



IP&E News

2nd Quarter 2025



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Enabling the next generation of robotics

The field of robotics is rapidly evolving, driven by advancements in technology and increasing demand for automation.

From manufacturing to healthcare, robotics is transforming the way we work and live.

Key Trends in Robotics:

Collaborative Robots (Cobots): Cobots are designed to work alongside humans, enhancing productivity. They are equipped with advanced sensors and AI to provide interactions with human workers. 3M's industrial cables and connectors can help provide reliable connections and power supplies for cobots, helping cobot manufacturers enable a virtually seamless integration into various industrial environments.

Machine Vision Systems: Machine vision systems are essential for tasks such as inspection, quality control, and guidance in robotics. These systems use cameras and image-processing algorithms to interpret visual information. 3M offers connectors, cables, and assemblies for high-speed/density input/output applications in three major standards that cross the spectrum of machine vision: Camera Link, USB3 Vision & CoaxPress.

Industrial Internet of Things (IIoT): The IIoT connects industrial devices and systems, enabling real-time data collection and analysis. This connectivity enhances the performance of robotic systems. 3M's interconnect portfolio includes robust connectors and cables that can help provide robotics manufacturers with reliable data transmission in IIoT applications, supporting the seamless operation of their connected robotic systems.

Autonomous Mobile Robots (AMRs): AMRs are capable of navigating and performing tasks virtually without human intervention. They are widely used in logistics, warehousing, and manufacturing. 3M's solutions, such as durable cables and connectors, could help provide the necessary infrastructure for AMR manufacturers to operate their robots efficiently in demanding environments.

The robotics industry is experiencing rapid growth and innovation, driven by trends such as those mentioned above & more. 3M's comprehensive range of solutions plays a vital role in supporting these trends by providing reliable and advanced technologies helping robot manufacturers shape the future of their robotics.

Orderable Part Numbers at arrow.com

- 3M Industrial Camera Cable Assemblies for Machine Vision



Scan QR-Code to find more information on arrow.com

OCP 48V BarKlip® BK500 IO

48V OCP-Compatible Power Cable Assemblies for Open Compute Power Distribution



Enhanced OCP 48V Compatible Power Cable Assembly for Open Compute Power Distribution Architecture

Amphenol presents the Barklip® BK500 IO power cable assemblies, meticulously engineered to comply with the OCP V3 power distribution architecture standards. These assemblies offer an efficient solution for distributing up to 500A per contact among busbars, cables, and circuit boards.

Amphenol's Barklip® BK500 IO power cable assemblies are designed to deliver exceptional performance and versatility

for power-dense applications. Capable of handling up to 500A per contact, these assemblies support the 48V Power Rack Architecture and feature a user-friendly plug-and-play design for easy configuration and installation. With an ultra-low end-of-life contact resistance of just 0.5 mΩ, they ensure reliable, long-term performance while fully complying with ORv3 Power Output specifications for IT Gear Input.

The Barklip® BK500 IO is perfect for a wide range of high-current applications in data centers, including power shelves, battery backup units (BBUs), server/storage sleds, and more. Its customizable features and robust design make it a reliable choice for demanding environments.

Orderable Part Numbers at arrow.com

- 10156914-1GP126LF



Scan QR-Code to find more information on arrow.com

Features & Benefits

Features	Benefits
<ul style="list-style-type: none"> • Contacts with high conductivity copper alloy 	<ul style="list-style-type: none"> • Carries up to 500A/contact (45 °C/300 LFM airflow)
<ul style="list-style-type: none"> • Ultrasonically welded between wire and contact 	<ul style="list-style-type: none"> • Low voltage drop and high reliability
<ul style="list-style-type: none"> • 18 independent conducting beams and silver plating 	<ul style="list-style-type: none"> • Ultra-low end-of-life contact resistance of 0.5 mΩ
<ul style="list-style-type: none"> • Floating panel mount design 	<ul style="list-style-type: none"> • 6.4 mm side-to-side gather ability • Supports ± 3 mm float horizontally and vertically
<ul style="list-style-type: none"> • New secondary chassis grounding contacts 	<ul style="list-style-type: none"> • Provides additional grounding functionality for safety



HAHN-PFC-Power-Choke-Series!

PFC Chokes, HAHN PFC-PowerChoke



HAHN-PFC-Power-Choke-Series!

A significant area of the disturbances and influences on the mains voltage set phase effects; they do arise when resources are operated with a nonlinear current - voltage characteristic or with non-stationary operating behaviour of a power grid. This problem of network perturbations gains through the increased use of power electronics with increased emission increasingly important.

Applications of the HAHN PFC power choke series include frequency converters and inverters as so-called grid chokes in charging technology, in electronic drives with integrated speed adjustment, e.g. in household appliances such as washing machines.

