

# **BECK GROUP**

# DIVERSITY IS OUR STRENGTH

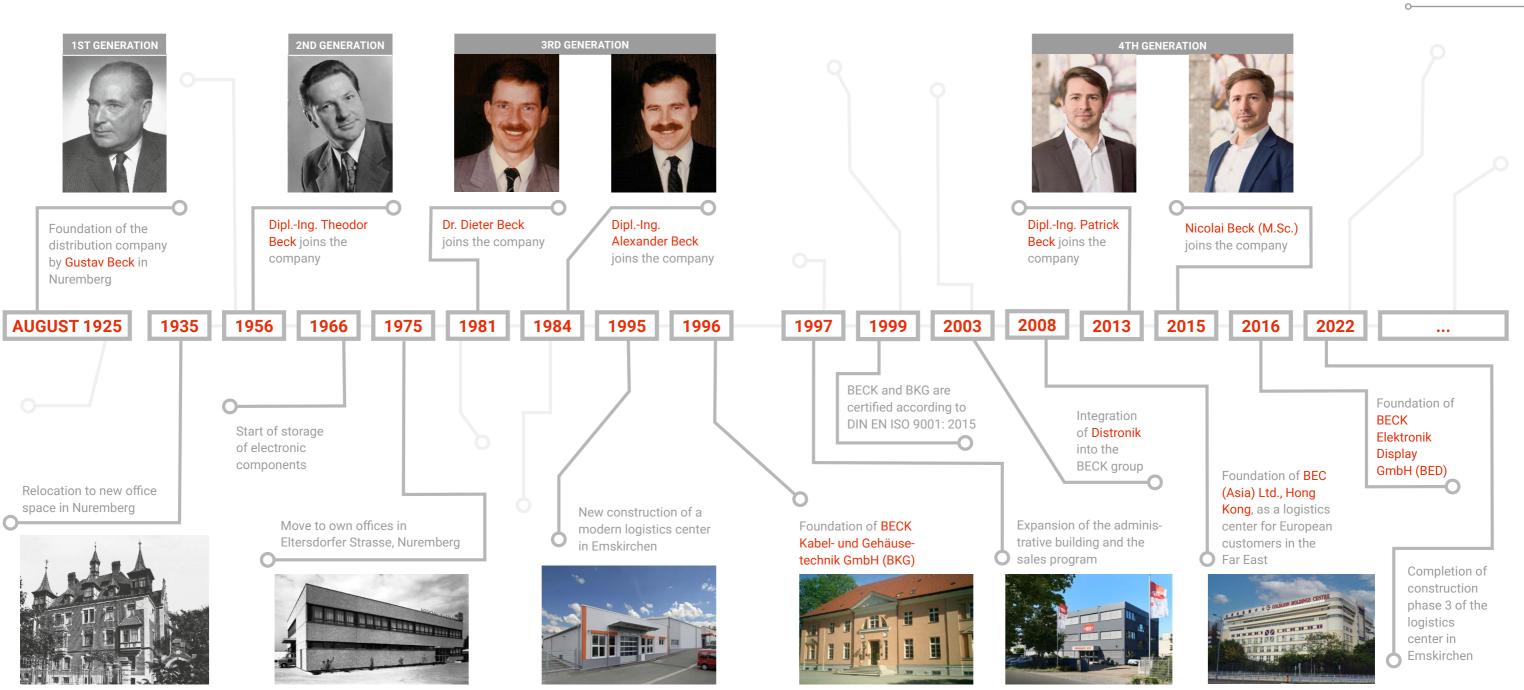
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#### COMPANY HISTORY



What started in 1925 as an industrial agency for machine tools, overhead line material and insulating materials, grew over the years into a diversified distribution company with a focus on electronic components, assemblies and systems. A growth that always keeps the needs of our customers and the requirements of the industry in mind. BECK – a powerful alliance!











## NUREMBERG HEADQUARTER

- Management
- Sale of construction elements
- Sales of displays
- Quality department



- THE DISPLAY COMPANY
- Sales of displays



THE QUALITY COMPANY

- Sale Asia

- LOITZ/RUSTOW HEADQUARTER
- Management
- Sale of cables and housings
- Pre- and customer assembly
- Warehouse North Germany

### EMSKIRCHEN

- Warehouse South Germany
- Logistics center and service



## **MUNICH HEADQUARTER**

- Custom HMI Panels



BECK GROUP

## NUREMBERG HEADQUARTER

Management

## HONGKONG HEADQUARTER

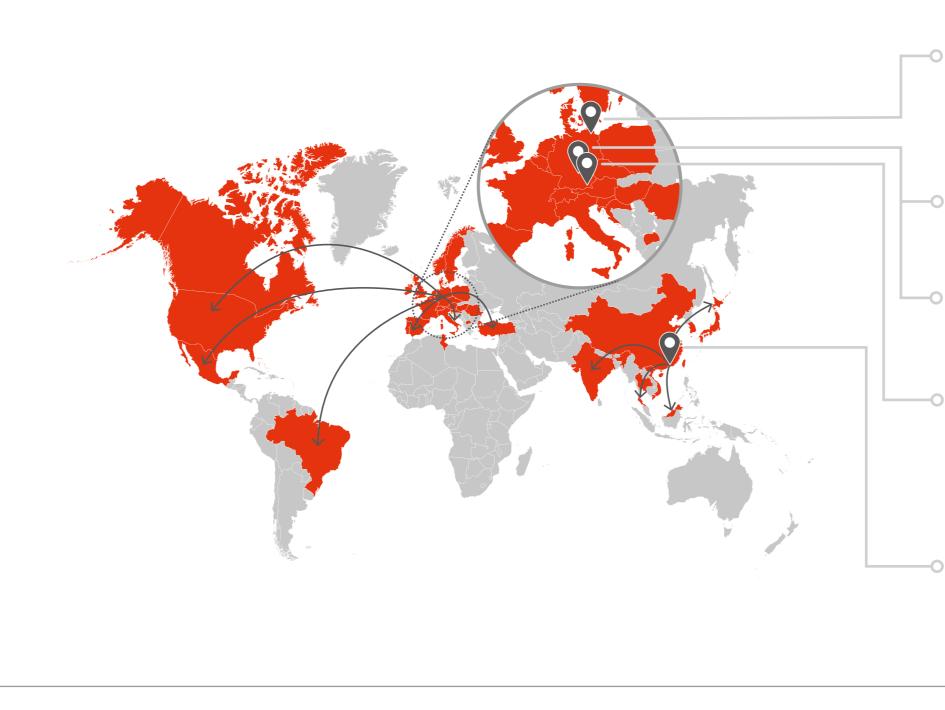
Warehouse Asia

• Logistics center and service

Custom embedded panel PCs



BECK is a globally represented family business with over 100 experienced and dedicated employees. We serve customers and suppliers in Germany, Europe, Asia and North and South America. Due to its origin and roots in Germany and Europe as well as decades of experience with Asian manufacturers, BECK Elektronik has established itself as an important partner for users and producers of electronic components.



