




SHAPING THE FUTURE WITH ELECTRONICS



Hi-Rel Business | New Space | Power Management
E-Mobility | IoT Solutions | Obsolescence Solutions

ABOUT US

SINCE 1992, KAMAKA ELECTRONIC BAUELEMENTE VERTRIEBS GMBH HAS SERVED AS A TRUSTED, AUTHORIZED DISTRIBUTOR OF HIGH-QUALITY ELECTRONIC COMPONENTS. SPECIALIZING IN INDUSTRIES SUCH AS AEROSPACE, DEFENSE, AUTOMOTIVE, INDUSTRIAL APPLICATIONS, AND IOT, WE PROVIDE TAILORED SOLUTIONS THAT MEET THE PRECISE DEMANDS OF EACH SECTOR. OUR EXPERTISE IN OBSOLESCENCE MANAGEMENT AND PRODUCT MODIFICATIONS ENSURES SEAMLESS PRODUCTION PROCESSES, MINIMIZING DISRUPTIONS. WITH A STEADFAST COMMITMENT TO QUALITY AND TECHNICAL EXCELLENCE, KAMAKA DELIVERS RELIABLE, INNOVATIVE SUPPORT AND SOLUTIONS YOU CAN ALWAYS DEPEND ON.

HI-REL BUSINESS | NEW SPACE

Manufacturers	Products	Applications
 <p>FastCap® Ultracapacitors <small>A Nanometric™ Layer Technology</small></p>	<p>FastCap® extreme environment ultracapacitors for energy storage applications of operating up to 150°C, high shock 500g peak & vibration 20g rms. Lithium free – no risk of explosions, 20+ year shelf life, hermetic ultra-capacitor technology D & AA size cells, 35 to 350F capacitance, voltage 1 to 2V, very low ESR 5.8 to 21.6 mOhm. Reflowable chip ultracapacitor prototype supply voltage 2.5V, 250mF capacitance.</p>	<p>Aerospace, Defense, Avionics, Oil & Gas</p>
	<p>ESA space qualified ESCC 5000 and 5010 Hi-Rel components, Hi-Rel radiation hardened power MOS transistors from 60V up to 650V, N-CH, cased on the unique CoolMOS™ superjunction technology, Hi-Rel silicon bipolar RF microwave transistors, Hi-Rel silicon, PIN- and Schottky-diodes for RF microwave applications, Hi-Rel RF and power capabilities for extreme environment applications, bare dies (chips) and wafer sales, RF-foundry services, ECoLEO rad tolerant N-CH MOSFETS 60, 150V in a plastic SMD & THT package No export license required</p>	<p>Space Heritage, Satellite Programs, Microwave Applications, New Space, LEO Applications</p>
 <p>IOR HiRel <small>An Infineon Technologies Company</small></p>	<p>Rad-hard power MOSFETs MIL-PRF-19500, rad hard GaN HEMTs, space Schottky diodes and rectifiers, rad-hard ultrafast rectifiers, rad-hard power ICs MIL-PRF-38535, rad-hard high-side and low-side MOSFET gate drivers, PWM controllers, multi-chip modules: MIL-PRF-38534, rad-hard solid state relays, power stages</p>	<p>Deep Space Heritage, Aerospace, Defense, Aviation, Aircraft</p>
	<p>Rad-hard space qualified optocouplers & optoelectronic components, high gain-, high speed-, high voltage optocouplers, VCSEL high power laser diodes, rad-hard & military solid-state relays, voltage regulators, ITAR free products</p>	<p>Space Heritage, New Space, Aerospace, Avionics</p>
	<p>European rad-hard fabless semiconductor supplier, 100krad, 62,5MeV products Rad-hard motion-series: chips for resolver/LVDT, thermocouple pressure sensors, limit switches, relay drivers and BiSS communication. Rad-hard power-series: DC/DC POL-converters, input 5 to 11V, output 0.9 to 5V. Rad-hard time-series: time-to-digital converters, phase locked loop (PLL) product. Rad-hard AI-series: low power neural network Interface SOC for real time video/image processing. Customized rad-hard chip design, ESCC-Q-ST-60-02C compliant, ITAR free products</p>	<p>Space, New Space, Satellite, Space Launchers, Autonomous Operation, Rovers/Landers, Robotics</p>

