

An aerial view of a city, likely London, with a network diagram overlay. The diagram consists of several white arcs connecting nodes, and two large green chevrons pointing downwards. The city is shown in a blue-tinted, semi-transparent style.

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ABACUS

NEW PRODUCT INTRODUCTIONS  
FROM AVNET ABACUS: AUTUMN 2022

# / NPI SOLUTIONS

Welcome to the NPI brochure from Avnet Abacus, our round up of the latest product and technology innovations to enhance your design.

Click on the view full product details button for further information and datasheets.

## Featured manufacturers



AVNET<sup>®</sup> ABACUS

For more information about any of the new products featured here, contact one of our technical specialists in your local language at [avnet-abacus.eu/ask-an-expert](https://www.avnet-abacus.eu/ask-an-expert)

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## BOURNS SEMICONDUCTOR CLASS AR POWER FUSE



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Bourns POWrFuse high-power fuse product line is pleased to announce two new series of POWrFuse™ high-power fuse product families, which are high power rating industrial fuselinks designed to the UL 248-13 standard.

The new model PF-F and PF-M high-speed fuse series are specially designed to meet the UL 248-13 semiconductor (aR) standard to help protect sensitive power semiconductor devices against overcurrent events. These new series are intended for use in a variety of power inverters, converters, rectifiers, AD-DC drives, UPS systems and reduced voltage motor starters.

Bourns® POWrFuse™ high-power fuses are RoHS compliant\* and halogen free\*\*

### Features

- Designed to UL 248-13 semiconductor class aR fuse standards
- Operating temperature range: -55 to +125°C
- Bolt mounting
- RoHS compliant\* and halogen free\*\*
- Agency recognition

### Applications

- Energy storage systems
- Battery disconnect units (BDUs)
- Battery module protection

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less. "POWrFuse" is a trademark of Bourns, Inc.

## BOURNS SRN3015C SERIES SEMI-SHIELDED POWER INDUCTOR



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Effective immediately, Bourns magnetics product line is introducing the new model SRN3015C series Semi-shielded power inductor. Constructed with a magnetic-silica coating to the perimeter of the inductor winding to provide effective shielding, these inductors release lower magnetic field radiation compared to non-shielded inductors. These new semi-shielded inductors are lower priced than typical comparably-sized conventional ferrite shielded inductors.

The model SRN3015C series has an operating temperature range from -55 to +125°C that is well suited for DC-DC converters and power supplies in consumer, industrial and telecom applications.

The model SRN3015C series can be the alternate selection to the model SRN3015 Semi-shielded inductor series. Note the form, fit and function of the alternate inductors are not identical to the model SRN3015 inductors. However, the specifications of the model SRN3015C are likely to be substitutable for typical applications of the model SRN3015 series. As with any alternative replacements, we highly recommend that customers test the possible alternative in their specific applications for verification of satisfactory performance.

### Features

- Semi-shielded construction
- Miniature size
- RoHS compliant\* and halogen free\*

### Applications

- DC-DC converters
- Power supplies in consumer, industrial, and telecom electronics

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS PFB SERIES POWER LINE COMMUNICATION (PLC) TRANSFORMERS



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Bourns custom magnetics product line is introducing the new model PFB power line communication transformer series. Bourns offers two part numbers for the PFB series – PFBR45-ST13150S as a standard PLC transformer and PFBR45-SP13150S as an extended transformer. The table below identifies key differences between the two part numbers.

In today's world, smart cities and homes need intelligent control technology and the best energy-saving solutions. These needs have led to the rapid increase of telecommunication systems that are efficient, reliable and cost-effective, making PLC technology a desirable option.

The primary inductance of the PFB series is 1mH for the standard version and 1.15mH for the extended version. The leakage inductance for both versions is 1.5µH typ. (2µH max.) and 1.3µH max., respectively.

The model PFBR45-ST13150S is designed for functional insulation for a working voltage of 400VDC, while the extended version, model PFBR45-SP13150S, is designed for reinforced insulation with a working voltage of 400VDC. The interwinding capacitance of both parts is up to 30pF and the operating temperature range of the model PFB series (including self-temperature rise) is from -40°C to +125°C.

The model PFB Series is designed for the ST Micro 8500PLC system-on-chip (SoC) and has excellent transmission characteristics. This series is ideal for diverse applications such as smart grid, automatic meter reading (e.g., energy, gas and water meters), PC home network systems, street lighting systems, home automation systems and CCTV cameras. Both models are RoHS compliant\*.

Samples and production quantities are now available.

### Features

- Excellent transmission characteristics
- Compact SMT housing
- Designed for functional insulation with a working voltage of 400VDC (PFBR45-ST) or reinforced insulation with a working voltage of 400VDC (PFBR45-SP)
- Designed for ST Micro 8500 PLC system-on-chip (SoC)
- Complies with EN 62368 and EN 61885
- RoHS compliant\*

### Applications

- Smart grids
- Automatic meter reading – energy, gas and water
- PC home network systems
- Street lighting systems
- Home automation systems
- CCTV cameras

## BOURNS SM91502ALA SERIES AEC-Q200 COMPLIANT BMS (BATTERY MANAGEMENT SYSTEM) SIGNAL TRANSFORMER



[VIEW PRODUCT DETAILS](#) 

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Bourns is introducing the model SM91502ALA AEC-Q200 compliant BMS signal transformer. This single channel functional insulation transformer includes common mode chokes for noise rejection in BMS applications.

The model SM91502ALA was developed for use with Analog Device's LTC6804-1/681X, NXP's MC33771/33772 and Texas Instruments' BQ79616. This new model utilizes a higher level of automation in the pin winding process to enhance product quality and production efficiency.

This BMS transformer offers a working voltage of up to 1000VDC and a Hi-PoT isolation voltage up to 4300VDC with an extended operating temperature range of -40°C to +125°C.

### Features

- First pin-to-termination
- Up to 1000 VDC working voltage and Hi-Pot up to 4300VDC
- Supports serial daisy chain/IsoSPI communication
- Developed for use with Analog Device's LTC6804-1/681X, NXP's MC33771/33772 and Texas Instruments' BQ79616
- Extended temperature range: -40°C to +125°C
- RoHS compliant\* and halogenfree\*\*
- AEC-Q200 compliant
- Automotive grade

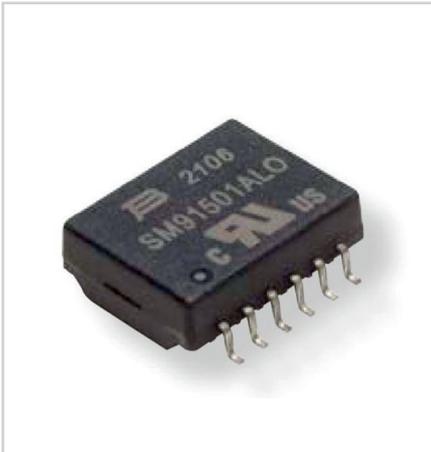
### Applications

- Battery management systems
- Energy storage systems

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SM91501ALO SERIES AEC-Q200 COMPLIANT BMS SIGNAL TRANSFORMER



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Bourns is introducing an additional BMS signal transformer, model SM91501ALO. This dual-channel isolation transformer module includes common mode chokes for noise rejection in BMS applications. The model SM91501ALO was developed for use with Analog Device's LTC6804-1/681X, NXP's MC33771/ 33772 and Texas Instruments' BQ79616 and is UL recognized and AEC-Q200 compliant.

This BMS transformer offers a 1600VDC working voltage and a 4300VDC Hi-PoT isolation voltage with an extended operating temperature range of -40°C to +125°C.