Due to a wide range of impedance currents, they offer a wide range of development options that allow the suppression of harmonics in EMC tests to be achieved as quickly as possible.

Compliance with the relevant standards for chokes, EN 61558-2-20 and EN 62041, as well as compliance with the glow-wire requirements of the materials used in accordance to EN 60335-1, makes the integration of these components into the market quick and easy. Class B and F insulation systems according to UL 1446 also provide access to the American market.

The HAHN team is already looking forward – together with you – to draw up new pioneering projects. We would be pleased to answer your questions and to assist with „advice and assistance“ for the realization of your wishes in the projects!

Technical specifications of the HAHN PFC choke series:

- Size EI 30 to EI 54 in open and potted construction
- Inductance values from 1 mH to 20 mH
- Saturation currents up to max. 8.7 A
- Insulation class B 120 °C or F 140 °C

Orderable Part Number at arrow.com

- BVD EI Series



Scan QR-Code to find more information on arrow.com



Series ZND: Compact, Vibration-Resistant Connectors

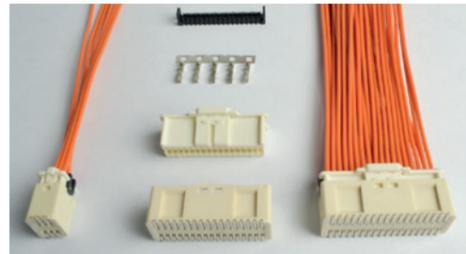
A multifarious series in 1.5 mm pitch offered from JST Deutschland GmbH

Applications:

- large-size refrigerators
- washing machines
- vending machines
- air conditioners
- printers



Scan QR-Code to find more information on jst.de



The ZND series from JST offers wire-to-wire and wire-to-board connections in crimp processing.

The double-row arrangement of the pins makes this connector system very space-saving.

A robust and secure locking mechanism, as well as the optional use of a retainer, enables this connector system to be used even under vibrations.

The top entry SMT headers are suitable for potting up to a maximum of 7 mm.

Because of a clear click feeling (audible and clear sound of a click) there is good insertion feeling and handling.

The ZND connector system combines low insertion force and stable contact performance under vibrations, micro voltage and power circuit.

The pins and socket contacts are supplied as a tinned version.

The wire-to-wire version also offers a panel lock option for panels from 0.5 to 2.0 mm.

In addition, different keying (up to 6 key patterns) is possible.

Features:

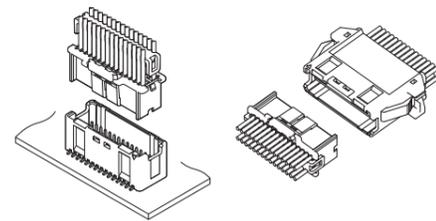
- Voltage rating: 100 V AC/DC
- current rating: 2.0 A AC/DC (AWG 24)
- Applicable wire: AWG 28–24 / insulation o.d. 0.76 – 1.3 mm
- Flammability: UL94V-0

Benefits:

- Robust & secure locking feature
- Optional retainer
- Space saving dual-row layout
- SMT headers top entry
- Potting process up to 7 mm
- Different keying
- Circuits WtB: 4-36 pins
- Circuits WtW: 16 / 24 / 32 / 40 – other circuit nos. from 16–40 are planned
- Handtool for pin and socket terminal: YRS-1810

Standard:

- UL E60389



Orderable Series at arrow.com

- Series ZND



Power Pulse Tolerant Chip Resistors

Downsizing, Space Saving and High Reliability – SG73P-Series



KOA's SG73P-series has approx. 7 times pulse handling capability compared to standard flat chip resistors. Due to the special resistance trimming it also allows a higher continuous power rating.

This means that existing designs can be 'powered up': An SG73P device can be dropped onto the pads of a similar-sized conventional part, thus increasing the power capability without changing the PCB layout. Equally in a new design a smaller SG73 device can be used saving valuable PCB space. Due to its outstanding pulse load capability, this series is suitable for the protection of electronic circuits against extreme pulses and surges, for example, in IO lines and gate drive resistors. These devices are ideal for automotive, power control, and smart meter applications.

Features and Benefits

- Outstanding pulse performance
- High power
- Allows e.g. 500 W for 10 µs in size 1210
- High component and equipment reliability
- 1 Ω ... 10 MΩ, ± 0.5 ... ± 5 %
- T.C.R.: ± 100 ... ± 200 ppm/K
- 5 sizes from 0402 ... 1210 inch
- Operating temperatures up to + 155 °C
- EU-RoHS compliant
- AEC-Q200 tested
- Lab Kits are available
- Anti-sulfuration type (RT) is also available

The newest updated datasheets of these Anti-Pulse resistors can always be found on the supplier website of KOA Corporation (https://www.koaglobal.com/Parametric/public/ParametricSearch.aspx?sc_lang=en&SearchWord=SG73)

Orderable Series at arrow.com

- SG73P: Pulse Withstanding Precision Resistor
- SG73P_RT: Pulse Withstanding Precision Resistors - Anti sulfuration

Applications:

- Automotive electronics
- Power supplies
- Industrial electronics
- Measuring instruments
- Motor control units
- Smart meter
- Power conditioner / inverter
- etc.