HI-REL BUSINESS | NEW SPACE

Manufacturers	Products	Applications
 <p>micross one source. one solution.™</p>	<p>Hi-Rel Power Solutions Military hermetic hybrid DC/DC-converters 5W to 120W, single, dual, triple versions Space rad-hard hermetic hybrid DC/DC-converters 5W to 120W, single, dual, triple versions, TID 100krad, SEE 82MeV MIL-PRF-38534 DLA qualified, SMD part number available New space rad tolerant hermetic hybrid DC/DC-converters 25W, 40W, single, dual versions, TID up to 30krad, SEE up to 60MeV EMI filters complementary to their hermetic hybrid DC/DC-converters offering a range of input voltages and packages Rad-hard and Rad-tolerant PCB based DC/DC-converters with key features and tailored to customer's requirements, single, dual, triple, quad, octo versions, Output power 5W to 400W, TID 100krad, SEE 60MeV</p> <p>Space Components Rad-hard & rad tolerant MRAMs 64Mb (4Mx16) class S 100K Radiation hard logic ICs (AND, NAND, OR, XOR), Hi-Rel diodes, rectifier & Schottky diodes, unipolar & bipolar TVS diodes, Zener diodes, COTS diodes, Diode assemblies - ISOPAC®, center taps and doublers, High current- & high voltage rectifier assemblies Hi-Rel ICs & components DLA/DSCC certified products, QML/SMD 5962, memories, logic devices, analog ICs Nuclear Event Detector (NED) screened to class H military flow or class K space flow MIL-STD-1553 data bus couplers & accessories</p>	<p>Space, New Space, Defense, Aerospace, Aviation, Marine, Launch Vehicles, Industrial-Embedded Products, FPGA-Boards</p>
	<p>Highest energy and power density capacitors with MTBF>5,000,000 hours, product range 22 to 1,000,000 µF (5.5 to 150V) -55°C to +200°C Very low ESR, very high current handling capability, highest levels of quality, Qualified to NASA INST-002, ISO 9001 and AS9100 registered, MIL-STD-704 space grade capacitors for critical missions</p>	<p>Space, New Space, Power Hold-up Avionics, Satellite Thrusters, Radar Lidar, EMP and Laser, Oil & Gas</p>
	<p>ESCC FM, QM, EM qualified rad-hard POL converter 2A, 24V flatpack, buck-boost operation, rad-hard POL converter 8A, 40V (prototype), Voltage clamp 10A, 40V, DC/DC-converter controller, PWM controller with start-up, quad LVDS line receiver with extended common mode, quad LVDS line driver, 1:4 LVDS fanout buffer with extended common mode, Screening & testing of SPACE IC products to the ESCC 9000 requirements, Rad-tolerant POL converter in a plastic package</p>	<p>Space, New Space, Satellite Business, Harsh Environments</p>
	<p>Space & military MIL-PRF-55342 thin & thick film SMT chip resistors, MIL-PRF-914 SMT chip resistor networks, MIL-PRF-32159 zero Ohm chip resistors (jumpers), Mission critical precision chip resistors, high frequency chip resistors, silicon chip resistors, SMT fixed chip attenuators, 4-terminal current sense chip resistors, High power chip resistors, high voltage chip resistors, wire & epoxy bondable chip resistors for hybrids, power moisture compliant chip resistors, Hi-Rel screening</p>	<p>Space, New Space, Defense, Aviation Hybrid Modules, Biomedical</p>
	<p>Hi-Rel & High Temperature Hybrid Microcircuit Crystal Oscillators & Crystal Units, LVDS Output Oscillators for Space Applications, MIL-PRF-55310, MIL-PRF-38534, MIL-883B, TTL-LVDT-CMOS-HC/ACMOS-ECL, Lowest voltage is 1.8V, SMD-Packages 5x7mm, High Shock & Vibration Designs, Extreme High temperatures products operating up to +230°C New Commercial Space Oscillators for LEO Applications, SMD-Packages 3x5mm</p>	<p>Space Heritage, New Space, Aerospace, Aircraft, Defense, High Temperature Products</p>

POWER MANAGEMENT

Manufacturers

Products

Applications



Fabless semiconductors, mixed signal integrated circuit solutions, power management & delivery systems
Linear regulator (LDO), buck-boost regulator, buck regulator, VRM controller, power stage

Automotive,
Server Applications,
Wearables



Isolated single, dual & triple output DC/DC-converters up to 3000W
High performance DC/DC-bricks
Railway conform with the input battery voltage transient ranges of EN50155 up to 10:1 ratio input voltage range
High power DC/DC-converters 500W, 1000W
Mid-range power DC/DC-converters 100 to 500W
Low power DC/DC-converters 1 to 75W
Chassis mount converters, SMT&THT modules, brick assembly modules
Encapsulated PCB mount from 2 to 60W
AC/DC-power supplies 250W, 300W and 600W with 90-264VAC input
Switch mode AC/DC supplies, 15 to 150W chassis
Industry standard footprints SIP, DIP, SMT, 1x1 and 1x2 thru hole patterns
Operating temperature range -40 to +105°C baseplate
High efficiency up to 97%, up to 5-year warranty