SALES AREA











## MARKET AREAS

#### Diversity of the electronics industry

Internationally renowned manufacturers entrust BECK with the distribution of their products. Top customers from the automotive, telecommunication, industrial electronics, aerospace, medical technology, LED lighting and renewable energy sectors appreciate the competence and advice. Over the decades, the Franconian family business has developed into a global player with solutions for a wide range of market sectors.



# LOGISTICS

#### Service & reliability in the supply chain

Extensive stockpiling, advance planning of standard and special products by means of a modern ERP-supported logistics concept enable us to react flexible and quick to the requirements of the market. Our quality management and reliability are highly appreciated by our customers.



## PRODUCTS

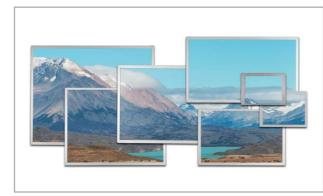
#### Our Portfolio

We only sell products of the highest quality from internationally renowned manufacturers that have undergone a qualification process in accordance with our QM system before they are included in our linecard. Care and reliability – that is our promise to the customer - every day, for over 95 years now. Our claim to products and services means quality. We offer custom-fit solutions that are geared to the customer's tasks and challenges.

## ACTIVE COMPONENTS



### DISPLAYS



## LEDS



PRODUCTS

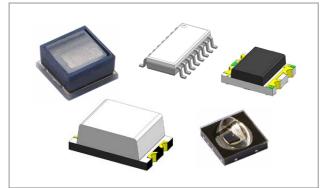
## PASSIVE COMPONENTS



## ELECTROMECHANICS



## OPTOELECTRONICS



# ACTIVE COMPONENTS

#### No electronics – without active components

No circuit board, no assembly, no electronic product works without active components being involved. Active components modify electrical signals and are therefore essential for the functionality and efficiency of electrical circuits. The immense application richness of these products leads to an enormous diversification of specifications and variants to meet the different requirements.

## ON OUR LINECARD YOU WILL FIND:

#### **DIODES & RECTIFIERS**

- Switching Diode
- Schottky Diode
- PIN Diode
- Rectifier & Bridge Rectifier

#### **ESD & PROTECTIVE COMPONENTS**

- Transient Voltage Suppressor
- ESD Protection & Array
- Zener Diode & Array
- Load Dump Transient Voltage Suppressor

#### **POWER MANAGEMENT & ICS**

- LED Driver
- Amplifier & Comparator
- Analog IC
- Low Dropout Regulator / Linear Voltage Regulator / LDO
- Switching Regulator: DC/DC Converters & DC/DC Controller
- Voltage Reference
- Hall Effect Sensor

ACTIVE COMPONENTS

#### TRANSISTORS

- Bipolar Junction Transistor / BJT
- Darlington Transistor
- MOSFETs

#### POWER SEMICONDUCTORS - DESCRETE COMPONENTS

- FRED
- IGBT
- Power Mosfets
- SiC-Schotty Dioden
- SiC-Mosfets
- Si/SiC-Hybrids
- GaN-Mosfets
- Thyristor

#### POWER SEMICONDUCTORS - POWERMODULE

- IGBT-Module
- SiC-Module
- Si/SiC-Hybrid Module

### GATE DRIVER IC

DIODES & RECTIFIERS	Li ISCI	LRC	
Switching Diode	•	•	•
Schottky Diode	•	•	•
PIN Diode	•		
Rectifier & Bridge Rectifier	•	•	•
ESD & PROTECTIVE COMPONENTS			
Transient Voltage Suppressor	•	•	•
ESD Protection & Array	•	•	•
Zener Diode & Array	•	•	•
Load Dump Transient Voltage Suppressor			•
TRANSISTORS			
Bipolar Junction Transistor / BJT	•	•	•
Darlington Transistor	•		
Small Signal Mosfet	•	•	•
Power Mosfet	•	•	•
IGBTs	•	•	•
Bias Resistor Transistor	•	•	
POWER MANAGEMENT & ICS			
Amplifier & Comparator	•	•	
Analog IC		•	
Low Dropout Regulator / Linear Voltage Regulator / LDO	•	•	•
Switching Regulator: DC/DC Converters & DC/DC Controller	•	•	•

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Voltage Reference

Hall Effect Sensor

Motor Driver ICs

EEPROM

Lithium Battery Protection IC

Three Terminal Voltage Regulator

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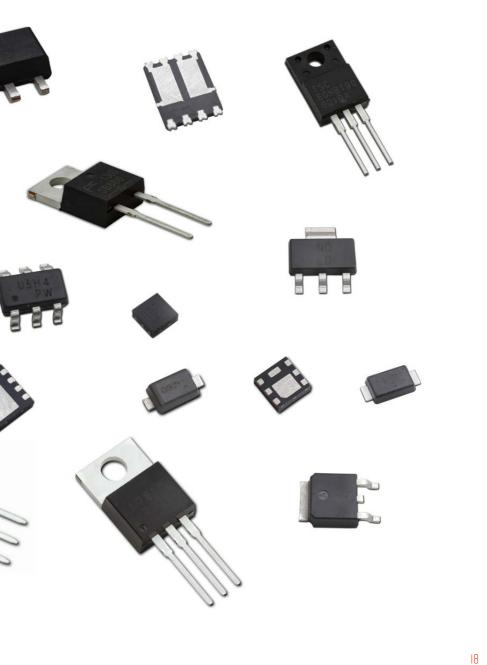
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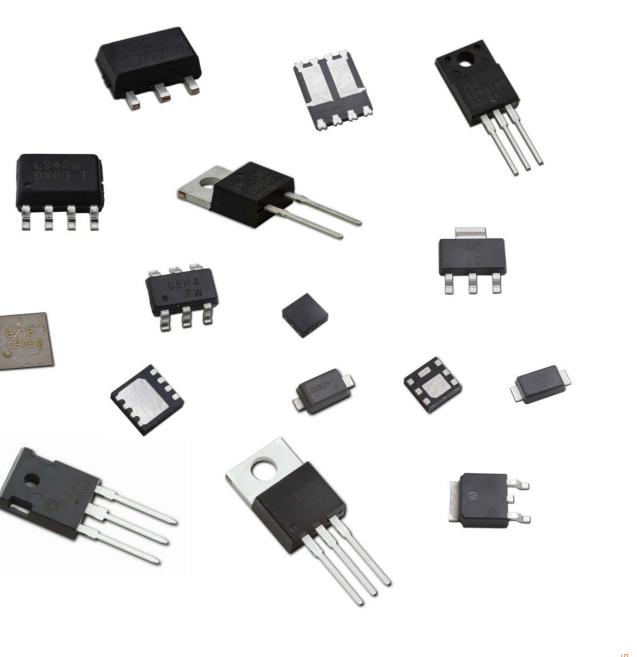
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ACTIVE COMPONENTS 0—

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POWER SEMICONDUCTOR/ DISCRETE COMPONENTS	BASIC	🖬 JSCJ	E Leapers	<b>LRC</b>
FRED		•		
IGBT		•		•
Power Mosfets		•		
SiC-Schottky Dioden	•	•		•
SiC-Mosfets	•	•		•
Si/SiC-Hybrids	•			
GaN-Mosfets				•
Thyristor		•		
<b>POWER SEMICONDUCTOR /</b> POWERMODULE				
IGBT-Module			•	
SiC-Module	•		•	
Si/SiC-Hybrid Module			•	

•

#### **GATE DRIVER IC**

Gate Driver IC



## PASSIVE COMPONENTS

With its wide range of products, the field of passive components has been a focus of BECK's product portfolio for decades. We demonstrate our expertise by combining the latest products from various product families with outstanding technical support.