Scan QR-Code to find more information on arrow.com



Defining Precision: New C&K Tactile Switches

Littelfuse offers new advanced tactile switches with features: Dual Circuit Technology, Electrical Height & Miniaturization



Scan QR-Code to find more information on arrow.com

The latest product lineup from Littelfuse C&K Switches includes innovative tactile switches designed with new features such as Dual Circuit Technology, Electrical Height and Miniaturization – catering to needs of diverse industries, including consumer, automotive, medical, and industrial electronics.

Dual Circuit Technology (DCT) refers to a single-pole double-throw (SPDT) configuration, which generates two independent output signals within a single switch. This feature enhances reliability and versatility, allowing:

- Active Failure Detection: Enables systems to verify logic before execution, enhancing safety (e.g., preventing unintended door openings).
- Complex Control Schemes: Provides flexibility to define logic-based actions for advanced device functionality.
- Simplified Circuit Design: Reduces the number of switches and wiring, streamlining development and lowering costs.



Electrical Height guarantees precise and reliable electrical connections by precisely defining the distance between the actuation point and bottom contact

- Precision in Design: provides a consistent and precise reference for the switching point, which is essential for accurate integration into electronic designs.
- Reduced Tolerance Issues: By focusing on Electrical Height instead of Electrical Travel, manufacturers can minimize cumulative tolerances, leading to better reliability and performance.
- Enhanced User Experience: ensures

consistent tactile feedback, which is crucial for applications where the switch is part of a Human-Machine Interface (HMI).

Miniaturization – The new tactile switches come in a compact footprint, ideal for space-constrained applications

- Optimized PCB Space Utilization: allowing for more compact and high-density PCB layouts, essential for modern, space-constrained designs.
- Lightweight & Compact Designs: small size contributes to lighter devices, making them ideal for wearables, medical instruments, and portable consumer electronics.



Right Angle Illuminated Switches – Modern electronic designs require tight spaces with clear visual feedback, new EITS switches meet this design challenges

- Right-angled switches allow for edge-mounting, freeing up space on PCB
- Integrated illumination provides clear status indication, improving usability in low-light environments



Orderable Series at arrow.com

- KSC2
- EITS
- NanoT
- PTS845
- KSC4DCT
- KSC2DCT

SW1 Connectors with Coeur Socket Technology

SW1 Wire-to-Board/Wire-to-Busbar Interconnects use Molex's trusted coeur socket and a unique positive-locking design.

As the world increasingly adopts renewable energy sources, the need for effective and dependable energy storage solutions becomes more critical. Energy storage systems provide a flexible and scalable solution to address this requirement. The flexibility of battery storage systems enables their integration across various applications, ranging from residential to industrial.

Energy storage systems require high-current and high-voltage connectivity solutions that also address requirements such as a physical space, voltage drop, mitigating contact resistance and thermal effects. To fulfil the demands for safe, high-voltage transfer, Molex provides an extensive range of connectors featuring coeur socket technology.

Low Contact Resistance
Coeur sockets feature a stamped and shaped conical socket with angled contact beams that provide a greater conductive surface area, resulting in reduced contact resistance and lower voltage drop. This design minimizes heat generation and allows for high-current-carrying capacity.

Compact Design
Coeur sockets are designed to maintain the same overall height regardless of pin size even as current rating increases, which makes them an ideal solution for high-density applications where space is limited.

Design Flexibility

Coeur sockets are available in four different pin sizes: 3.40 mm, 6.00 mm, 8.00mm and 11.00 mm, are capable of handling up to 1,000 V and 350.0 A and can be packaged in a variety of configurations.

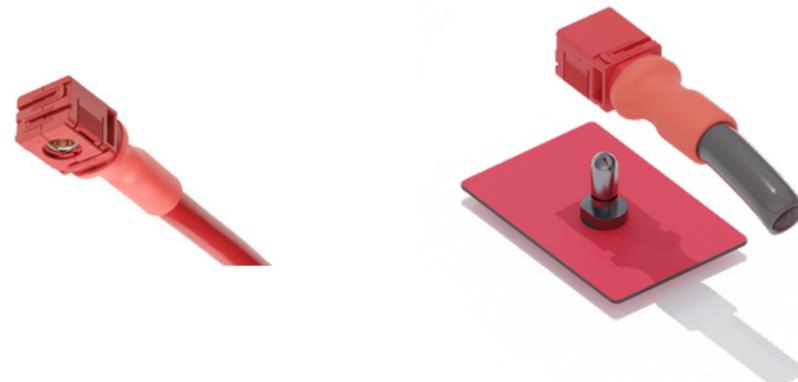
SW1 Wire-to-Board/Wire-to-Busbar Interconnects incorporate coeur socket technology, enabling a high-current-carrying capacity and feature a unique positive-locking design.