Transportation,
Railway,
Industrial Applications,
Commercial Applications,
Medical Industry,
Avionics



Rotary encoders, thin section encoders, bus cover encoders, wheel encoders, bearingless encoders, small size encoders, miniature encoders, motor & gearbox flange encoders.
Inductive, magnetic, optical, absolute, incremental, programmable encoders
Hollow shaft or shaft options, 12-250mm diameter, up to 200,000 rpm with compact robust design and flange options
SSI/BISS, CAN, RS 422 interface, high accuracy up to 21-bit resolution possible
-45°C to 100°C operating temperature, shock and vibration resistant, IP65 protection

Motor & Gearbox
Applications,
Elevators,
Industrial Machines,
Robotics,
Textile,
Defense,
Medical,
Iron & Steel Applications

Door detectors, pressure sensors, potentiometer, inclinometers, rotational speed sensors, draw wire sensors, sensor connectors



Isolated and non-isolated DC/DC-converters 1W to 1000W
Input voltage range 2.5V to 520V with 10:1, 8:1, 4:1, 2:1 ratios
Railway DC/DC-converters: 10 to 160VDC input, 5 to 56VDC output voltage, 50 to 800W
High voltage DC/DC-converters: 180 to 400VDC, 300 to 520W
Over-voltage, over-current, short-circuit and over-temperature protection
High efficiency up to 96%

Railway,
Industrial Applications,
Server Applications,
Telecommunication








Single and dual output DC/DC-converters from 0.1 to 50W,
Switch mode AC/DC supplies
Encapsulated PCB mount from 1 to 30W
AC/DC power supplies 25 to 1200W enclosed/open frame type
Industry standard footprints SIP, DIP, SMT, 1x1 and 1x2 thru hole patterns

Railway,
Industrial Applications,
Commercial Applications,
Medical Industry



E-MOBILITY


Manufacturers	Products	Applications
	<p>High voltage power distribution units (PDU), high voltage battery disconnect units (BDU), high voltage on board chargers (OBC) and DC/DC-converters, combo OBC and DC/DC-converter, electric vehicle communication controller (EVCC), supply equipment communication controller (SECC) OBC: 6.6kW to 40kW, 94% efficiency DC/DC-converter: 300W to 12kW Combo OBC and DC/DC-converter: 3.3, 6.6 or 11kW OBC + 1 to 3kW DC/DC</p> <p>Connectors EV chargers, high voltage power connectors (plastic or metal), manual service disconnectors, signal connectors, charging connectors, high voltage wire harness</p>	<p>Battery Management Systems, Automotive, Electric Vehicles, Charger Systems, Agriculture, Automatic Guided Vehicles, UGVs, UAVs</p>
	<p>MEMS, 3-axis accelerometers, small, low power Inertial Measurement Units (IMU) with precise acceleration measurements for wearables 6-axis IMU consumer, small, low power IMUs with precise acceleration and gyroscopic measurement</p>	<p>Automotive, Autonomous Driving, Smart Cockpit</p>
	<p>Powering the Future of Transportation DC/DC-converters from 300 to 3000W for 12, 24, 28, 48, 400VDC battery voltages 3000W BCA series bi-directional DC/DC-converters Ruggedized enclosed 3000W BCE series bi-directional DC/DC-converters 1500 & 3000W bi-directional non-isolated DC/DC-converters 12V/48V battery with a CAN 2.0b interface including remote ON/OFF HVC series 400S12.4KOHVC-L-CM: 4kW auxiliary power module, 220VDC to 420VDC input, 9 to 16V output and provides a single isolated 12VDC output for powering auxiliary equipment, liquid cooled, rugged and fully IP rated, vibration resistant, thermally optimized enclosure HVC 800S24.4KOHBC 16-32V output 4kW High efficiency up to 97%</p> <p>1000W full-bricks with wide input range at 9 to 36VDC AC/DC on-board charger module with 6.6kW, 240 to 450 VDC output, operate from international nominal mains voltages of 100-120 / 200-240VAC nominal. OBC series are liquid cooled and feature a rugged, fully IP rated, vibration resistant, thermally optimized enclosure with slotted through holes for easy installation 300W AC/DC Li-Ion battery chargers for e-mobility and battery applications High efficiency up to 95%</p> <p>Battery Management Systems Standard brick size DC/DC-converters 50 to 1000W Single modules with 9 to 160VDC input & 5 to 57VDC output voltage Option: chassis mount and DIN-rail version, good shock and vibration dampening, temperature range -40 to +105°C high efficiency >95%, up to 5-year warranty</p>	<p>Battery Management Systems, Automotive, Mild Hybrid Vehicles, Autonomous Vehicles, Recreation Vehicles, Electric Industrial Vehicles, Agriculture Vehicles, Last Mile Transit, Automatic Guided Vehicles, Fork Lifts</p>
	<p>Electric vehicle on-board chargers and DC/DC-converters 2-in-1 on-board chargers 6.6kW & DC/DC-converters 1 to 3kW, liquid-cooling Single 6.6kW EV on-board chargers with 85 to 265VAC input voltage & 400 to 850VDC output voltage, CAN bus interface, air-cooling</p> <p>0.8 to 12kW DC/DC-converters: 400 to 850VDC input & 14 to 48VDC output voltage 3 to 6kW DC/DC-converters: 250 to 430VDC input & 14 to 48VDC output voltage 1.5 kW DC/DC-converters: 65 to 120VDC input & 14 to 28VDC output voltage 30 kW HV-to-HV DC/DC-converters: 250 to 850VDC input & 250 to 850VDC output voltage, liquid or conduction cooling, programmable CV/CC output IP67 enclosure, CAN communication, compliance with SAE J1772/IEC 61851 Automotive quality standard, lifecycle traceability</p>	<p>Automotive, Electric Vehicles, Hybrid Vehicles, Marine & Yacht Applications</p>