### Features

- 1600VDC working voltage and 430VDC Hi-Pot isolation voltage
- Supports serial daisy chain/IsoSPI communication
- UL recognized per UL 62368-1, File No. E515965
- Withstanding impulse voltage up to 8kV, 1.2/50  $\mu$ s
- Expanded temperature range: -40°C to +125°C
- RoHS compliant\* and halogen free\*\*
- AEC-Q200 compliant
- Automotive grade

### Applications

- Battery management systems
- Energy storage systems

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SRN6045HA SERIES AUTOMOTIVE GRADE SEMI-SHIELDED POWER INDUCTORS



[VIEW PRODUCT DETAILS](#) 

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Bourns is introducing the automotive grade model SRN6045HA series semi-shielded high temperature power inductors. Constructed with a magnetic silicon coating to the perimeter of the inductor winding to provide effective shielding, these inductors release lower magnetic field radiation compared to non-shielded inductors. The new products are a more cost-efficient alternative to fully shielded ferrite based inductors, additionally offering high temperature operation compared to standard semi-shielded inductors.

The new Model SRN6045HA series is AEC-Q200 compliant with a high operating temperature range of -55°C to +150°C and is well suited for DC-DC converters and power supplies in automotive, consumer, industrial and telecom electronics applications in which higher inductor reliability may be required.

### Features

- Semi-shielded construction
- High operating temperature
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*
- Automotive grade
- Applications
- DC-DC converters
- Power supplies in consumer, industrial, and telecom electronics

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS PAD00X-T764 SERIES INDUSTRIAL PUSH-PULL ISOLATION TRANSFORMERS



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The Bourns is introducing the new model PAD00x-T764 push-pull isolation transformer series. The model PAD00x-T764 series are low profile, small footprint isolation transformers, with a primary inductance of 475µH, maximum 11V-µS, 400VDC continuous operation, low DC resistance of 550mΩ~800mΩ maximum, and an operating temperature range of -40°C to +125°C.

Each transformer in the series is ideal for an isolated RS-485/RS-232 power supply. In addition, the isolation transformers are ideal for any serial communication including CAN, RS-485, RS-422, RS-232, SPI, I2C and low powered LAN. The transformers operate in the push-pull configuration and they work well with many controllers including the TI SN6501 and SN6505, the Maxim MAX253 and MAX845, Analog Devices ADM2485 and other equivalent drivers. These models are ideal for use in various applications, including industrial automation, AC motor drives, smart metering, solar inverters, and more.

The model PAD00x-T764 series push-pull isolation transformers are designed for a 400VDC continuous working voltage and comply with IEC 62368. They are RoHS\* and REACH compliant.

### Features

- Low profile and small size
- Designed to comply with IEC 62368
- Functional insulation for 400 Vrms continuous operating voltage
- Operating temperature: -40°C to +125°C
- RoHS compliant\*

### Applications

- Isolated RS-485/RS-232 power supplies
- Industrial automation
- AC motor drives
- Smart metering
- Solar inverters

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

## BOURNS SM13143EL SERIES DUAL-PORT LAN 10/100/1000 BASE-T POE++ TRANSFORMER



[VIEW PRODUCT DETAILS](#) 

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Bourns is introducing the new Model SM13143EL Dual-Port LAN 10/100/1000 Base-T PoE++ transformer for Ethernet applications. This LAN transformer is IEEE 802.3bt Type 3 4PPoE compliant and PoE++ capable of up to 60W with 700mA DC balance current to support each channel, or 1400mA DC balance current to support full channels. The transformer's operating temperature range is from -0°C to +70°C with 1.5kVrms isolation voltage.

### Features

- Compliant with IEEE 802.3bt Type 3 4PPoE Standards
- Dual-port
- 10/100/1000 Base-T PoE++
- RoHS compliant\*

### Applications

- Ethernet PoE++

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

# PASSIVE

## BOURNS SRP2010TMA, SRP2012TMA, SRP2510TMA, SRP2512TMA AND SRP3212A SERIES HIGH CURRENT SHIELDED POWER INDUCTORS



[VIEW PRODUCT DETAILS](#)

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Bourns Magnetics product line is introducing the all new mini-molding model SRP2010TMA, SRP2012TMA, SRP2510TMA, SRP2512TMA and SRP3212A series high current shielded power inductors which are compact and low profile at 0.8mm and 1mm in height. These inductors are manufactured by a newly-developed molding process with metal alloy powder cores featuring high saturation currents, high heating currents and shielded construction for low magnetic field radiation. The flat wire construction helps to reduce the DCR significantly compared to other similar sized devices, and makes these new series of parts highly efficient. These inductor series are AEC-Q200 compliant with operating temperatures up to +150°C. The small footprint and low profile features of these inductors make them good choices for applications in wearable devices, HDDs, SSDs, smartphones and LCD displays.

### Features

- Compact size
- Shielded construction
- Low radiation
- High saturation and high heating current
- Flat wire
- Low DCR
- Wide operating temperature range
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

### Applications

- DC-DC converters in consumer, industrial and telecom electronics
- Wearable devices
- HDDs, SSDs
- Smartphones
- LCD displays

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less

## BOURNS HCTSM100304FL AND HCTSM150102HL HIGH CLEARANCE/CREEPAGE DISTANCE ISOLATION POWER TRANSFORMERS



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Bourns Magnetics product line is introducing the new model HCTSM100304FL and HCTSM150102HL high clearance/creepage distance isolation power transformers. These high voltage isolation transformers are driven by 3.3V to 5V input and deliver 3.3V to 15V up to 350mA output and can be configured in a variety of turns ratios if needed.

The transformers are designed to support isolated interface power for CAN, RS-485, RS-422, RS-232, SPI, I2C, lower power LANs in a range of applications such as Industry 4.0 and most applications that require isolation from potentially hazardous voltages (e.g., from a high voltage battery especially inside a 1500V energy storage system).

The model HCTSM150102HL is built with a ferrite toroid core for high coupling factor and efficiency. The reinforced isolation, 15mm minimum clearance/creepage distance and 7.64kV @ 2 seconds withstanding voltage provide an elevated degree of isolation from high voltage hazards.

The model HCTSM100304FL is also built with a ferrite toroid core for a high coupling factor and efficiency. The reinforced isolation, 8mm minimum clearance/creepage distance, and 4.2kV @ 60 seconds withstanding voltage provide an elevated degree of isolation from high voltage hazards.

Both of the transformers are designed for isolation power supplies using Texas instruments model SN6501 and SN6505B transformer drivers. The model HCTSM100304FL is compliant with IEC 60664-1 and IEC 62368-1 standards and the model HCTSM150102HL is compliant with IEC 60950-1 and IEC 62368-1 standards.

### Features

#### HCTSM100304FL series

- Low profile (7.5mm) housing with >10 mm clearance and creepage
- Complies with IEC 60950-1 and IEC 62368-1 standards
- Reinforced insulation for working voltage of 800V
- Designed for isolation power supplies using TI SN6501 and SN6505B transformer drivers
- RoHS compliant\*

#### HCTSM150102HL series

- >15 mm clearance and creepage
- Complies with IEC 60664-1 and IEC 62368-1 standards
- Reinforced insulation for working voltage of 1500V
- Designed for isolation power supplies using TI SN6501 and SN6505B transformer drivers
- Partial discharge test: 2250Vrms
- UL recognized per UL 62368-1, File No. E515965 z
- RoHS compliant\*

### Applications

#### HCTSM100304FL series

- RS-485
- CAN interface digital input module
- RS-232 isolation

### Applications

#### HCTSM150102HL series

- RS-485
- CAN interface digital input module
- RS-232 isolation

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex

## BOURNS SM91602L LAN GIGABIT ETHERNET TRANSFORMER



Bourns Magnetics product line introduces the model SM91602L LAN gigabit ethernet transformer. This new single-port gigabit ethernet isolation transformer includes common mode chokes for noise rejection for Ethernet applications and is designed to meet gigabit ethernet communication requirements with reinforced insulation. The model SM91602L LAN transformer offers 4680VDC isolation voltage/500V working voltage/reinforced insulation and an extended operating temperature range of 0°C to +85°C.