Features:

- Multiple contact beams with optimal current-carrying capacity provide low contact resistance, low voltage drop, and minimal heat generation at the contact interface.
- Positive-locking stainless steel spring clips help secure mating in applications subject to shock or vibration.
- Color-coded receptacle housings help to differentiate circuits to prevent mis-mating.
- Design flexibility via options for attaching pins to different substrates.
- Available in three sizes: 6.00 mm (120.0 A), 8.00mm (185.0 A) and 11.00 mm (300.0 A)

Orderable Part Number at arrow.com

- 2243561116



Applications:

- Energy Storage such as battery storage systems and power conditioning equipment.
- Industrial automation, including factory equipment and robotics.



Scan QR-Code to find more information on arrow.com



Omron G6QG: Smallest 480VAC/55A Power Relay

Omron's G6QG relay offers high-power switching in a compact design, supporting energy storage, PV Inverters.



In response to the increasing demand for high-power energy-related equipment, Omron has introduced the G6QG, the industry's smallest class PCB power relay capable of switching 480 VAC at 55 A. Designed for applications such as PV inverters and energy storage systems, this relay combines high capacity with a compact footprint, enabling miniaturization and efficiency in modern electrical systems.

Key Features:

Compact Design: The G6QG is the smallest PCB relay in its class, significantly reducing the footprint of power control units.

High Power Handling: Supports 480 VAC/55 A switching, making it suitable for heavy-duty applications.

Enhanced Safety: Features a 2 mm or greater contact gap, complying with IEC 62109 standards for PV inverters.

Low Heat Generation: Optimized internal structure minimizes heat buildup, improving energy efficiency and component longevity.

Versatile Integration: Compatible with single-phase and three-phase power supplies, broadening its application range.

Reliable Performance: Developed using Omron's heat dissipation technology to prevent excessive temperature rise during operation.

Applications:

1. PV Inverters:

The trend in commercial PV inverters is moving toward higher capacities, with systems expanding from 25 kW to 33 kW and beyond. The G6QG's compliance with IEC 62109 and its high-power handling make it an excellent choice for integrating into solar energy management systems. By combining powerful load-handling capabilities with a miniaturized design, the Omron G6QG relay is poised to transform the efficiency and integration of high-power electrical applications.

2. Energy Storage Systems:

With an increasing need for resilient power backup solutions, the G6QG helps ensure safe and reliable operation in home and commercial energy storage applications. Its ability to handle 50 A-class currents enhances the safety and performance of modern storage solutions.

3. Industrial Inverters:

Industries relying on three-phase power supply systems require compact, high-capacity relays for power management. The G6QG's small footprint and high load-switching capability make it an optimal choice for industrial control systems. By combining powerful load-handling capabilities with a miniaturized design, the Omron G6QG relay is poised to transform the efficiency and integration of high-power electrical applications.

Orderable Part Numbers at arrow.com

- G6QG1ADC12
- G6QG1ADC24



Scan QR-Code to find more information on arrow.com



New Low CxR PhotoMOS® Relay in WSSOP Package

Innovation Nonstop: Save space & energy with the new Miniature WSSOP PhotoMOS® Relay



Panasonic has recently introduced the latest PhotoMOS® relay in a compact WSSOP package, ideal for measurement, testing, and medical equipment. It belongs to the successful series of so-called Low CxR PhotoMOS®. AQY231R1WY (1Y) has an optimized, very low product of C and R of the output MOSFETs. The first relay of this series operates at 40 V, 350 mA, and is available in 1FormA contact arrangement.

PhotoMOS® Relays are increasingly used in various industrial applications due to their unique characteristics and advantages over traditional electromechanical relays. Here are some key features of the brand-new WSSOP relay:

- **New Compact Package:** WSSOP reduces the mounting area by 89 % compared to conventional products. This contributes to the miniaturization of equipment giving the customer the advantage to build more resources and be cost efficient.
- **High-temperature operation:** Guaranteed to operate at a maximum ambient temperature of +125 °C, the new PhotoMOS® relay is ideal for use in high-temperature environments like semiconductor testers and burn testers. For comparison, conventional relays are only able to handle up to +85 °C.
- **High sensitivity:** The current required to operate the WSSOP relay is only 1.0 mA, which is 1/3 of the 3.0mA required by the conventional product, demonstrating a reduction of 1/3 of the power consumption, which contributes to the energy saving of the equipment.
- **High-speed operation:** The WSSOP PhotoMOS® relay operates on Ton, typ. 0.025 ms; Toff Typ. 0.15 ms
- **High-frequency characteristics:** Most importantly, the PhotoMOS® HS WSSOP comes with excellent high-frequency characteristics enabling transmission without breaking high frequencies.