From capacitors (whether electrolytic, ceramic or radio interference suppression capacitors), to inductors and resistors (thick film, thin film, networks, shunts, ...): Together with its high-performance partners, BECK Elektronik can offer a portfolio that leaves nothingto be desired.

## ON OUR LINECARD YOU WILL FIND:

#### ELECTROLYTIC CAPACITORS

- Aluminum Electrolytic Capacitor (SMD/Radial)
- Conductive Polymer Hybrid Aluminum Electrolytic Capacitor ٠ (SMD/Radial)
- Conducitve Polymer Aluminum Solid Capcitor (SMD/Radial)
- Snap-In and Screw Terminal Typs ٠
- Electric Double-Layer Capacitor (EDLC) ٠

#### MULTILAYER CERAMIC CAPACITORS (MLCC)

- Automotive
- Standard & High Capacitance ٠
- High Quality / Low ESR
- Medium and High Voltage
- Soft Termination
- Low ESL
- Specialty
- Metal Cap
- Dippeed Radial Lead

#### RADIO INTERFERENCE SUPPRESSION CAPACITORS

- Suppression Capacitor
- Film Capacitor
- DC-Link
- Snubber
- AC-Filter •
- Ceramic-Suppression Capacitors

PASSIVE COMPONENTS

#### INDUCTORS AND EMC

- SMD Signal Inductor
- SMD Power Inductor
- Leaded Component
- SMD RF Inductor •

#### RESISTORS

- Thin Film
- Thick Film
- Automotive
- Shunt / Jumper
- Network
- Wired Resistors

#### **RF FILTERS AND ANTENNAS**

- Low Pass Filter (LPF)
- High Pass Filter (HPF)
- Band Pass Filter (BPF)
- Balun (BLN)
- Balanced Filter (BPB)
- Diplexer (DIP)
- Triplexer (TIP)
- Coupler (CPL)
- Chip Antennen

ELECTROLYTIC CAPACITORS	BIGCAP,	CAPXON	CHEMI-CON	<b>Iskra</b> °		SAMSUNG	SANWHA	WALSIN
Aluminum Electrolytic Capacitor (SMD/Radial)		•	•					
Conductive Polymer Hybrid Aluminum Electrolytic Capacitor (SMD/Radial)		•	•					
Conducitve Polymer Aluminum Solid Capcitor (SMD/Radial)		•	•					
Snap-In und Screw Terminal Typen		•	•					
Electric Double-Layer Capacitor (EDLC)	•		•					
MULTILAYER CERAMIC CHIP Capacitors (MLCC)								
Automotive			•		•	•		•
Standard & High Capacitance			•		•	•		•
High Quality / Low ESR					•	•		•
Medium and High Voltage			•		•	•		•
Soft Termination					•	•		•
Low ESL					•	•		•
Specialty			•		•	•		•
Metal Cap			•					•
Dipped Radial Lead			•					
RADIO INTERFERENCE Suppression capacitors								
Suppression Capacitor				•				
Film Capacitor				•				
DC-Link / Snubber				•				
AC Motor Capacitor				•				
Ceramic Interference Suppression Capacitor					•			•
INDUCTORS AND EMC								
SMD Signal Inductor					•		•	•
SMD Power Inductor			•		•	•	•	•
Leaded Component			•		•		•	
SMD RF Inductor								•

RESISTORS, VARISTORS	CHEMI-CON	JSCJ		
AND THERMISTORS			•	•
			-	-
Thick Film			•	•
Shunt / Jumper			•	•
Network			•	•
Multilayer Varistor				•
Metall-Oxid Varistor (MOV)	•			•
SMD NTC				•
Power NTC				•
Specialty NTC				•
RF FILTERS AND ANTENNAS				
Low Pass Filter (LPF)				•
High Pass Filter (HPF)				•
Band Pass Filter (BPF)				•
Balun (BLN)				•
Balanced Filter (BPB)				•
Diplexer (DIP)				•
Triplexer (TIP)				•
Coupler (CPL)				•
Chip Antennas				•
FREQUENCY DEVICES				
Quartz Crystals		•		
Quartz Oscillators		•		
QMEMs		•		

## DISPLAYS

#### Human-Machine Interfaces (HMI)

Digital information output by machines can only be transferred to a level that can be processed by humans via a few interfaces. The simplest possibility is the visualization of data on displays. The possibility of using this medium has diversified considerably over the last decades and the demands of users have been optimized. Our portfolio includes economical monochrome LCDs, color self-illuminating OLEDs, high-resolution and very bright TFTs and electrically self-sufficient e-papers. In addition, we offer customized solutions, as well as the corresponding control electronics and cables.

## ON OUR LINECARD YOU WILL FIND:

#### TFT DISPLAYS

- Active Matrix Displays for all applications
- Sizes 3.3 cm to 280 cm (1.3 to 110 inches)
- Customized TFT modules up to a diagonal of 24.5 cm (10 inches)
- Touch panels incl. controller,
  resistive and capacitive, also customized
- Complete system accessories

#### PASSIVE LCD - CUSTOMIZED AND STANDARD

- All LCD technologies, e.g. TN, STN, FSTN, ASTN and VA
- All interconnection technologies, e.g. TAB, COG, COF
- All types of backlighting, e.g. white and colored LED
- Resolutions up to QVGA
- Sizes 2.5 cm to 14.5 cm (1.0 to 5.7 inches)

#### ORGANIC LED - OLED

- Self-luminous, bright and high contrast
- Almost unlimited reading angle
- Fast switching
- Graphic displays, monochrome and full color
- Sizes 1.8 cm to 13.97 cm (0.7 to 5.5 inches)

DISPLAYS

#### **E-PAPER DISPLAYS**

- Sizes 2.39 cm to 106.68 cm (0.94 to 42 inches)
- Black and white or full color
- Active matrix, segment or »ink-in-motion«
- Complete system accessories:
  Displays with control card & cables

#### BECK COMPACT MODULE (BCM & SCM)

- Open Frame Displays
- Diagonals in 26.4 to 68.6 cm (10.4" to 27.0")
- Optionally with touchscreen (PCAP or resistive)
- Customized solutions

#### **BECK ACCESSORIES**

- TFT Controller (BTC & DCMR series) Input: DP/HDMI/DVI/RGB Output: LVDS/eDP
- E-Paper Controller
  Input: USB/SPI
  Output: TTL/Mini-LVDS
- Customized developments for hard- & software at BECK
- Interface-, LED- & Inverter cables for all displays and controller boards

NOCHROMDISPLAY		Affir	NUO		BECKBERNER	LCD&LCM 东福 彩显 Dengiv Color Display
Graphic Display	•					•
Character Display	•					•
<b>OLED PASSIVE MATRIX</b>						
Graphic Display						
Character Display						
TFT COLOR LCD						
TFT Display						
TFT Display + Touch	•		•			
Stretch TFT Display	•		•			
Stretch IFI Display	•		•			
<b>BECK COMPACT MODULE</b>						
Open Frame Displays				•		
E-PAPER DISPLAY						
Active Matrix E-Paper Display						
Segment E-Paper Display						
Ink-In-Motion Display						
DISPLAY CONTROLLER						
TFT Controller					•	
EPD Controller						
TOUCHSCREEN						
Projected Capacitive Touch (PCAP)		•				
Analog Resistive Touch (RTP)		•				
OADLE.						
Interface Cable (IFC)					•	
LED Cable (LEDC)					•	
Inverter Cable (INC)					•	

# ELECTROMECHANICS

#### Connectors, cables, relays, switches and co.

Electromechanics is the link between technologies. We have been working for years with the most innovative manufacturers at the highest technical level. Consequently, we support our customers with the best technical advice and develop customerspecific products with our suppliers. In doing so, the observance of individual standards in the fields of device industry, automotive or automation technology is a matter of course.