### Features

- Designed to meet gigabit Ethernet
- Reinforced insulation per IEC 60664-1 and IEC 62368-1 requirements
- 500V working voltage; creepage distance 5mm min., clearance distance 5mm min.
- Expanded temperature range: 0°C to +85 °C
- RoHS compliant\*

### Applications

- Industrial 4.0
- White goods

[VIEW PRODUCT DETAILS](#) 

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex

[BUY NOW](#) 

## BOURNS SRP7020TA AND SRP8540A SERIES AUTOMOTIVE GRADE HIGH CURRENT SHIELDED POWER INDUCTORS



Bourns is introducing the new automotive grade Model SRP7020TA and SRP8540A series high current shielded power Inductors that have been designed to meet today's high current density and high temperature requirements of various electronic applications. These inductor series are manufactured with a metal alloy powder core featuring low DC resistance, high heating/saturation current, low buzz noise, excellent temperature stability and shielded construction for low magnetic field radiation.

The model SRP7020TA and SRP8540A series are AEC-Q200 compliant with a wide operating temperature range from -55°C to +150°C and are well suited for DC-DC converters and power supplies in consumer, industrial, and telecom electronics applications in which higher inductor reliability may be required.

### Features

- Shielded construction
- Metal alloy powder core
- High saturation current
- Low buzz noise
- AEC-Q200 compliant
- RoHS compliant\* and halogefree\*\*

### Applications

- DC-DC converters
- Power supplies iconsumer, industrial and telecom electronics

[VIEW PRODUCT DETAILS](#) 

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\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SRF7035A SERIES AUTOMOTIVE GRADE HIGH CURRENT COMMON MODE CHOKES



[VIEW PRODUCT DETAILS](#) 

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Bourns is releasing the new automotive grade model SRF7035A Series high current common mode chokes that offer a compact size and high impedance over a broad frequency range to suppress Electromagnetic Interference (EMI) coming into or leaving the system.

The windings of the model SRF7035A Series common mode chokes have a sector-wound configuration. In addition to the normal common mode impedance that it is designed to achieve, this construction also features increased differential mode impedance at the high frequency range. The Model SRF7035A Series provides not only common mode but also differential mode filtering in a single choke configuration. The operating temperature range is from -40°C to +125°C.

These high current common mode chokes are AEC-Q200 compliant and ideal for use in DC-DC converters, switch-mode power supplies and power system noise suppression in consumer, industrial and other electronics.

### Features

- Shielded construction low radiation
- Separated winding
- High current
- Compact size
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

### Applications

- Noise filters - DC power lines
- EMI suppressio- DC power lines

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SM453229 CHIP LAN TRANSFORMERS AND COMMON MODE CHIP INDUCTORS



[VIEW PRODUCT DETAILS](#) 

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Bourns SM453229 chip LAN transformers and common mode chip Inductors are ideal for use in LAN interfaces for a variety of telecommunication and network devices. Model SM453229-231N7Y and SM453229-381N7Y chip LAN 10/100/1000 Base-T transformers are a discrete, center-tapped component wound on a drum core and capped with a ferrite plate to emulate the result of the close magnetic path of a toroid core. The model SRF2012A-801Y common mode chip inductor pairs with the chip LAN transformer to provide EMI suppression. SM453229-231N7Y and SM453229-381N7Y are compliant with IEEE 802.3 and SM453229-231N7Y is PoE+ capable.

### Features

#### SM453229-231N7Y

- IEEE 802.3 Ethernet compatible
- Discrete transformers and common mode chokes for flexible PCB layout
- PoE+
- Pair with common mode choke SRF2012A-801Y for EMI reduction
- Expanded temperature range: -40°C to +85°C
- RoHS compliant

#### SM453229-381N7Y

- IEEE 802.3 Ethernet compatible
- Discrete transformers and common mode chokes for flexible PCB layout
- Pair with common mode choke SRF2012A-801Y for EMI reduction
- Expanded temperature range: -40°C to +85°C
- RoHS compliant
- Pair with common mode choke SRF2012A-801Y for EMI reduction
- Expanded temperature range: -40°C to +85°C
- RoHS compliant

## BOURNS SRP1038WA & SRP1265WA SERIES AUTOMOTIVE GRADE HIGH CURRENT SHIELDED PPOWER INDUCTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Bourns is introducing the new automotive grade SRP1038WA and SRP1265WA series high current shielded power Inductors that are designed to meet today's high current density, high temperature requirements and harsh vibration operating environments of various electronic applications. These two inductor series are constructed with a wider side terminal frame to withstand 15G typical and 30G peak vibration. They are also manufactured with a metal alloy powder core featuring low DC resistance, high saturation current, low buzz noise, excellent temperature stability and shielded construction for low magnetic field radiation.

The Model SRP1038WA and SRP1265WA series are AEC-Q200 compliant with an operating temperature range of -55°C to +165°C and are well suited for DC-DC converters and power supplies in consumer, industrial, and telecom electronics applications in which higher inductor reliability may be required.

### Features

- Shielded construction
- Metal alloy powder core
- High saturatiocurrent
- Wide side terminal to enhance mechanical strength
- High vibratioresistance (15G typical, 30G peak)
- High operating temperature
- Low buzz noise
- AEC-Q200 compliant
- RoHS compliant\* and halogefree\*\*
- Automotive grade

### Applications

- DC-DC converters and power supplies in consumer, industrial, and telecom electronics

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS MF-LSMF SERIES HIGH POWER PPTC RESETTABLE FUSES



[VIEW PRODUCT DETAILS](#) 

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The Bourns is pleased to announce the expansion of its model MF-LSMF series high power surface mount polymeric positive temperature coefficient (PPTC) resettable fuses. The new models expand the hold current range to 0.75A to 6.0A with maximum voltages of 6VDC to 33VDC and twenty options available. The latest MF-LSMF model family utilizes Bourns' innovative freeXpansion™ design to increase the performance of the resettable fuse with higher hold currents (Ihold), higher voltages (Vmax), improved resistance stability, and smaller footprints. The primary applications for these products include Li-ion battery packs, low voltage telecom equipment, motherboards, and portable consumer electronics protection. These devices have been designed to protect against both overcurrent and overtemperature events within the designated product specifications.

### Features

- Multifuse® freeXpansion™ design
- Higher voltage (Vmax): up to 33VDC
- Higher current (Ihold): up to 6A
- Footprint: 7451mm (2920mils) package
- RoHS compliant\* and halogefree\*\*

### Applications

- Overcurrent and thermal protectiofor:
- Low voltage telecom equipment
- Li-ion battery pack charging
- PC motherboards
- Game consoles
- Portable consumer electronics

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SRP2010DPA SERIES AEC-Q200 COMPLIANT HIGH CURRENT SHIELDED POWER INDUCTORS



[VIEW PRODUCT DETAILS](#) 

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Bourns is introducing the new model SRP2010DPA series high current shielded power inductors with a compact and low profile design and a 1mm maximum height. These inductors are manufactured with a metal alloy powder core featuring high saturation current and shielded construction for low magnetic field radiation.

The model SRP2010DPA series is AEC-Q200 compliant with a wide operating temperature range from -40°C to +125°C. The low profile feature of these inductors makes them well suited for applications in wearable devices, HDDs, SSDs, smartphones and LCD displays.

### Features

- Shielded construction for low radiation
- Metal alloy powder core for high saturation current
- AEC-Q200 compliant
- RoHS compliant\* and halogen free\*\*

### Applications

- Wearable devices
- HDDs
- SSDs
- Smartphones
- LCD displays

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SM453230-121N7YP AND SM453230-231N7YP SERIES GIGABIT ETHERNET/POE+ CHIP-LAN TRANSFORMERS



[VIEW PRODUCT DETAILS](#) 

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Bourns Magnetics Product Line is introducing the new Model SM453230-121N7YP Gigabit Ethernet / PoE+ Chip LAN 1G/2.5G/5G and Model SM453230-231N7YP Gigabit Ethernet / PoE+ Chip-LAN 10G Base-T Transformers. Unlike traditional LAN magnetics built with multiple toroidal core transformers and common mode chokes in a single module, the chip-LAN transformer is a discrete, center-tapped component wound on a drum core and capped with a ferrite plate to emulate the result of the close magnetic path of a toroid core. A common mode chip inductor is paired with a chip-LAN transformer to provide EMI suppression. The discrete transformer / common mode chip inductor arrangement offers a high degree of flexibility in a PCB layout.