Chaitra Bhat Beedubail, Product Manager at Panasonic Industry Europe, comments: "With the new PhotoMOS® relay we have developed a product for our customers, which is offering a unique, miniature design without making any compromises in terms of performance. The relay is particularly suitable for a variety of applications in test equipment – such as IC tester, board tester, or probe cards – measurement equipment like Multimeters or multiplexers and medical equipment, for example, X-ray machines, ultrasonics, and CT scanners. We are excited to expand our PhotoMOS® family with this exciting new addition."

Orderable Part Numbers at arrow.com

- AQY231R1WY
- AQY231R1W1Y

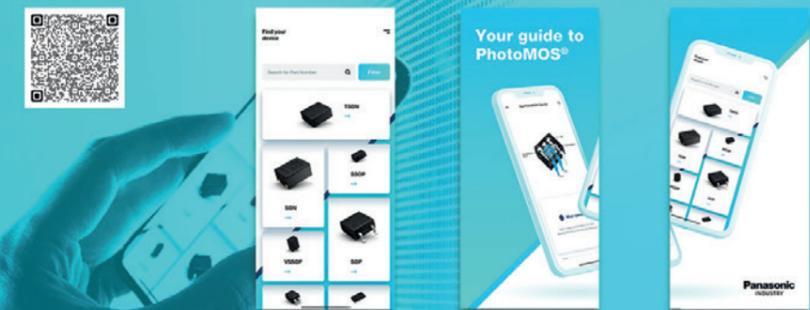
Applications:

- Test equipments
- Measurement equipment
- Medical equipment



Scan QR-Code to find more information on arrow.com

Download the free PhotoMOS App to find the relay that matches your design





Abrasion Protection for the EV Market

EV high-voltage cable protection. Flexible loom tubing & premium split braided sleeving for reliable performance and safety.

Manufacturers of Electric Vehicles require high-voltage cabling to be protected and identified appropriately. Panduit offers two product groups in the abrasion protection family that satisfy the demands of the Medium and Heavy-Duty Electric Vehicle market. Both Corrugated Loom Tubing and Split Braided Sleeving are desirable products that provide options to the EV manufacturer to accommodate different application requirements. These two abrasion protection products complement our offering of High Voltage Clamps, Corrugated Loom Tubing Clamps, and Range Taking Clamps that are also provided to this market.

Corrugated Loom Tubing

The Corrugated Loom Tubing product offering provides an economical tubing with a lengthwise slit that makes it easy to install over new or existing bundles of high-voltage cabling. The corrugated design allows flexibility to accommodate tight bends required at termination points. Corrugated Loom Clamps are available to help route and secure the tubing to provide an additional level of protection.

Key Features and Benefits

Nylon Material: Robust material that supports high levels of abrasion protection, UV exposure, and flammability resistance
Flammability Performance: Tested to UL94V-2 flammability standards

Orange Color: Highly visible color to allow easy identification of high voltage cabling

Wide Temperature Range: Suitable for -40 °F – 275 °F (-40 °C – 135 °C)



Split Braided Sleeving

The Split Braided Sleeving product offering provides a premium abrasion protection solution that is manufactured from a braided PET material that will not trap heat or moisture. The lengthwise slit overlaps by 25 % to assure appropriate coverage of the cable bundles over which it is installed. The Pan-Wrap™ Braided Sleeving is well suited for the challenging applications found in the Medium and Heavy-Duty Electric Vehicle Markets.

Key Features and Benefits

PET Material: Robust material that supports high levels of abrasion protection, UV exposure, and flammability resistance
Flammability Performance: Flame retardant according to automotive flammability standard SAEJ369

Orange Color: Highly visible color to allow easy identification of high voltage cabling

Wide Temperature Range: Suitable for -40 °F to 302 F (-40 °C – 150 °C)



Orderable Part Numbers at arrow.com

Corrugated Loom Tubing

- CLT50NFRUV-3
- CLT62NFRUV-3
- CLT75NFRUV-3
- + 13 more items available upon request

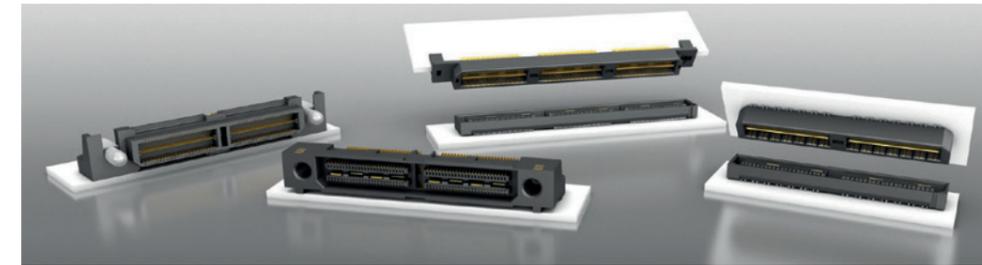
Split Braided Sleeving

- SE50PS-CLR3
- SE75PS-CR3
- SE100PS-CR3
- + 4 more sizes available upon request



Samtec Q Strip® ground plane connectors

Samtec Q Strip® high-speed ground plane connectors are ideal for board-to-board applications where signal integrity is vital