IOT SOLUTIONS

Manufacturers	Products	Applications
	<p>Position Sensor Au2001 Non-magnetic sensor chip, non-contact position sensing Operating voltage from 2.8 to 3.6V, average current 2.3µA Supports SPI for simple interface with micro controllers Supports two modes: low sensitivity and high sensitivity mode Package: 3 x 3 x 1mm 16 pin QFN</p> <p>MEMS 3-axis and 6-axis accelerometers, automotive IMU, consumer IMU Suited for noise reduction, step counting, tapping detection, vibration/drop/tilt detection, gesture recognition Extended temperature range, low power consumption, high reliability, AEC-Q100 qualified, low noise, TDM/I2S/I2C/SPI digital interface</p>	<p>Position Sensors, Water Flow Sensors, True Wireless Stereo, Consumer Products, Automotive, Anti-Theft Systems, Collision Warning and Crash Prevention systems, Navigation, Drones, Robots, VR, Smartphones, Wearables, Activity Tracking</p>
	<p>Barantech's products combine elegance with high reliability, durability and precision Built for extreme conditions: flawless operation regardless of weather, vandalism Customizable designs, different materials: stainless steel, aluminum, glass, plastic</p> <p>Elegant High-Quality Switches Touch metal piezo switches, momentary pulse switches, smart and high voltage switches No moving parts, hermetically sealed, vibration and impact tested, programmable, non/RGB illuminated, round or square shape Enhanced touch - operation by hand, gloves or tools Work trouble-free for over 50 million activations</p> <p>HMI Control Panels Glass & polycarbonate control panels, aluminum/stainless steel control panels, security and access control panels Glass panels: touch technology, else: piezo touch buttons in solid-state construction Backlighting in different colors (glass panels), illuminated/RGB LED, different housings, hermetic housing, no moving parts Compatible with different communication protocols, IoT capable through Bluetooth</p> <p>Keypads Aluminum/stainless steel housing, no moving parts, with LED indication Maximum long-term use, low maintenance, perfect for high-risk areas Matrix output to eliminate costly ASIC interfaces</p>	<p>Marine Control Systems, Luxury Yachts, Diving Equipment, Car Wash, Medical, Hygiene, Food Processing, Chemical, Public Transport, Parking Systems, Charging Terminals, Bike Share Terminals, Automated Environments, Oil & Gas, Aviation, Defence, Access Control Keypads & Panels, Security Gates, Anti-Vandal, White Goods, Manufacturing, Emergency Switches</p>
	<p>Power management ICs for energy harvesting applications, enabling device autonomy Harvesting from any kind of source: solar, thermal or AC sources, indoor, outdoor, artificial light, low and high-power sources can be addressed Ultra low cold-start (2µW) allows start from indoor light, high boost efficiency, fast charging Boost or buck-boost architectures, single or dual source, minimize BoM and board footprint</p>	<p>Industry 4.0, Smart Building, Remote Controls, Wearables, Trackers & Sensors, Electronic Shelf Labels</p>
	<p>Character Displays from 0.42" to 15.6", with or w/o backlight, touch panels TFT LCD modules, TN/STN/FSTN/DFSTN LCD modules, VA LCD modules, COG displays OLED modules, OLED switches, UART TFT displays, HMI modules, RGB LED modules</p>	<p>Industrial applications, Medical devices, White goods</p>
 a BDStar company	<p>GNSS receivers with accuracies from meter level down to millimeter level Multi-constellation, multi-frequency, high-performance Compatible with GPS, BDS, GLONASS, Galileo, QZSS Processing of multiple GNSS signals on a single chip Ultra low latency processing technology: more than 100Hz RTK processing ability, less than 10ms output delay, up to 200Hz attitude and positioning data Dual-RTK solution: single-board dual-antenna positioning and dual-RTK calculation High precision even if satellite signals are blocked: centimeter-level accuracy maintained for more than 10 minutes after interrupted base station or blocked communication</p>	<p>Precision Agriculture, Surveying, UAV, Drones, Robotics, CORS Autonomous Driving, Vehicle Navigation, IoT, Trackers, Wearables, Precision Timing</p>

