; RoHS

CONTACT SUPPLIER

Miniature LED with built-in resistor



Taiwan Prosperity Electric Co. Ltd

(mainland China)

★★★★★☆☆

Model T5/T10

Miniature LED; in red yellow, green, blue or white; 5 to 240V; built-in resistor, protective diode or rectifier; T5, T10 or T15 wedge base; single or cluster LEDs available

CONTACT SUPPLIER

2,800mAh Li-polymer battery



Topa Technology Ltd (mainland China)

★★★★★☆☆

Model Li-polymer 853175 2500mAh 3.7V 30C

Li-polymer battery; 2,800mAh capacity; 14.8V; 16.8±0.12V charging voltage; 1C maximum charge current; >60-cycle life span; 130±0.5x32±0.5x26mm; about 200g

CONTACT SUPPLIER



PCB assembly

Topscom Precision Industry Co. Ltd

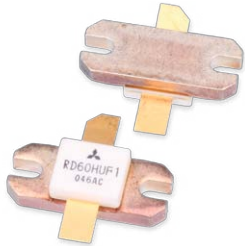
(mainland China)

[CONTACT SUPPLIER](#)

★★★★★

Model Topscom2014041206001

PCB assembly; SMT, DIP; PCB fabrication, layout; components procurement; programming, testing



MOSFET for high-power UHF uses

Up Teks Co. Ltd (Taiwan)

[CONTACT SUPPLIER](#)

★★★★★

Model RD60HUF1

MOSFET; for UHF amplifiers; >60W power output, >7.7dB at 12.5V, 520MHz; 55% typical efficiency on UHF; RoHS



Plastic part for consumer electronics

Win Industry Co. Ltd (Taiwan)

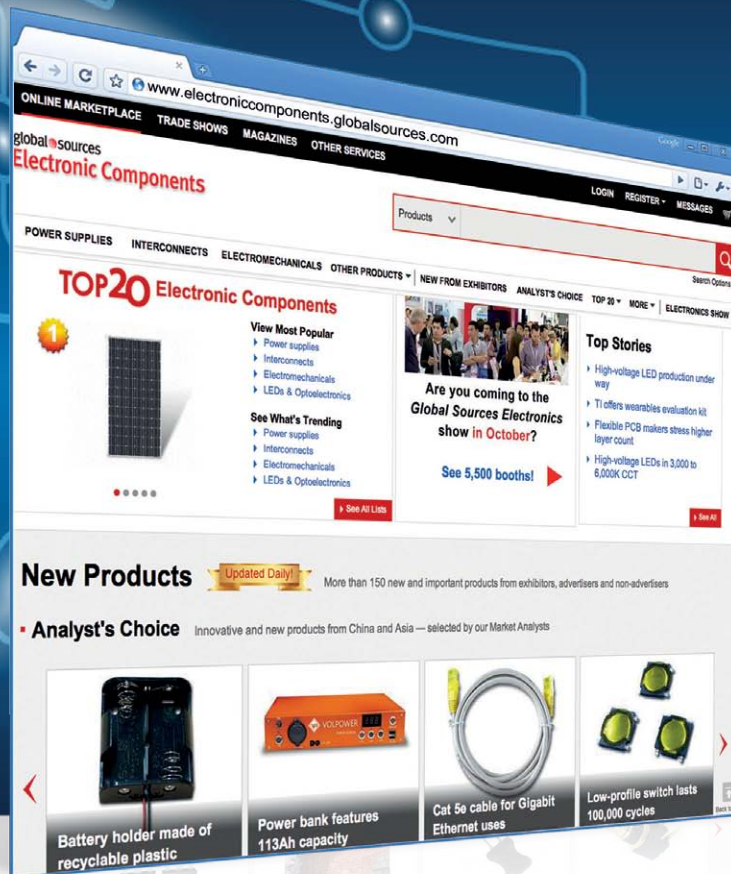
[CONTACT SUPPLIER](#)

★★★★★

Model Double-injection Molded Part

Plastic part for consumer electronics; mold, finished tolerance comply with international standards; ISO/TS 16949: 2009

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