Modern high-speed connectors need to balance the demand for greater signal density while maintaining signal integrity. The Q Strip® ground plane connector from Samtec is a high-density solution for board-to-board applications that features an integral ground plane. The Q Strip is designed specifically for high-speed signals, allowing data rates of up to 28 Gigabits per second (Gbps).

The key feature of the Q Strip is the surface mount ground plane fitted between the two rows of signal contacts. It acts as a shield to significantly reduce the crosstalk between the contact rows, and it helps to reduce coupling between pins within the same row. It can also be used to deliver power.

The Blade and Beam contacts of the Q Strip connector can accommodate misalignment during mating. When fitted with the optional guide posts and alignment pins, these contacts provide the Q Strip connector with blind-mate capability.

With the demand for high-speed connectivity growing across a range of industries, from data centers to the latest autonomous mobile robots (AMR), the Q Strip from Samtec is optimised for minimal signal loss and maximum reliability.

Key Features

- Available in three different pitches: 0.50 mm, 0.635 mm and 0.80 mm
- When used for power, the integral ground plane delivers a current of up to 25 Amps
- Stacking heights available between 5 mm and 25 mm to provide the greatest flexibility for designers
- Circuit counts of between 40 and 180 signal pins, capable of delivering up to 60 differential pairs
- Multiple orientations, with right-angle and edge-mounted options available
- Compatible with mPOWER® micro power system to deliver the most flexible power and signal combination for your board

Orderable Part Numbers at arrow.com

- QSE-020-01-L-D-A
- QTE-020-01-L-D-A
- QTH-030-01-F-D-A
- QSH-030-01-F-D-A



Scan QR-Code to find more information on arrow.com



xEVCap, a standardized and modular DC link capacitor

Standardized modular DC link capacitor design for inverters in on- and off- highway vehicles of any size and in machinery tools

Main applications:

- DC link for main traction inverters in passenger cars, commercial and off-highway vehicles, machinery tools



The TDK xEVCap is a standardized and modular DC link capacitor design for powertrain inverters in passenger cars, commercial and off-highway vehicles, and machinery tools. Typically, such capacitor designs are fully customized, making the development time-consuming and practical only in large production volumes. In addition, if the customer requirements change during the project, it can further increase the time required for capacitor development and delay the overall project.

With the scalable and modular xEVCap, TDK helps inverter designers meet varying capacitance and current requirements at lower volumes while saving valuable time. This approach also reduces costs by utilizing standardized capacitor modules, minimizing the component variety that needs to be stocked. To meet different capacitance and current requirements, multiple xEVCaps can be easily connected in parallel. The complete capacitance range complies with the automotive standards AEC-Q200 rev. E and IEC TS 63337:2024.

The xEVCap is available in multiple different mechanical versions and voltage levels. The mechanical versions are 85 x 47 x 40.5 mm (L x W x H), 97.5 x 35.5 x 42.5 mm, and 109 x 47 x 40.5 mm. Corresponding with rated voltages, components for 500 V, 650 V, 850 V, and 920 V are available. Depending on the rated voltages, the capacitances range from 60 µF up to 270 µF. All xEVCaps are included in TDK's CLARA

(Capacitor Life And Rating Application) tool, which simulates the components electrically and thermally under different operating conditions. STEP files and SPICE models for the components are available for download.

For a limited time, the applied voltage can exceed the rated voltage. For example, the 850 V types can withstand 890 V for 100 hours at +105 °C and surge voltages of up to 1200 V. Rated currents range from 35 A to 60 A (at 10 kHz) with ESL values of 14 nH or 17 nH (at 1 MHz). The operating temperature range is -40 °C to +105 °C.

Main features and benefits

- Scalable and modular for different power levels and densities
- Compatible with wide-bandgap power semiconductors (SiC, GaN)
- Good self-healing properties
- Low ESR and low ESL
- Compliant to IEC TS 63337:2024 (all versions)
- Compliant to AEC-Q200 rev. E (lead wire versions)

Orderable Part Numbers at arrow.com

- B25654A5207K 1
- B25654A5277K 1
- B25654A6117K 1
- B25654A6137K 1
- B25654A6177K 1
- B25654A8107K 1
- B25654A8137K 1
- B25654A9606K 1
- B25654A9756K 1
- B25654A9117K 1
- B25654A8806K 1

Low Profile-High performance, EMC/RFI filters

Single-Phase Filters FN2500

Low Profile-High performance, EMC/RFI filters, Single-Phase Filters FN2500. Excellent EMC filter for robotics, datacenters, and a variety of other applications.