The Model SM453230-121N7YP and Model SM453230-231N7YP Gigabit Ethernet Chip-LAN Transformers are IEEE 802.3 Ethernet compatible and PoE+ (700 mA) capable, with an expanded operating temperature range of -40 to +85 °C. They are ideal for use in LAN interfaces for a variety of high-speed telecommunication and network devices.

### Features

- IEEE 802.3 ethernet compatible
- Compatible with 1G/2.5G/5G/10G Base-T
- PoE+ capable
- Discrete transformers and common mode chip inductors for flexible PCB layout
- Pairing common mode chip inductors for EMI reduction
- Expanded temperature range: -40 to +85 °C
- RoHS compliant\* and halogen free\*\*

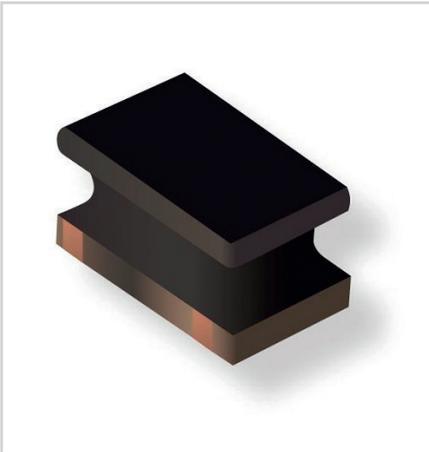
### Applications

- High speed telecommunication and network devices

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SRN2012T SERIES SEMI-SHIELDED POWER INDUCTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Bourns is introducing the model SRN2012T series semi-shielded power inductors. Constructed with a magnetic-epoxy coating to the perimeter of the inductor winding to provide enhanced shielding, these inductors release a lower level of magnetic field radiation compared to non-shielded inductors and offer high inductance, high Q, high self-resonant frequency and low DCR in a compact size. The inductor operating temperature range is -40°C to +125°C. These inductors are ideal for use in RF signal processing, resonant circuits, decoupling and noise filters and low current DC power lines as well as for audio headsets, cable modems, set-top boxes, hard disk drives, tablets and various mobile electronic devices.

### Features

- Semi-shielded construction
- Miniature size
- High Q value
- High self-resonant frequency
- Low DCR
- RoHS compliant\* and halogen free\*\*

### Applications

- RF signal processing
- Resonant circuits
- Decoupling and noise filters for audio headsets
- Cable modems
- Set-top boxes
- Hard disk drives
- Tablets
- Various mobile electronic devices

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS CWF1610 SERIES CHIP INDUCTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Bourns is introducing the model CWF1610 and model CW2414 series chip inductors. These new inductors feature wirewound construction on a ferrite core which offers high inductance, high Q, high self-resonant frequency and low DCR in a compact size with an operating temperature range of -40 to +125 °C. The inductors are ideal for use in RF signal processing, resonant circuits, decoupling, noise filters and low current DC power lines, as well as for audio headsets, cable modems, set-top boxes, hard disk drives, tablets and various mobile electronic devices.

### Features

- Miniature size
- High Q value
- High self-resonant frequency
- Low DCR
- RoHS compliant\* and halogen free\*\*

### Applications

- RF signal processing
- Resonant circuits
- Decoupling
- Noise filters
- Low current DC power lines
- Audio headsets
- Cable modems
- Set-top boxes
- Hard disk drives
- Tablets
- Various mobile electronic devices

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS CWF2414 SERIES CHIP INDUCTORS



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

Bourns is introducing the model CWF1610 and model CW2414 series chip inductors. These new inductors feature wirewound construction on a ferrite core which offers high inductance, high Q, high self-resonant frequency and low DCR in a compact size with an operating temperature range of -40 to +125 °C. The inductors are ideal for use in RF signal processing, resonant circuits, decoupling, noise filters and low current DC power lines, as well as for audio headsets, cable modems, set-top boxes, hard disk drives, tablets and various mobile electronic devices.

### Features

- Miniature size
- High Q value
- High self-resonant frequency
- Low DCR
- RoHS compliant\* and halogen free\*\*

### Applications

- RF signal processing
- Resonant circuits
- Decoupling
- Noise filters
- Low current DC power lines
- Audio headsets
- Cable modems
- Set-top boxes
- Hard disk drives
- Tablets
- Various mobile electronic devices

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SF-0603SPA-R AND SF-1206SA-R SERIES AEC-Q200 COMPLIANT AUTOMOTIVE GRADE SMD FUSE FAMILIES



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

Bourns is pleased to announce the introduction of the new automotive grade model SF-0603SPA-R and SF-1206SA-R series SMD fuses to expand its portfolio of AEC-Q200-Equivalent compliant singlFuse™ SMD fuses.

The new model SF-0603SPA-R and SF-1206SA-R families meets Bourns' automotive grade standard for enhanced quality and reliability. These new series are intended for use in a variety of automotive, data center, industrial, medical (low to medium risk\*), telecom and battery management systems (BMS) applications.

Bourns continues to broaden its portfolio of SinglFuse™ SMD Fuses to address the growing need for effective circuit protection in a variety of applications including automotive, telecom and networking equipment, PCs and monitors, server farms, portable memory, portable electronics, gaming systems, robotics, smart appliances, battery chargers and industrial controllers.

### Features

- Metal foil chip design with high operating temperature up to +150°C
- EIA 0603 and 1206 footprint
- AEC-Q200 compliant\*\*
- UL 248-14 recognized (E198545)
- TÜV (IEC 60127) recognized (TA50515766)
- RoHS compliant\*\*\* and halogen free\*\*\*\*

### Applications

- Automotive grade
- Applications
- Automotive
- Data center
- Industrial
- Medical (low to medium risk)\*
- Telecom
- Battery management systems

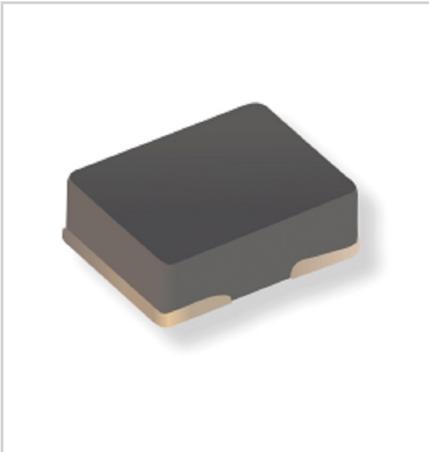
\* Bourns® products have not been designed for and are not intended for use in "lifesaving," "life-critical" or "life-sustaining" applications nor any other applications where failure or malfunction of the Bourns® product may result in personal injury or death. See Legal Disclaimer Notice: [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

\*\* Meets Bourns internal AEC-Q200 equivalent test plan.

\*\*\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\*\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less.

## BOURNS SRP3212 SERIES MINI-MOLDING POWER INDUCTOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Bourns Introduces an ultra-low capacitance TVS diode in an 0201 package for ultra-high-speed interface protection model CD0201-T2.0LC Bourns, Inc., a leading manufacturer and supplier of electronic components, is pleased to introduce the model CD0201-T2.0LC ultra-low capacitance TVS diode. This tiny TVS diode is designed to provide effective ESD protection in ultra-high-speed communication port and sensitive transceiver applications. The Bourns® model CD0201-T2.0LC TVS diode features an 0201 package (0.6mm x 0.3mm x 0.3mm), which meets the critical requirement for ultra-high-speed ports such as USB4®, Thunderbolt™ and 10GbE interface protection designs with an ultra-low capacitance of only 0.18pF. The model CD0201-T2.0LC TVS diode is a bidirectional protection solution which fits the standard 0201 footprint minimizing PCB layout space, and is a good choice for IoT device protection with outstanding protection performance. Available now, the Bourns® model CD0201-T2.0LC surface mount TVS diode is RoHS compliant and halogen free\*.