## ON OUR LINECARD YOU WILL FIND:

#### CONNECTORS

- FFC/FPC connectors
- IDC connectors
- Connectors for printed circuits
- Male connectors
- D-Sub connectors
- USB connectors
- Modular connectors

#### SWITCHES

- DIP Switches
- Toggle switches
- Pushbutton
- Encoder

#### RELAY

- Signal relay
- Power relays
- Automotive relays
- Bistable relays

#### HEAT SINKS

- CPU heat sinks
- Finger heat sinks
- LED heat sinks
- Thermal conductive foils



#### ELECTROMECHANICS







CONNECTORS	BJD	SviLux 💝	GREATECS	(1000)	
Wire To Board	•	•		•	
Board to Board	•	•		•	
FFC/FPC Connectors	•	•		•	
Female / Male Pin Header	•	•		•	
Power Connectors	•	•		•	
IDC Connectors	•	•		•	
Socket Connectors		•			
D-Sub / Combo D-Sub		•		•	
I/O Connectors	•	•		•	
Flat Flexible Cables	•	•		•	
SWITCH / BUTTON					
Toggle Switches			•		
Tactile Switches			•		•
Rocker Switches			•		
Pushbutton Switches			•		•
DIP Switches			•		
Detector Switches			•		
Slide Switches			•		
Potentiometers			•		
Rotary Switches			•		
Sensor Switches			•		
Encoders			•		

#### COOLING TECHNOLOGY

	waw components
Attachable Heatsinks	•
CPU Heatsinks	•
Finger Heatsinks	•
Mounting Accessories	•

ASSMANN

#### **DEVICE PLUG**

Connectors and Power Entry Modules

Cord Connectors

#### FUSES

SMD Fuses Chip-Fuses Fuses for Equipment Subminiature Fuses Special Fuses

#### RELAY

Signal Relais Power Relais Automotive Relais Magnetic Latching Relais Flasher HV Direct Current Relais



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# LIGHT EMITTING DIODES (LEDS)

#### WE BRING LIGHT INTO THE DARKNESS - EVERYWHERE!

In addition to the comprehensive portfolio of SMD and chip-on-board (COB) LEDs in all common designs for general lighting, our portfolio also focuses strongly on the area of special LED applications. This includes, among others, a wide range of highpower LEDs, in the UV and infrared range, as well as certified components for interior and exterior applications for the automotive industry.

## ON OUR LINECARD YOU WILL FIND:

#### MID-POWER SMD LEDS

- All common designs: 2016, 3014, 2835, 3030 ...
- Color temperature (CCT): 1,800 K to 10,000 K
- Efficiency up to 220 lm/W
- CRI min. 70, 80, 90, 95 & 97
- Customized binnings
- Best color consistency: SDCM3 (= standard) and SDCM2

#### COB LEDS

- All common LES (Light Emitting Surface)
- LES = 6, 9, 11, 14, 18, 22, 27 & 32 [mm]
- Special colors especially for retail, like »meat«, »fish« or »bread«.
- Customized CCTs possible
- Dynamic Light COBs: Dim-2-Warm & CCT Tunable

#### **AUTOMOTIVE LEDS**

- Certified according to AEC-Q102 and IATF 16949
- For automotive exterior & interior applications
- Customization
- Color range, flux-bin & forward voltage selections

LEDS

#### HIGH-POWER WHITE LED

- Many CRI options (up to typ. 97)
- Up to typ. 5,600 lm (@ 22.5 A)

#### HIGH-POWER COLOR LEDS

- All wavelengths in the visible range
- RGB (WW) LEDs

#### UV LEDS

- Power ranges from 1 W to 30 W
- UV-A: 365 to 420 nm
- UV-C: 260 to 290 nm
- UV-B in development

#### IR LEDS

- Single- and dual-junction chips
- Power up to 20 W
- Wavelengths from 730 to 970 nm

LED LIGHTING	∉ Brightek	eoi	HARVATEK	Lextar cross cross		Oasistek
COB LED	•	•	•	•	•	•
SMD LED	•	•	•	•	•	•
LED Module	•	•		•	•	
Human Centric Lighting					•	
White Automotive LED	•	•		•		
Color Automotive LED	•	•		•		
SPECIALTY LED						
Single Color LED	•	•	•	•	•	•
Multi Color LED	•	•	•	•	•	•
RGB IC LED	•		•	•		
High Brightness White LED				•	•	
Infrarot LED (IR)	•		•	•	•	
UVA LED				•	•	
UVC LED				•	•	•



## OPTOELECTRONICS

For more than 40 years, products from the field of optoelectronics have been part of our product range. Our know-how regarding applications and the selection of innovative products is correspondingly extensive. In addition to a wide range of optocouplers, infrared components and various distance, motion and ambient light sensors, in recent years we have added customer-specific LED displays and VCSELs for a wide variety of applications such as TOF and 3D detection of rooms and objects.

## ON OUR LINECARD YOU WILL FIND:

#### OPTOCOUPLER

- For standard and special applications, e.g. high speed, IGBT driver output, OPIC, ... •
- Different designs: DIP, Half Pitch and SMD versions
- Phototriacs, Solid State Relays (SSR)

#### VCSEL

- 3535 Package with 850 or 940 nm
- Many Field of View options: 50x40 to 120x90 degrees
- Automotive certified according to AEC-Q102
- Optional with eye safety function

#### SENSORS

- Distance sensors (analog & digital, 1.5 to 500 cm)
- Motion and gesture sensors
- Particle, temperature and humidity sensors
- Ambient Light Sensors

#### INFRARED COMPONENTS

- IR emitter and receiver units
- Photodiodes and phototransistors ٠
- Photoelectric sensors

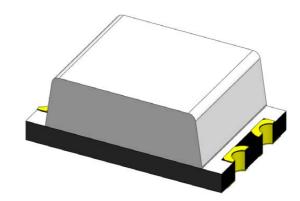
#### LED DISPLAYS

- Customized 7-segment displays
- Single- and Multi-Digit variants
- Dot-Matrix displays •