Single-Phase Filters FN2500 has Fast-on, wire leads, bolt and clamps available terminals. Voltage rating up to 277 VAC / 400 VDC. Fits within 1 height unit (HU) of a 19" rack application and 50 °C operating temperature.

Features and Benefits

- FN2500 / FN2520 series fits perfectly within 1HU height for rack mount.
- The filters are built to perform perfectly in data centers and audio-video equipment.
- The shape allows convenient and space-saving installation.
- Fulfills the requirements in IEC/EN 62040-1 - Uninterruptible power systems (UPS).
- Fulfills the requirements in IEC 62368-1 - Audio/Video, Information and Communication Technology Equipment.
- Fulfills the requirements in IEC/EN 60335-1 - Household and similar appliances.

We invite you to discover more about Single-Phase Filters FN2500 and the broad portfolio of filters that Schaffner is now part of TE Connectivity has to offer.



Typical Applications:

- Datacenter (at 400 VDC)
- Building technology with DC power distribution
- Robotics, collaborative robots, autonomous machines
- Audio and video equipment
- UPS – Uninterruptible power supplies



Scan QR-Code to find more information on arrow.com

Orderable Series at arrow.com

- FN2500-25-103-C13
- FN2500-32-103-C13
- FN2500-20-103-C13
- FN2500-15-08-C13
- FN2500-20-08-C13
- FN2500-15-07-C13
- FN2500-10-08-C13
- FN2500-25-08-C13
- FN2500-10-05-C13
- FN2500-32-08-C13



Optimized Power Supply Performance with Film Paper Capacitors from Yageo/Kemet

Key Features:

- Safe Failure Mode – No risk of short circuit failure
- Automotive Grade (AEC-Q200) – Ensuring reliability in automotive and industrial environments
- High dV/dt & Impulse Voltage (1,200 V/μs) – Withstands rapid voltage changes
- High Vibration Resistance – Qualified to IEC 60068 2-6/2-27
- THB Grade IIB Qualified – 85 °C, 85% RH, 500 hours
- Pb-Free Reflow Compatible & RoHS Compliant – Meets modern environmental standards



Scan QR-Code to find more information on arrow.com

Power supplies demand compact, high-reliability components to meet the evolving needs of industrial, automotive, and consumer applications. Film paper capacitors offer an advanced solution, delivering superior performance while addressing key design challenges.

Why Choose Film Paper Capacitors for Power Supplies?

Reduced Size & Height

Compared to traditional radial capacitors, film paper capacitors provide a lower profile, making them ideal for space-constrained power supply designs. Their compact form factor enables optimized PCB layouts without compromising performance.

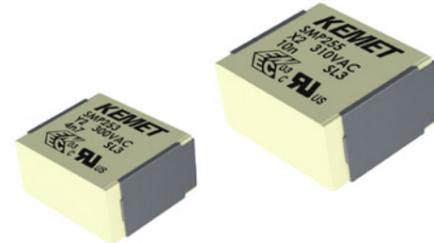
High Reliability

Designed for demanding applications, film paper capacitors exhibit long operational life and withstand harsh conditions, ensuring stable capacitance and minimal degradation over time. This makes them a dependable choice for critical power applications.

Fail-Safe Operation

With an inherent self-healing capability and no risk of short circuit failure, these capacitors enhance power supply safety, reducing the potential for catastrophic failures such as fire or electric shock hazards.

By integrating film paper capacitors, engineers can achieve higher efficiency, improved safety, and a reduced PCB footprint, making them an essential choice for next-generation power supply solutions.



The SMP255 is a robust surface-mount film capacitor, designed for high-performance power supply and industrial applications where safety, reliability, and long-term stability are critical. With a capacitance range of 10 nF to 150 nF and a rated voltage of 310 VAC (630 VDC max), it provides excellent durability under demanding conditions.

The SMP255 is an ideal choice for compact, reliable, and high-performance power supply designs, ensuring safe operation and long life in automotive, industrial, and high-voltage applications.



Scan the QR code to download the factsheet on SMP253



Scan the QR code to download the factsheet on SMP255



Get your optimized power supply solutions from Yageo Pulse EGSTON

As leading specialist for power supplies with over 30 years of experience, YAGEO PULSE EGSTON offers high quality AC/DC power supplies, with an unmatched degree of flexibility. Based upon of customers ideas and requirements we develop individual solutions or make state-of-the-art platform concepts within a power range of 3 to 1000 W to guarantee the highest level of flexibility and cost effectiveness. Our products are approved in accordance with the standards applicable to IT & office, household and medical technology.