OBSOLESCENCE SOLUTIONS

Manufacturers	Products	Applications
 <p>micross one source. one solution.™</p>	<p>Component Modification Services Robotic hot solder dip – compliance with RoHS directive Elimination of tin-whiskers through tin-lead-alloy, lead attach coplanarity and compression bond, lead-free solder alloy, gold mitigation, forming and cutting of pins, BGA reballing for the conversion of tin-lead, column grid array (CGA) Interconnect technology; packaging & assembly, electrical & environment testing</p>	<p>Space, Aerospace, Aviation, Defense, Implantable Medical Industry, Industrial Applications, Transportation</p>
 <p>WINSLOW ADAPTICS</p>	<p>Solving Obsolescence and Supply Chain Shortages Remanufacturing of legacy components, custom solutions for mitigating device obsolescence and board re-design, adapter products, interconnect pitch adapters, programming adapters</p> <p>Allocation & Obsolescence ASIC / FPGA adapters to include code reconstruction and re-targeting; package/ 1:1 footprint conversion, device re-targeting, connectors; reverse engineering of small plastic & metal parts; atmel AVR adapters for micro controllers</p> <p>Test & Development Prototyping adapters/interposers, emulation & test interface, programming adapters, voltage regulation, test clips & modules, Custom development</p> <p>Interconnect Screw machine/turn pin sockets, PCB connectors, stamped pin IC sockets, wire wrap, PLCC sockets & plugs, SIMM sockets, transistor and circular IC sockets, shorting link/jumpers, opto/diode display sockets, dual row component header, single row high profile IC sockets Custom interconnects</p> <p>Jermyn Semiconductor Hardware Mounting pads, transistor & circular IC sockets, opto/diode display sockets, insulators, panel washers, bushes and covers, component carriers, heatsinks</p> <p>Precision Engineering Reverse engineering solutions: re-manufacturing of legacy components, including material study to meet current regulations, even if only the physical part exists without a drawing Injection moulding, CNC machining, toolmaking</p>	<p>Space, Aerospace, Aviation, Defense, Automotive, Railway, Transportation, Medical, Industrial Applications, Adapter Solutions</p>

 <p>KAMAKA Electronic Bauelemente Vertriebs GmbH</p>	<p>Bare die components: every industry standard is supported, customized setups are available Bare die cross referencing, die re-engineering, obsolete die stocks, wafer dicing, dummy bare dies Wafer and die level testing: bipolar transistor, comparator, digital + logic, diode, MOSFET / JFET, operational amplifier, transistor, voltage regulator, class H testing, class K testing</p> <p>Access to procure obsolete or allocated components with anti-counterfeiting program Life cycle management with last time buy, end of life and product change notification service</p>	<p>Defense, Military, Industrial, Medical, Obsolescence Solutions, Industrial Applications</p>
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MEMBERSHIPS



OUR SERVICES

KAMAKA - ESTABLISHED IN 1992

AUTHORIZED DISTRIBUTOR & SOLUTION PROVIDER

- ▶ Anti-Counterfeiting Program
- ▶ Requirement Engineering
- ▶ Total Quality Management:
DIN EN 9120:2018 (technically equivalent to AS 9120B and SJAC 9120A); DIN EN ISO 9001:2015;
DIN EN 61340-5-1: ESD compliant storage & handling process
- ▶ AQL Spot Checks according to DIN/ISO 2859-1
- ▶ Qualified Visual & Electrical Test Reports
- ▶ Hi-Rel: Screening & Procedure Service
- ▶ Long Lifetime Program up to 25 years
- ▶ Monitoring of Critical Components
- ▶ Traceability is guaranteed
- ▶ Supplier Risk Management
- ▶ ITAR free products available

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