#### **OPTOELECTRONICS**

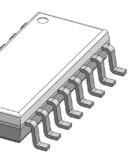
OPTOCOUPLER	⊜ Brightek	CT Micro	Lextar (metric Group	SHARP
Phototransistor		•		•
Darlington Photocoupler		•		•
High Speed Photocoupler		•		•
Phototriac		•		•
IGBT Gate Driver		•		•
SENSORS				
VCSEL			•	
Proximity Sensor	•			•
Ambient Light Sensor				•
Distance Sensor	•			•
Dust Sensor				•

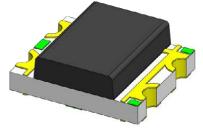




OPTOELECTRONICS

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SUPPLIER SPOTLIGHT





## BECK – BCM



BECK GmbH in Nuremberg has been reliably supplying its customers with open frame displays since 2004 with its in-house developments under its own brand BECK Compact Module (»BCM«) and production in Germany. Suppliers of kiosk systems, machine controls and similar industrial electronics goods often struggle with short product life cycles and frequent model changes for display units. To counteract this, BECK has set itself the goal of consistently following its product philosophy and offering its open frame displays with consistent me-chanical and electrical specifications over as long a period as possible.

Furthermore, due to its in-house know-how, BECK is able to flexibly respond to special requests or customerspecific solutions.

## **BECK – TFT-CONTROLLER**

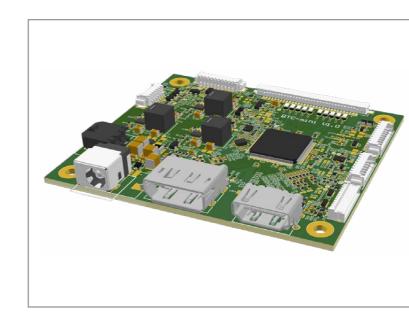
In addition to the standard portfolio, Beck also offers customized LCD-TFT-controller and corresponding accessories (cables, adapters, etc.). Based on the BTC-series with LVDS, eDP or V-by-One interface, individually designed boards for resolutions up to UHD can be developed in-house in Germany. Depending on the requirements, manufacturing takes place at our partners in Germany or Taiwan. The functionalities of the F/W such as automatic brightness control, temperature monitoring and diagnostic options via I2C can be extended at any time. The pre-configured boards do not require any adjustments by the customer and can be used plug & play. The various accessories (BTA-series), such as adapters, sensors or LED-drivers, can also be customized.



### PRODUCT RANGE

www.beck.link/bcm

- Open Frame Displays
- Diagonals in 26.4 to 68.6 cm (10.4" to 27.0")
- Optionally with Touchscreen (PCAP or resistive)
- Customized Solutions









- TFT Controller
- LED-Drivers
- Keypads
- Adapters
- Sensor Boards







www.beck.link/bed

### **PRODUCT RANGE**

- From 2.7" to 65" with 320x240 to 3840x2160 pixels
- Interfaces: SPI, LVDS, eDP, V by One
- Wide angle technologies & »high brightness« & extended temperature ranges
- RTP, PCAP (On/In-Cell) technologies
- Customized front glass, control boards & display cables

## BED & AUO

BECK Elektronik Display GmbH (BED), a company of the BECK Elektronik Group, is specifically designed for the marketing and sale of displays since 2016. BED carries in its portfolio the high quality displays of AU Optronics Corportation (AUO) based in Hsinchu, Taiwan, one of the largest manufacturers for TFT manufacturers in the world. In 2001, AUO was formed by the merger of Acer Display Technology, Inc. and Unipac Opto-electronics Corporation.

Known worldwide for excellent product quality, AUO manufactures displays for industrial, automotive, medical, PID as well as notebook and monitor applications. Different production lines from Gen 3.5 to Gen 8.5 offer AUO the possibility to always effectively use its own strengths in each area. Technologically, AU Optronics can offer its own products in the field of Projected Capacitive (PCAP) Touch technologies for Human Machine Interface (HMI) in addition to all available TFT technologies. AUO is the first TFT-LCD product company to be listed on the NYSE, and in 2004 it ranked 17th in Business Week's »Global IT Companies« section.

In 2022, AUO Display+ (ADP) spins off from the umbrella organization AU Optronics Corporation and continues to operate the GD (General Display) and PD (Public Display) lines separately from the consumer business. This will enable ADP to respond even more flexibly to customer requirements. These include, for example, display enhancement capabilities or offering ready-bonded display touch cover glass units. BED, as part of the family group within BECK Elektronik, can draw on various resources managed at BECK for display control cards and the cables required for operation to offer a well-rounded service profile.



## AMPIRE



Ampire is one of the most well-known manufacturers in the TFT market. Based in Taipei, Ampire will celebrate its 25th anniversary in 2023. During all these years, Ampire has become one of the most successful companies in the TFT world, following the most important trends in the industry with its products.

Ampire displays are at the cutting edge of technology, extremely reliable and available for a long time. Ampire's product lines are extensive and for many sizes Ampire offers extended temperature range, high brightness, wide viewing angle and long life. Customers can choose from IPS or MVA technologies, LVDS or MIPI interfaces, RTP or PCAP touch with cover glass. Almost every possible combination can be found in the Ampire product overview. Modifications and new developments of display modules are fulfilled according to customer requirements.

BECK has been successful in the market with Ampire for more than 20 years.

## BEIJIDA ELECTRONICS (BJD)

Beijida Electronics (BJD) is an exclusive Chinese manufacturer of connectors. Founded in 2004 in Dongguan, BJD now manufactures at two locations in China and in Vietnam with 400 employees. An important feature in terms of adaptability and flexibility for the market is the presence of its own tooling and manufacturing for metal and plastic parts. In addition to the company's IATF 16949 certification, BJD can also provide testing to the USCAR-2 standard.

BJD is a company that specializes very strongly in the automotive supply industry, but also supports customer-specific solutions in the industrial and consumer goods sectors. Product focus is on pin headers, FFC/ FPC connectors, FAKRA connectors and board to board connectors.



#### PRODUCT RANGE

www.beck.link/ampire

- Monochrome LCD Segment, Character and Graphic, also customized solutions
- Touch Solutions Analog
- Resistive and projected capacitive
- TFT Displays from 1,8" up to 15,6"
- Open Frame Modules with
  HDMI Input







#### PRODUCT RANGE

www.beck.link/bjd

- FFC/FPC Connectors
- Board to Board Connectors
- Male Connectors
- FAKRA Connectors
- Custom Connectors

## BRIGHTEK

## ➡ Brightek

Founded in 2001, Brightek is a certified manufacturer of LED and sensor components with headquarters in Taiwan and factory in Shenzhen, China. Mainly focusing on professional automotive applications, Brightek offers reliable AEC-Q approved LEDs for indoor, outdoor and ambient lighting. Brightek demonstrates particular expertise in this field as a member of the ISELED Alliance with smart RGB LEDs with integrated IC, which offer advantages for a variety of application areas.

Currently, Brightek employs over 500 people, including experienced research, development and manufacturing teams, and is equipped with state-of-the-art production facilities and its own test laboratory to ensure professional mass production and fast delivery.