### Features

- Bidirectional 2 volt TVS diode
- Low capacitance - <0.2 pF
- High ESD protection
- Fits 0201 footprint
- RoHS compliant
- Halogen free
- RoHS compliant\* and halogen free\*\*

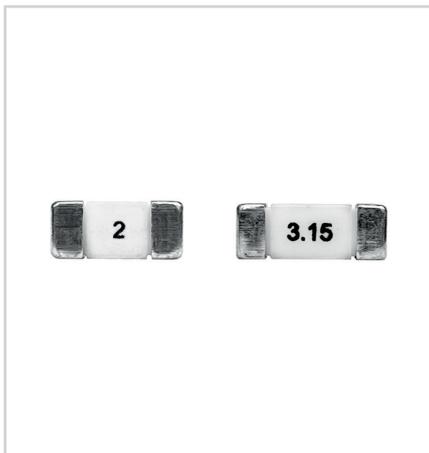
### Applications

- 2.5G/5G/10GbE
- Thunderbolt™
- USB4®/USB 3.1/USB 3.0
- DisplayPort

\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

\*\* Bourns considers a product to be "halogen free" if (a) the Bromine (Br) content is 900 ppm or less; (b) the Chlorine (Cl) content is 900 ppm or less; and (c) the total Bromine (Br) and Chlorine (Cl) content is 1500 ppm or less. "Thunderbolt" is a trademark of Intel Corporation in the U.S. and/or other countries. "USB4" is a registered trademark of USB Implementers Forum. "DisplayPort" is a trademark of VESA.

## EATON BUSSMANN 1145HV SERIES FAST-ACTING FUSES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Eaton Bussmann Series 1145HV & 1350HV fast-acting fuses provide reliable overcurrent protection up to 5A for high voltage applications. Both product families are available in surface mount printed circuit board packages with the 1145HV in 11mm x 4.5mm footprint and 1350HV in 13mm x 5mm footprint. The high voltage ratings and SMD package help reduce required PCB space.

### Features

#### 1145HV series

- 11mm x 5mm x 5mm surface mount package
- High voltage fast-acting brick fuse
- 500VDC voltage rating
- Ceramic tube, silver plated cap construction
- Moisture sensitivity level (MSL):1

#### 1350HV series

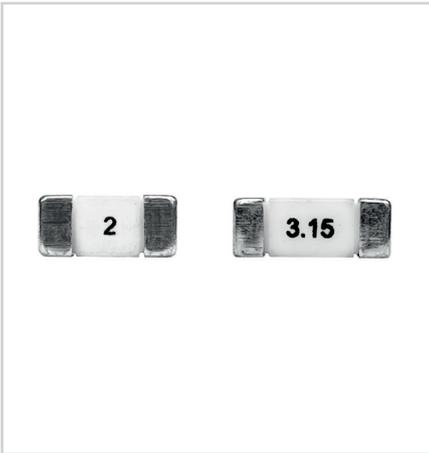
- 13mm x 5mm x 5mm surface mount package
- High voltage fast-acting brick fuse
- 600VDC voltage rating
- Ceramic tube, silver plated cap construction
- Moisture sensitivity level (MSL):1

### Applications

Primary and secondary circuit protection:

- Server and telecom systems, including 380VDC distribution
- Single phase and 3-phase UPS
- 380VDC DC-DC converters
- High voltage DC-DC conversion
- Power factor correction
- Capacitor output protection

## EATON BUSSMANN 1350HV SERIES FAST-ACTING FUSES



Eaton Bussmann Series 1145HV & 1350HV fast-acting fuses provide reliable overcurrent protection up to 5A for high voltage applications. Both product families are available in surface mount printed circuit board packages with the 1145HV in 11mm x 4.5mm footprint and 1350HV in 13mm x 5mm footprint. The high voltage ratings and SMD package help reduce required PCB space.

### Features

#### 1145HV series

- 11mm x 5mm x 5mm surface mount package
- High voltage fast-acting brick fuse
- 500VDC voltage rating
- Ceramic tube, silver plated cap construction
- Moisture sensitivity level (MSL):1

#### 1350HV series

- 13mm x 5mm x 5mm surface mount package
- High voltage fast-acting brick fuse
- 600VDC voltage rating
- Ceramic tube, silver plated cap construction
- Moisture sensitivity level (MSL):1

[VIEW PRODUCT DETAILS](#)

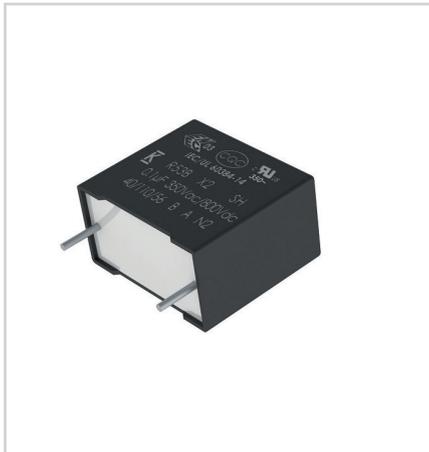
[BUY NOW](#)

### Applications

Primary and secondary circuit protection:

- Server and telecom systems, including 380VDC distribution
- Single phase and 3-phase UPS
- 380VDC DC-DC converters
- High voltage DC-DC conversion
- Power factor correction
- Capacitor output protection

## KEMET R53B 2 SERIES METALLIZED POLYPROPYLENE FILM EMI SUPPRESSION CAPACITORS



The R53B series is constructed of metallized polypropylene film encapsulated with self-extinguishing resin in a box of material that meets the requirements of UL 94V-0. The R53B series is ideal for harsh environmental conditions and meets the demanding automotive electronics council's AEC-Q200 qualification requirements.

### Features

- Approvals: ENEC, UL, cUL, CQC
- X2 CLASS (IEC 60384-14)
- THB Grade IIIB: 85°C, 85%RH, 1,000 hours at 350VAC or 800VDC acc. to IEC 60384-14
- Low halogen content according to JS709C
- Rated AC voltage: 350VAC 50Hz or 60Hz
- Rated DC Voltage: 800VDC
- Recommended DC Voltage  $\leq$  1000VDC
- Capacitance range: 0.068 $\mu$ F - 20 $\mu$ F
- Lead spacing: 15mm - 52.5mm
- Capacitance tolerance:  $\pm$ 20% and  $\pm$ 10%
- Climatic category 40,110 or 56, IEC 60068-1
- Tape and reel in accordance with IEC 60286-2
- RoHS compliant and lead-free terminations
- Operating temperature range of -40°C to +125°C
- 100% screening factory test at 1,900VDC
- Self healing properties
- Automotive (AEC-Q200) grade
- Parallel and series construction available

[VIEW PRODUCT DETAILS](#)

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### Applications

- connection in series with the mains
- capacitive power supplies
- energy meters

## KEMET HIQ-CBR AUTOMOTIVE SERIES CAPACITOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

KEMET's HiQ CBR automotive RF capacitor series features a copper electrode BME (Base Metal Electrode) system that offers ultra-low ESR and high Q in the VHF, UHF, and microwave frequency bands. Low ESR allows for higher RF currents which are ideal for applications such as V2X, safety systems, power train and automotive communication systems. CBR series capacitors exhibit no change in capacitance with respect to time and voltage, and boast a negligible change in capacitance with reference to ambient temperature.