Individual customer solutions

We offer modified standard products through to completely customized solutions. Leverage our design experience and production technology for your product. We offer our customers in-house toolmaking and injection molding for custom housings, as well as vacuum potting capabilities.

Built in potted flush mount box

available in cable, terminal or solder pin format. Minimal installation dimensions make it ideally suited for installation inside in-wall boxes. Highly moisture and temperature resistant.

Open frame solutions

approved in accordance with the standards applicable to IT & office, household and medical technology.

Battery chargers

Suitable for charging of Lead/NiMh/ Lilon/LiPo batteries. Available with fixed or interchangeable primary plugs or as desktop version. The software is tailored to the battery according to customer requirements

Wall mount / table top

available with fixed or interchangeable primary plugs or as desktop version. A broad selection of different secondary connectors is available as well as optional features like current limitation.



Scan QR-Code to find more information on yageogroup.com

Power Supply Product Portfolio	PRODUCT DESCRIPTION		
	STANDARD	BESPOKE	
	Built In - Potted Flush Mount Box	6 - 30W	up to 60W
	Open Frame	5 - 150W	up to 1000W
	Battery Charger	12 - 30W	up to 60W
	Wall Mount / Table - Top	12 - 72W	up to 450W



ZF offers Products for Multiple Markets

ZF Switches & Sensing Solution Offers Products for Diverse Markets and Applications

Typical Applications:

Switches:

- White Goods / Household Applications
- Linear Drives

Sensors:

- Electric drives
- Gear selection / shifting position

Energy Harvesting:

- Smart Home / Building Automation
- Industrial Automation

Microswitches from ZF have a long tradition. In 2008 the German company ZF acquired Cherry Corp. which was founded in 1953. Since then, the former Cherry switches and sensor components continue to thrive under the umbrella of ZF Group with HQ in Friedrichshafen. The product range has been systematically expanding beyond microswitches and now includes energy-harvesting technology and a broad range of sensors.

ZF's snap action microswitches are synonymous with quality, precision, and reliability. The range includes miniature and subminiature switches but also rocker and pushbutton switches. The switches can be found in a wide range of applications and markets such as household appliances, white goods, power tools, and industrial applications.

ZF extended the switch portfolio with a battery-free and wireless switch – the energy harvesting generator – based on the inductive principle. This generator creates energy by the mechanical actuation of a switch mechanism. The created energy is used to transmit RF commands to a paired receiver. As a wireless solution, it guarantees flexibility and the possibility to retrofit easily according to individual requirements. The ZF energy harvesting generator is available as a momentary and bistable version and must be connected to a designed radio communication PCB. Various RF standards can be used for transmission, such as KNX-RF®, EnOcean®, Bluetooth® Low Energy, right up to customer-specific requirements.

The third product group completing the portfolio, ZF Switches & Sensing Solution are hall and reed sensors delivering unmatched performance and reliability across multiple markets. The LIN series for linear position measurements and the ANG series for angular position measurements are non-contact position sensors with one or two independent outputs. They are suitable for applications such as hydraulic valves, hydraulic controls, electric drives, pneumatic controls, and others. Some angular versions from ZF are also available as a kit consisting of a sensor and a corresponding magnet (e.g. CU103601). Besides the LIN and ANG series, the ZF sensor portfolio includes Hall effect sensors for speed and direction detection which can be used for example in electric drives or automation systems as well as magnetic proximity sensors used as limit switches or to detect door positions.

Orderable Parts at arrow.com

- DC2C-A1AA
- CU103601
- AFIG-0007
- DB3C-C1AA
- D459-B8LD

These are only exemplary part numbers. Our complete listed product range can be found online.



Scan QR-Code to find more information on zf.com



	Markets																	Power Supply							
	Consumer	Industrial	Medical	Automation	Test & Measurement	Telecom	Broadcasting	Gaming	Security	Harsh Environments	Defense	Aerospace	Avionics	Railway	Automotive	Lighting	eMobility	Networking	Datacenter	IOT	Renewable Energy	AC/DC	DC/DC	LED Driver	
Absopulse																									
Advanced Energy ²																									
Aimtec																									
Arrow VAS																									
Bel Power Solutions ³																									
Cincon																									
Cosel ⁶																									
CUI Inc ³																									
Delta Electronics																									
Egston/Yageo Pulse ⁵																									
EOS Power ³																									
FSP Power ⁴																									
Gaia ⁵																									
Mean Well																									
Moons																									
Murata																									
Myrra																									
OmniOn																									
Recom																									
SL Power																									
TDK-Lambda																									
Traco Power																									
Vicor																									

¹GE Critical Power, Lineage ²Artesyn, Excelsys, Ultravolt ³Acquired by Bel Power ⁴3Y Power Technology, Protek Power ⁵Only in some regions ⁶Including Powerbox





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Five Years Out