## CT MICRO

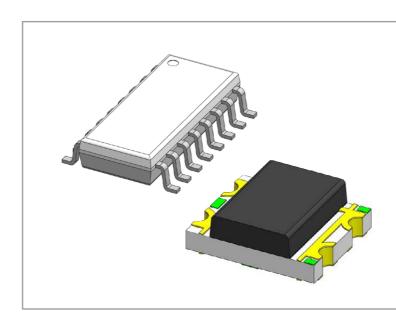
CT Micro International Corporation is a customer and technology focused company established in February 2013. CT Micro is managed by a team of highly qualified and technically skilled professionals dedicated to the design, marketing and sales of optoelectronic products. All members of the top management and technical team have more than 15 years of industry experience and product knowledge. The main business focuses on infrared emitters, detectors and optocouplers but also LEDs in the visible wavelength range. Based on their quality policy, CT Micro has all major certificates related to optocoupler safety (UL/VDE/CQC) and systematic development and production (ISO9001:2015). Knowing that the best applications and products require matching components of the highest quality, CT Micro implements stringent design requirements for all new products, as well as world-class quality control during the manufacturing process.





#### PRODUCT RANGE www.beck.link/brightek

- Automotive LEDs
- Smart LEDs with IC
- IR LEDs
- Sensors
- Photodiodes
- Phototransistors



CT Micro International Corporation



www.beck.link/ctmicro

Highspeed Optocoupler

- IGBT Gate Driver
- Phototriacs

PRODUCT RANGE

- Phototransistors
- Solid State Relays
- Infrared Emitters
- Light Emitting Diodes

## CAPXON



Capxon Technology Limited ist ein führender Hersteller von Elektrolytkondensatoren. Der Hauptsitz des familiengeführten Unternehmens liegt in Taipei, Taiwan, wo es im Jahr 1980 gegründet wurde. Die Produktionsanlagen für Kondensatoren befinden sich in Shenzhen, China. Ebenfalls in China befinden sich die 3 Aluminiumfolien-Produktionsstätten und eines der weltweit ersten Standorte an dem Aluminiumfolien und Kondensatoren unter einem Dach produziert werden.

Capxon hat einen hohe Qualitätsstandards und erfüllt Internationale Anforderungen wie ISO 9001, ISO 14001 und IATF 16949. Die Produktpalette umfasst Aluminium-Elektrolytkondensatoren, Snap-In und Screw Terminals, leitfähige Conductive-Polymerkondensatoren und hybride Polymerkondensatoren, die flüssige und feste Komponenten kombinieren.

## CHEMI-CON

Seit 1977 ist Europe Chemi-Con (Deutschland) GmbH, mit Hauptsitz in Nürnberg, exklusiv für den Vertrieb innovativer und hochwertiger Aluminium-Elektrolyt-Kondensatoren in Europa zuständig. Die Muttergesellschaft Nippon Chemi-Con Corp. (Japan) hat, seit seiner Gründung im Jahr 1931, maßgeblich die Entwicklung der Kondensatoren in diesem Bereich mitgeprägt und sich zum weltgrößten Produzenten von E-Caps entwickelt. Die Chemi-Con Corp. hat Produktionsstätten und Tochtergesellschaften auf der ganzen Welt, z.B. in Japan, Taiwan, Singapur, Malaysia, China, den USA und verfügt über ein globales Vertriebsnetzwerk. Neben seinem Hauptproduktspektrum Aluminium-Elektrolytkondensatoren, Polymerkondensatoren und Hybrid Kondensatoren (Kombination aus Elektrolyt & Polymer Kondensator) bietet Chemi-Con weitere Produkte wie Multilayer Ceramic Chip (MLCC) Kondensatoren, Induktivitäten, Varistoren und CMOS Camera Modulean. NCC ist einer von wenigen Alu-Elko Herstellern die ihre eigene Aluminiumfolienproduktion besitzt.



#### PRODUCT RANGE

www.beck.link/xxx

- Aluminium Electrolytic
- Hybrid Conductive Polymer Capacitors
- Snap-In and Screw Terminal
- Solid Conductive Polymer Capacitors
- Electric Double-Layer







### PRODUCT RANGE

www.beck.link/xxx

- Aluminium Electrolytic
- Hybrid Conductive Polymer Capacitors
- Snap-In and Screw Terminal
- Solid Conductive Polymer Capacitors
- Electric Double-Layer

## CVILUX



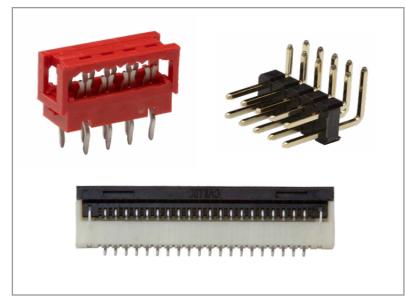
The leading connector manufacturer CviLux was founded in Taiwan in 1990 and manufactures at five IATFcertified locations in Asia with a total of over 600 employees. The company has its own tool shop for all molds of the corresponding metal and plastic parts and also builds associated assembly and testing machines itself. Thanks to existing laboratories, the relevant standards for connectors are met.

CviLux is very active in the automotive supply industry, the consumer appliance sector as well as in the industrial segment. Its strengths lie in the field of FFC/FPC connectors, PCB connectors, pin headers and USB connectors.

BECK and CviLux have been successful partners for many years and work together with customers from all over the world to develop suitable solutions, if necessary also through technical adaptation of the connectors. This includes compliance with the appropriate standards.

## E INK

Today's E Ink Corporation was spun off from M.I.T. Media Lab and Prime View International in 1997 to commercialize electronic ink and EPD technology. Prime View, founded in 1992 as the first TFT-LCD company for high-end small to medium TFT-LCDs in Taiwan, acquired the spin-off in 2009 to further integrate and expand into the EPD supply chain. Since 2014, BECK has been acting as a distributor for E Ink Corporation in the European market. This gives customers access to E Ink's unique e-paper technology and services related to EPD: driver boards, cables, software support for communication with host PCs, optical bonding and front light combinations round off the wide range of e-paper panels offered.



### PRODUCT RANGE

www.beck.link/cvilux

- FFC/FPC Connectors
- IDC Connectors
- Wire to Board Connectors
- Board to Board Connectors
- Pin Headers







#### **PRODUCT RANGE**

www.beck.link/eink

- Matrix Displays 1.1" to 42"
- 160x160 to 2160x2880
- Monochrome or color
- Optional cover glass & frontlight & touch
- Segmented Displays
- Ink-in-Motion
- E-Paper modules with embedded user interface

## EPD CONTROLLER



The technological challenges of driving e-paper displays (EPDs) are significantly greater than for TFT displays due to the temperature-dependent waveforms.

Therefore, control cards for different EPD types have been developed: black and white »Pearl« or »Carta«, three-, four-color or even full-color »Gallery Plus«.

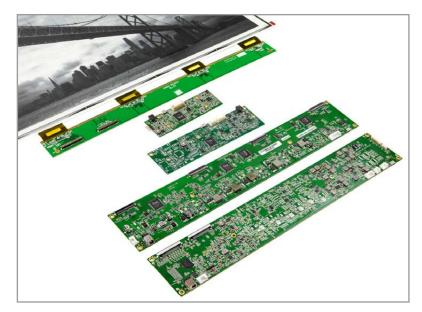
A flat and slim design of the cards allows economical mechanical solutions and a common external interfaces (SPI and USB) facilitate communication with the host. The T-CON chips used on the cards support the original waveforms of the E Ink displays and therefore ensure the best image quality in the corresponding operating temperature range.