KEMET's HiQ CBR RF capacitors are characterized using Modelithics™ substrate scalable models and is available in most EDA software. Contact KEMET sales for details on accessing models.

CBR series capacitors exhibit no change in capacitance with respect to time and voltage, and boast a negligible change in capacitance with reference to ambient temperature.

### Features

- AEC-Q200 qualified
- Ultra-low ESR and high Q
- High SRF
- High thermal stability
- 1MHz to 50GHz frequency range
- Operating temperature range of -55°C to +125°C
- Base metal electrode (BME) dielectric system
- Pb-free and RoHS compliant
- 0402 and 0603 case sizes (inches)
- DC voltage rating of 50V
- Capacitance offerings ranging from 0.1pF up to 100pF
- Available capacitance tolerances of ±0.05pF, ±0.1pF, ±0.25pF, ±0.5pF, ±1%, ±2% and ±5%
- Negligible capacitance change with respect to temperature
- 100% pure matte tin-plated termination finish allowing for excellent solderability

### Applications

- V2X
- Safety systems
- Power train
- Automotive communication systems
- Bypass, coupling, filtering, impedance matching, DC blocking

## KEMET R53B SERIES METALLIZED POLYPROPYLENE FILM EMI SUPPRESSION CAPACITORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The R53B series is constructed of metallized polypropylene film encapsulated with self-extinguishing resin in a box of material that meets the requirements of UL 94V-0. The R53B series is ideal for harsh environmental conditions and meets the demanding automotive electronics council's AEC-Q200 qualification requirements.

### Features

- Approvals: ENEC, UL, cUL, CQC
- X2 CLASS (IEC 60384-14)
- THB Grade IIIB: +85°C, 85% RH, 1,000 hours at 350VAC/800VDC acc. to IEC 60384-14
- Low halogen content according to JS709C
- Rated AC voltage: 350VAC 50Hz/60Hz
- Rated DC voltage: 800VDC
- Recommended DC voltage ≤1000VDC
- Capacitance range: 0.068μF to 20μF
- Lead spacing: 15mm to 52.5mm
- Capacitance tolerance: ±20%, ±10%
- Climatic category 40/110/56, IEC 60068-1
- Tape & Reel in accordance with IEC 60286-2
- RoHS compliant and lead-free terminations
- Operating temperature range of -40°C to +125°C
- 100% screening factory test at 1,900 VDC
- Self healing properties"
- Automotive (AEC-Q200) grade
- Parallel and Series construction available

### Applications

For worldwide use in electromagnetic interference (EMI) suppression in across-the-line applications that require X2 safety classification. Intended for use in situations in which capacitor failure would not result in exposure to electric shock. Typical applications include connection in series with the mains, capacitive power supplies and energy meters, with special emphasis in automotive applications for severe ambient conditions such as on board chargers.

## KEMET GTX METAL BOX THREE-PHASE FILTERS



The KEMET GTX metal case filters cover three-phase EMC requirements with a wide variety of characteristics. By using nanocrystalline core material, these filters achieve excellent attenuation characteristics in a compact size. In addition, 6 different combinations of Y capacitors can be selected to support various equipment topologies. These filters are compact and lightweight due to its high mechanical density.

### Features

- Three-phase 500VAC
- Current range from 30A to 60A
- Nanocrystalline core material
- Selection of Y capacitors combinations
- Compact and lightweight
- Operating temperature range from  $-25^{\circ}\text{C}$  to  $+55^{\circ}\text{C}$
- UL, c-UL, and TÜV approved
- RoHS compliant

### Applications

- Industrial equipment
- General purpose inverter
- Process automation
- Machine tools

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

## KEMET R41B SERIES METALLIZED POLYPROPYLENE FILM EMI SUPPRESSION CAPACITORS



The R41B is constructed of metallized polypropylene film, encapsulated with self-extinguishing resin, in a box of material meeting the requirements of UL 94V-0. automotive grade devices meet the demanding automotive electronics council's AEC-Q200 qualification requirements.

### Features

- Approvals: ENEC, UL, cUL, CQC
- Class Y2/X1 (IEC 60384-14)
- THB Grade IIIB:  $+85^{\circ}\text{C}$ , 85%RH, 1,000hours at 350V URAC acc. to IEC 60384-14
- Halogen-Free (black case) upon request
- Rated voltage: 350VAC 50Hz/60Hz
- Capacitance range: 0.0022 $\mu\text{F}$  to 1.2 $\mu\text{F}$
- Lead spacing: 10mm to 37.5mm
- Capacitance tolerance:  $\pm 20\%$ ,  $\pm 10\%$
- Climatic category 40/125/56, IEC 60068-1
- Tape and reel in accordance with IEC 60286-2
- RoHS compliant and lead-free terminations
- Operating temperature range of  $-40^{\circ}\text{C}$  to  $+125^{\circ}\text{C}$
- Self-healing properties
- Automotive (AEC-Q200) grade

### Applications

For use in electromagnetic interference (EMI) suppression filter in "line-to-ground" and "across-the-line" applications, requiring Y2/X1 safety classification. Suitable for use in situations where failure of the capacitor could lead to danger of electric shock.

[VIEW PRODUCT DETAILS](#) 

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## KEMET PHA226 AND PHH226 SERIES HYBRID AXIAL & RADIAL CROWN CAPACITORS



KEMET's PHA226 and PHH226 are conductive aluminum polymer hybrid capacitors with outstanding electrical and mechanical performance. The device has a polarised all welded design, tinned copper wire leads, and a negative pole connected to the case. The winding is housed in a cylindrical aluminum can with a high purity aluminum lid and high quality rubber gasket. The highly conductive polymer (PEDOT/PSS) system creates an electrical pathway between the anodic oxide layer and the cathode through a mechanical paper separator. The winding is impregnated with liquid electrolyte that results in self healing features of the capacitor.

### Features

- High temperature capability up to +150°C
- Up to 32 Arms, continuous load at case +105°C
- More than 10,000 hours at +125°C
- High vibration resistance up to 30g 22 h/axis

### Applications

#### Industry

- Automotive
- Industrial

#### Telecom

- Data centers

#### Application

- Filtering
- Power conversion

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

## KEMET A769 SERIES SOLID POLYMERS



KEMET's A769 surface mount solid polymer aluminum capacitors offer longer life and greater stability across a wide range of temperatures. This highly conductive solid polymer electrolyte eliminates the risk of drying out and, due to its ultra low ESR properties, is able to withstand higher ripple currents during normal operation, up to +35% when compared to A768 series. The A769 series is AEC-Q200 qualified and ideally suited for automotive and industrial applications. Anti-Vibration version is available for 10mm diameter.

### Features

- High ripple current up to 3.6A RMS
- High temperature; +125°C/2,000hours
- Ultra low impedance
- High vibration resistance up to 30g
- Surface mount form factor
- RoHS compliant
- Halogen-free

### Applications

- Long life LED drivers
- Professional power amplifiers
- Industrial power supplies
- DC-DC converters
- Voltage regulators and decoupling
- Automotive powertrain

[VIEW PRODUCT DETAILS](#) 

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## KEMET A781 SERIES 135°C HYBRID POLYMER V-CHIP



[VIEW PRODUCT DETAILS](#) 

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KEMET's A781 is a surface mount conductive polymer hybrid capacitor with outstanding electrical performance. The A781 winding is housed in a cylindrical aluminum can with a high/quality rubber deck. Low ESR is conditioned by a highly conductive polymer (PEDOT/PSS). The polymer system creates an electrical pathway between the anodic oxide layer and the cathode through a mechanical separator - paper. The A781 winding is impregnated with liquid electrolyte that translates to the self-healing features of the capacitor. Thanks to its mechanical robustness, the A781 is suitable for use in mobile, automotive and aircraft installations with operation up to +135°C.