The driver cards developed in cooperation with our Asian partners are available from BECK together with the corresponding cables and code examples.

## HKE

The Chinese relay manufacturer HKE was founded in 1976 in Ningbo and produces there with 800 employees at its nearby sites. With a high degree of automation, HKE produces cleanroom-quality products in its IATF 16949 certified manufacturing facilities. Appropriate laboratories for testing according to product-specific standards for relays are available.

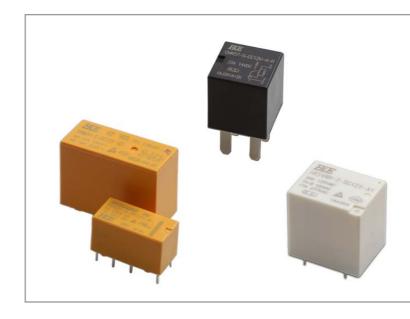
HKE is active in the automotive, consumer goods and also industrial sectors. The extensive product range includes power relays, automotive relays, signal relays and latching relays.BECK and HKE have a long-standing partnership with joint successes and the aim of meeting all our customers' requirements. Customer-specific adaptations are possible, especially with regard to modification in terms of heat resistance and explosion protection as well as compliance with industry-specific standards.





#### PRODUCT RANGE www.beck.link/epdcont

- EPD Controller with TTL and Mini-LVDS support
- EPD Controller for
  Full Color EPD Displays
- Cables
- Code examples for quick start







#### **PRODUCT RANGE**

www.beck.link/hke

- Signal Relays
- Power Relays
- Automotive Relays
- Latching Relays

## INNOLUX



Innolux, nowadays with over 53,000 employees worldwide, was founded in 2003 and after merging with Chi Mei Optoelectronics and TPO Displays in March 2010, becoming one of the global market leaders in the display industry with 14 plants in Taiwan (3.5G to 8.6G) as well as 4 plants in China. In order to secure access to certain industries and markets, special attention is paid to quality. Innolux underlines this commitment to quality by complying with well-known standards such as ISO 9001 (quality), ISO 14001 (environment), IATF 16949 (quality/automotive), ISO 13485 (quality/medical), ISO 45001 (occupational health and safety), IEC-61340-5-1 (ESD protection) and IECQ QC 080000 (management, minimization and elimination of hazardous substances). Innolux is one of the few display manufacturers in the world, able to serve all applications such as Industrial, Medical, PID, Consumer Electronics and Automotive. The distribution at BECK mainly supplies the Industrial, Medical and PID sectors. Here, Innolux impresses above all with its long-term product life cycles and high quality.

## ISKRA

The company ISKRA, d.o.o. was founded in 1946 in Ljubljana, Slovenia. The development and production is exclusively located there. The innovative electronic products of the ISKRA company have gained worldwide recognition. ISKRA is also one of the leading companies in the country. The company's product range includes radio interference suppression and film capacitors, DC link and snubber capacitors as well as the AC filters. ISKRA is certified according to the ISO 9001 and ISO 14001 quality management systems and its products have all the required international approvals such as CE, VDE, UL, CSA, CQS, SEMKO, etc. ISKRA products are used in all common areas, such as industrial technology, garden equipment, power tools and white goods.

The companies ISKRA and BECK have been working successfully since 1993 to satisfy the customer with the highest quality and service.



PRODUCT RANGE

www.beck.link/innolux

- 29" & 36" stretched
  40" / 50" / 65" / 85" / 100"
- High Brightness Panels with a brightness of at least 1,000 cd/m<sup>2</sup>
- 5.7" to 31.5"
  VGA 640x480 to FHD 1920x1080







PRODUCT RANGE

www.beck.link/iskra

- Radio Interference Suppression
  Capacitors
- Film Capacitors
- DC Link
- Snubber
- AC-Filter

### ISCI

Jiangsu Changjing Electronics Co. Ltd. (abbreviation: JSCJ), is a dynamic company based in Nanjing, Jiangsu Province, of China. JSCJ is a spin-off of the Discrete Device Division of its parent company Jiangsu Changjiang Electronics Technology Co., Ltd. (JCET), one of the TOP3 largest OSAT (Out-sourced Semiconductor Assembly & Test) companies in the world. JSCJ aims to become one of the leading players in the semiconductor market.

JSCJ offers a broad portfolio of semiconductor components for the industrial, consumer and white goods markets and is focusing on expanding its product range of AEC-Q101 certified products. In addition to traditional active components, JSCJ also has frequency-devices such as crystals and oscillators in its line card. JSCJ meets industry quality standards and is certified to ISO 9001, ISO 14001, OHSAS 18001 and IATF 16949. The partnership between BECK and JSCJ started at the early beginnings of JSCJ in 2019.

## LEOCO

The Taiwanese manufacturer Leoco, founded in 1981, differs from the other partners in that the company offers customized cable assembly in addition to its sophisticated portfolio of connectors. Today, the Leoco group of companies manufactures at four locations in Asia with a total of 1800 employees and also has its own toolmaking shop for components and a production facility for special machines for its own use. Leoco is certified according to IATF 16949 and is well equipped for the market with its own test laboratories with all the necessary testing facilities. Leoco originally established itself as a subcontractor for other brands before entering the market with its own brand. As a result, special solutions and customer-specific applications are a key focus. The main activities in the connector portfolio are PCB connectors, pin headers, D-Sub connectors and USB connectors. For custom cable assembly, Leoco can offer connectors from other market competitors in addition to using its own products upon customer request. This highest level of flexibility enables us to meet our customers' requirements.

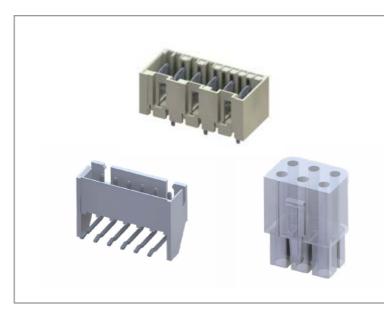


### PRODUCT RANGE

## www.beck.link/jscj

**L** JSCJ

- Diodes & Rectifiers
- ESD & Protection Devices
- Thyristors / SCRs
- Semiconductors for Power Mgmt. & ICs
- Bipolar Transistors
- MOSFETs
- Wide Bandgap Semiconductors
- Crystals & Oscillators







#### PRODUCT RANGE

www.beck.link/leoco

- Cable
- Cable Assembly
- Wire to Board Connectors
- Wire to Wire Connectors
- Custom Connectors

## LEXTAR



Lextar is a Taiwanese company dedicated to the production of various products in the field of LED technology. The company was founded in 2008 within the group of companies around the display giant AUO with the aim of supplying the parent company with LEDs for its display backlighting on the one hand and establishing itself as a manufacturer in the technically demanding LED lighting market on the other hand with the acquired experience and production know-how.

A key unique selling point is that Lextar is one of the few fully vertically integrated LED manufacturers, meaning that everything from LED chips and packaging to module assembly is carried out in-house. In addition, the company has a strong focus on research and development. With long-standing patent leadership in Taiwan and over 2,300 patents worldwide, Lextar offers outstanding technology solutions and services to meet all current market demands.

## LRC

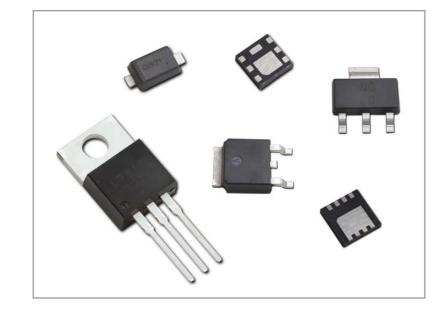
Leshan Radio Company (LRC) was founded in 1971 in the city of Leshan, south of Chengdu in China's Sichuan province. In 1995, LRC and Motorola (now OnSemi) formed a joint venture called Leshan Phoenix Semiconductor (LPS) to manufacture small signal diodes in the city of Leshan. In 2011, LRC followed up with an expansion of its own production capacity by establishing a new plant: Chengdu Advanced Power Semiconductor (APS). Consequently, LRC reaches a total production capacity of >1 billion small signal diodes per week; this helped LRC enter the world TOP ranking in terms of production capacity. LRC offers all required certifications such as ISO 9001 and IATF 16949 for a wide range of products meeting international requirements for the automotive market (AEC-Q101). This powerful partner of BECK is continuously working to expand its portfolio of power semiconductors, MOSFETs and ICs.



#### PRODUCT RANGE

www.beck.link/lextar

- Display Backlight
- Mini and Micro LED
- 3D/2D Sensor Technology
- VCSEL
- IR and UV LEDs
- Automotive LEDs
- General Lighting LEDs







#### PRODUCT RANGE

www.beck.link/lrc

- Diodes & Rectifiers
- ESD & Protection Elements
- Semiconductors for Power Management & ICs
- Bipolar Transistors
- MOSFETs
- IGBTs

## LUMINUS



Luminus was founded in 2002 from M.I.T. and a Silicon Valley start-up to commercialize researched technologies from the specialty lighting sector. Subsequently, with COBs and mid-power LEDs, the range of applications also expanded to the area of general lighting and Luminus was acquired by the world's largest manufacturer of LED chips, the Chinese company San'an, due to its high technical competence. Luminus is now a full subsidiary of the San'an Group since 2015 and thus benefits from enormous production capacities, an excellent network of sister companies and has become one of the major global players in recent years as a result. Luminus' core competencies are specialty lighting products, especially in the UV and infrared range, COBs for a variety of applications and a strong portfolio of mid-power LEDs. In doing so, Luminus always pursues the goal of improving energy efficiency, light output and light quality in order to meet the increasing market requirements.

## PANJIT

The taiwanese company PANJIT International Inc. has been manufacturing semiconductor components for the industry since 1986. Today, the further development and production of its own semiconductor products takes place at several locations in Asia: PANJIT owns two front-end and two back-end factories, of one each in China and one in Taiwan. There, the complete manufacturing process from wafer production to testing takes place in the company's own production facilities. PANJIT's focus is on the automotive, industrial, energy and consumer goods sectors. As a special feature PANJIT has SiC Schottky diodes (SiC = silicon carbide) in its program. PANJIT can show the industry-standard certificates such as ISO 9001, ISO 14001, OHSAS 18001 and IATF 16949. BECK Elektronik and PANJIT are bound in partnership for more than 15 years.



#### PRODUCT RANGE www.beck.link/luminus

- COB LEDs
- Mid-Power LEDs
- Color LEDs
- UV-A, UV-B & UV-C LEDs
- Infrared LEDs
- Specialty White LEDs
- Horticulture LEDs





## PROSPERITY DIELECTRICS



Founded in 1990 in Taiwan, Prosperity Dielectrics Co., Ltd. (PDC) was one of the first manufacturers of ceramic dielectric powder. Today, PDC's product line includes signal and power inductors, transformers, as well as multilayer ceramic chip capacitors (MLCC), chip resistors, diodes and dielectric powder. Since September 2005, PDC has been part of the PSA Group, which has greatly expanded PDC's capabilities, allowing parts of its production to be certified to ISO9001 and IATF16949. Also PDC offers various products and series with automotive standard AEC-Q200.

PDC has found its market in serving niches and is a reliable supplier of inductors and EMC (Electromagnetic Compatibility) here. Here, PDC has demonstrated special expertise in SMD signal and SMD power inductors over the years. In addition, PDC can also offer very high quality alternatives to the respective market leaders in the areas of MLCC and resistors. Through the cooperation with PDC, the company BECK can successfully prove its competitiveness in the field of signal and power inductors.

## WALSIN

Walsin Technology Corporation (WTC) is dedicated to providing customers worldwide with reliable passive component solutions that feature superior quality, innovative technologies and competitiveness. As a global leader in passive components, the Taiwanese company's product line includes multilayer ceramic chip capacitors (MLCC), chip resistors (thick film, thin film, arrays), inductors, RF filters, disk capacitors, varistors, chip fuses and RF components. Walsin products are used in all common sectors, including industrial, automotive (AEC-Q200), telecom, white goods, lighting and energy. The ISO9001 and IATF16949 certifications confirm the quality and customer requirements. Founded in 1992, Walsin Technology now produces high quality products in 14 production centers in the Asian region. Through many years of experience and cooperation with Walsin Technology, BECK can offer alternatives to all major manufacturers in the field of passive components, such as Murata, Vishay, Kemet and TDK.



#### PRODUCT RANGE

www.beck.link/pdc

- Signal and Power Inductors
- MLCC
- Chip Resistors
- Diodes



SUPPLIER SPOTLIGHT W



## YENRICH



Die Firma Yenrich Technology Corporation (Yenrich), Teil der Ennostar Gruppe, aus Taiwan spezialisiert sich auf LED-Displays. Das im Januar 2019 gegründete Unternehmen, mit Herrn Dr. David Su als Chairman und Herrn Frank Hsu an der Spitze beschäftigen 120 Mitarbeiter, von denen fast die Hälfte in der Entwicklung von Multicolor LEDs und LED-Displays arbeitet.

Über die Einbindung in die Ennostar Gruppe hat Yenrich vertikalen Zugriff auf alle entscheidenden optoelektronischen Technologien: EPI/Chip durch EPISTAR Corporation und Packaging durch Lextar Electronics. Als Spezialist für Multicolor LEDs bringt Yenrich seine Kompetenz ein und verbaut vier gleiche Mini RGB-LEDs in ein Gehäuse (4in1)- wodurch sich der Pitch (Abstand zwischen den Pixeln) unter 1 mm bringen lässt!



### SORTIMENT

www.beck.link/bcm

- Open Frame Displays
- Diagonalen in 26,4 bis 68,6 cm (10,4" bis 27,0")
- Optional mit Touchscreen
  (PCAP oder Resistive)
- Kundenspezifische Lösungen



SUPPLIER SPOTLIGHT Y