### Features

- Surface mount form factor
- High ripple current up to 2.9Arms
- High temperature; +135°C up to 2,000hours
- Low leakage current (typically no re-ageing required)
- High vibration resistance up to 30g
- Self-healing behaviors
- Outstanding electrical performance
- AEC-Q200 compliance
- RoHS compliant
- Halogen-free

### Applications

- KEMET's A781 is a series of high-performance surface mount hybrid capacitors. Due to its mechanical robustness, the A781 is suitable for use in mobile, automotive and aircraft installations with extremely high demands and operation up to +135°C.

## KEMET AC LINE FILTERS SCF-XV SERIES COMMON MODE CHOKES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The KEMET SCF-XV coils are common mode chokes with a wide variety of characteristics for automotive and harsh environment industrial application. These toroidal coils are designed with nanocrystalline metal cores and are useful in various noise countermeasure fields.

### Features

- Nanocrystalline metal core
- High rated voltage up to 1000V AC-DC
- Operating temperature range from -40°C up to +150°C
- Ultra-high inductance
- Ultra-high permeability
- UL 94 V-0 flame retardant rated base and cap
- AEC-Q200 qualified

### Applications

- On board charger for EV/PHEV
- Wireless charging systems with 85kHz
- Medium power drives for steering, air conditioning and mild hybrid 48 V systems
- High voltage automotive and harsh environment
- industrial EMI filtering

## KEMET PEH227 SERIES RADIAL CROWN ALUMINUM ELECTROLYTIC CAPACITORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

These electrolytic capacitors contain a radial crown, which allows them to be mounted in a standing position. They feature ultra-high CV with an outstanding electrical performance and high energy storage capability, a polarised, all-welded design, tinned copper wire leads, and a negative pole connected to the case. The winding is housed in a cylindrical aluminium can with a high purity aluminium lid and a high quality rubber gasket. Low ESR is a result of a low resistive electrolyte/paper system and an all-welded design. Thanks to its mechanical robustness, these capacitors are suitable for use in mobile and aircraft installations, with operation up to +150°C. KEMET automotive grade capacitors meet the demanding automotive electronics council's AEC-Q200 qualification requirements.

### Features

- AEC-Q200 automotive qualified
- 2,000 hours at +150°C
- Ultra-high CV
- Extremely high ripple current
- Up to 27 ARMS ripple current, continuous load
- ESR stability over lifetime
- High vibration resistance
- Polarised all-welded design
- Outstanding electrical performance
- Radial crown that allows mounting in a standing position

### Applications

- The KEMET PEH227 is a new generation of ultra-high CV radial crown electrolytic capacitors. It is designed for automotive applications with extremely high demands

## KEMET A766 SERIES SURFACE MOUNT SOLID POLYMER ALUMINUM CAPACITORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

KEMET's surface mount solid polymer aluminum capacitors offer longer life and greater stability across a wide range of temperatures. This highly conductive solid polymer electrolyte eliminates the risk of drying out and, due to its low ESR properties, is able to withstand higher ripple currents during normal operation. This series is ideally suited for industrial and commercial applications.

### Features

- Surface mount form factor
- Ultra low impedance
- High ripple current
- Long life
- +105°C/5,000 hours
- RoHS compliant
- Halogen-free

### Applications

Typical applications include mobile phone chargers, adapters (laptop power supplies), and medical equipment.

# / PASSIVE

## KEMET A781 SERIES HYBRID POLYMER V-CHIP



KEMET's A781 is a surface mount conductive polymer hybrid capacitor with outstanding electrical performance. The A781 winding is housed in a cylindrical aluminum can with a high-quality rubber deck. Low ESR is conditioned by a highly conductive polymer (PEDOT/PSS). The polymer system creates an electrical pathway between the anodic oxide layer and the cathode through a mechanical separator – paper. The A781 winding is impregnated with liquid electrolyte that translates to the self-healing features of the capacitor. Thanks to its mechanical robustness, the A781 is suitable for use in mobile, automotive and aircraft installations with operation up to +135°C.

### Features

- Surface mount form factor
- High ripple current up to 2.9Arms
- High temperature; +135°C up to 2,000hours
- Low leakage current (typically no re-ageing required)
- High vibration resistance up to 30g
- Self-healing behaviors
- Outstanding electrical performance
- AEC-Q200 compliance
- RoHS compliant
- Halogen-free

### Applications

- KEMET's A781 is a series of high-performance surface mount hybrid capacitors. Due to its mechanical robustness, the A781 is suitable for use in mobile, automotive and aircraft installations with extremely high demands and operation up to +135°C.

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 



## PANASONIC LINE EXTENSION: ETQP AUTOMOTIVE GRADE POWER CHOKE COILS



Panasonic's ETQP series automotive grade power choke coils use a metal composite core to provide high heat resistance and high reliability.

This line extension features three models, the ETQP4M6R8KFN, ETQP5M2ROYSC, and ETQP6M150KLC, which expand the range's inductance, DCR and rated current options.

### Features

#### ETQP6M150KLC series

- High heat resistance: Operation up to +150°C including self-heating
- High-reliability: High vibration resistance as result of newly developed integral construction; under severe reliability conditions of automotive and other strenuous applications
- High bias current: Excellent inductance stability using ferrous alloy magnetic material
- Temp. stability: Excellent inductance stability over broad temp. range
- Low audible (buzz) noise: A gapless structure achieved with metal composite core
- High efficiency: Low DC resistance of winding and low eddy-current loss of the core
- Shielded construction
- AEC-Q200 compliant RoHS compliant

#### ETQP6M150KLC series

- The vibration-resistant structure achieves a vibration acceleration-resistance of 50G or higher in +150°C environments
- Reduce core loss in high frequency band (more than 2MHz)
- High heat resistance: Operation up to +150°C including self-heating
- SMD type
- High-reliability: High vibration resistance as result of newly developed integral construction; under severe reliability conditions of automotive and other strenuous applications
- High bias current: Excellent inductance stability using ferrous alloy magnetic material
- Temp. stability: Excellent inductance stability over broad temp. range
- Low audible (buzz) noise: Agapless structure achieved with metal composite core
- High efficiency: Low DC resistance of winding and low eddy-current loss of the core
- Shielded construction
- AEC-Q200 compliant
- RoHS compliant

↓ **Continues**

## PANASONIC LINE EXTENSION: ETQP AUTOMOTIVE GRADE POWER CHOKE COILS Continued



### ETQP4M6R8KFN series

- Low loss (low DC resistance)
- High heat resistance: Operation up to +150°C including self-heating
- SMD type
- High-reliability: High vibration resistance as result of newly developed integral construction; under severe reliability conditions of automotive and other strenuous applications
- High bias current: Excellent inductance stability using ferrous alloy magnetic material
- Temp. stability
- Excellent inductance stability over broad temp. range
- Low audible (buzz) noise: Agapless structure achieved with metal composite core
- High efficiency: Low DC resistance of winding and low eddy-current loss of the core
- Shielded construction
- AEC-Q200 compliant RoHS compliant High efficiency: Low DC resistance of winding and low eddy-current loss of the core
- Shielded construction
- AEC-Q200 compliant
- RoHS compliant

### Applications

- Noise filter for various drive circuitry requiring high temp. operation and peak current handling capability
- Boost-converter, buck-converter DC-DC
- ECU placed in the engine itself, mechanical-electrical-integrated
- ECU noise filter for various drive circuitry requiring high temp. operation and peak current handling capability
- Noise filter for various drive circuitry requiring high temp. operation and peak current handling capability

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## PANASONIC JX SERIES SP-CAP



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It has become the flagship series of “super-low ESR”: Panasonic Industry’s SP-Cap portfolio of aluminum polymer capacitors are the ideal choice wherever a low ESR would be the primary consideration for identifying the most suitable capacitor.

Panasonic’s advanced Solid Polymer technology, the SP-Caps have proven to be an excellent alternative to multilayer ceramic capacitors (MLCCs) and pure tantalum capacitors. They require less parts and space on the PCB and provide much better performance, especially for modern and complex low-profile electrical devices, with large capacitance up to 820 $\mu$ F and a ripple current up to 10.2Arms.

Panasonic Industry has expanded the successful technology further with the new JX series – a high endurance and particularly heat tolerant series.

Coming with the typically low ESR, a large capacitance, a low profile, long life span and high characteristic stability, this latest member of the SP-Cap family stands out with an endurance of 3,000hours at +125°C and thus promises an outstanding reliability. Its remarkable damp heat specifications – 1,000hours at +85°C 85%RH – render it suitable for demanding outdoor applications.

### Features

- Endurance 125°C 3000h
- Damp heat +85°C 85% 100h
- Low ESR (9m2 max)
- RoHS compliance, halogen free

## TDK SMT TRANSFORMERS WITH HIGH DIELECTRIC STRENGTH FOR DC-DC CONVERTERS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TDK Corporation (TSE:6762) presents the EPCOS E13EMHV series of compact SMT transformers with high dielectric strength for a wide range of DC-DC converter topologies. The isolation distances comply with IEC 60664-1, 61558-2-16 standard, achieving a high working voltage of 1000V DC. Transient overvoltages of up to 2500Vpeak are permitted. The high dielectric strength between the primary and secondary sides is 3000V AC (50Hz, 60seconds).

With dimensions of only 12.9mm x 15.8mm x 11.4mm, the B78308\*A003 series transformers are space-saving. The requirements for clearance and creepage distances according to the IEC 60664-1 standard (Np/Ns: min. 8.14mm clearance, min. 11.2mm creepage) are met in this compact design thanks to the internal construction of the transformers.

Two types are available for DC-DC converters in flyback topology with turns ratios of 1:0.22:0.78 and 1:0.33:0.7. Three types are available for push-pull and half-bridge converters with turns ratios of 1:1.07 and 1:1:0.57:2.14. All new transformers are designed for a frequency range from 100kHz to 500kHz and have a very low coupling capacitance of only 2pF. The permissible operating temperature range is between -40°C and +150°C. The components of the new EPCOS transformer series are qualified to AEC-Q200Rev. D and are suitable for various DC-DC converter topologies and gate driver circuits in e-mobility and industrial electronics.

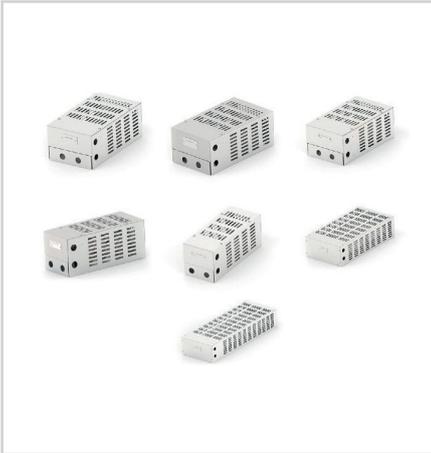
### Features

- High dielectric strength prim/sec 3000V AC, 50Hz, 60seconds, working voltage up to 1000VDC
- Compact dimensions of only 12.9mm x 15.8mm x 11.4mm
- Clearance and creepage distances according to IEC 60664-1
- Qualified according to AEC-Q200Rev. D

### Applications

- DC-DC converters and gate driver circuits in e-mobility and industrial electronics

## TE CONNECTIVITY HPBA SERIES ASSEMBLIES TYPE BRAKING RESISTOR



TE Connectivity (TE)'s Braking resistor assemblies' type HPBA series is designed to increase the braking torque capability of a variable frequency drive. This produces faster and more controlled braking for the drive and increases the braking torque of the drive system. Each braking assembly is created using heavy gauge galvanized steel with a wired terminal block and provisions for an optional thermostat. They are constructed for harsh environments, while maintaining a professional design with a wide range of enclosures available. These resistors are offered in several combinations HP, input voltage and duty cycle to make sure an option is available for braking drives.

### Features

- Available in 0.5HP to 500HP
- 24 enclosure options available
- 5 duty cycles and 3 drive input voltage designs
- 100% and 150% braking torque available

### Applications

- Variable frequency drives
- Servo motors and drives
- Industrial
- Warehouse automation
- Robotics

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

## VISHAY T50 SERIES VPOLYTAN™ POLYMER TANTALUM CHIP CAPACITORS



Vishay introduced a new series of vPolyTan™ surface-mount polymer tantalum molded chip capacitors designed to deliver reliable performance in high temperature, high humidity operating conditions.

Vishay Polytech T50 series capacitors feature a robust design with improved hermeticity for increased protection in harsh environments. The devices offer high temperature operation to +125 °C and withstand temperature humidity bias (THB) testing of 85°C, 85 % relative humidity for 500 hours. These specifications make the capacitors ideal for decoupling, smoothing, and filtering in the harsh environments of industrial, military, aerospace, and edge computing applications.

Offered in the D case (EIA 7343-30) size, the T50 series features ultra low ESR down to 25mΩ and ripple current to 3A. The devices offer a wide capacitance range from 10µF to 330µF over voltage ratings from 2.5V to 35V and a capacitance tolerance of ± 20 %. The capacitors are RoHS-compliant, halogen-free, and Vishay Green.

### Features

- Operating temperature range of -55°C to +125 °C
- High temperature and high humidity operation
- Qualification testing based on AEC-Q200 with 85 °C / 85 % RH performance testing up to 500 hours

### Applications

- Decoupling, smoothing, filtering
- Switch mode and point of load power supply
- Automotive - infotainment and cockpit electronics

[VIEW PRODUCT DETAILS](#) 

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## VISHAY IHVR-4025JZ-3Z SERIES VERTICAL-MOUNT INDUCTOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Vishay Intertechnology, Inc. (NYSE: VSH) today introduced a new IHVR vertical-mount inductor in the 10.25mm by 6.4mm by 10mm 4025 case size. Optimizing inductance and minimizing DCR for increased efficiency in DC/DC converters, the newly designed Vishay Dale IHVR-4025JZ-3Z offers high temperature operation up to +155 °C for computer, server, telecom, and industrial applications.

Compared to traditional inductors, the compact size and unique vertical-mount design of the device released today save on board space and allow for more efficient cooling by utilizing air flow while enabling 50 % lower DCR down to 0.130 mΩ (typical) and higher rated current up to 112 A. The device's reduced DCR can provide significant savings in energy costs over the life of a server compared to less-efficient solutions. In addition, its rectangular shape provides better integration with other board components, making it easier for designers to keep PCB trace lengths equal to reduce phase imbalances.

The IHVR-4025JZ-3Z is optimized for energy storage in DC/DC converters up to 5MHz and high current filtering applications up to the SRF of the inductor. Applications for the device include desktops and servers; low profile, multi-phase, high current power supplies; POL converters; and distributed power systems and FPGAs. In these applications, the inductor offers extremely stable inductance and saturation over the full -40 °C to +155 °C operating temperature range.

### Features

- High temperature rating, up to +155 °C
- Shielded construction
- Excellent DC/DC energy storage up to 5MHz.
- Filter inductor applications up to SRF (see "Standard Electrical Specifications" table)
- Lowest DCR/μH, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- Inductance and saturation is extremely stable over full operating temperature
- Unique vertical mounting profile to optimize board space and utilize air flow for cooling
- Patent pending
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

### Applications

- Desktop/server applications
- High current POL converters
- Low profile, high current power supplies
- DC/DC converters in distributed power systems
- DC/DC converter for field programmable gate array (FPGA)

## VISHAY IHCM-2321AA-10 SERIES COMMON MODE CHOKES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Reduced size with higher shock and vibration resistance for 35A applications

Available with a low profile surface-mount or through-hole construction, our latest common mode choke is more robust than bulky toroid-based devices, while delivering superior performance across temperature ranges to +155 °C.

### Features

- Low SMD profile design compatible with automated pick and place assembly
- High heat rating current to 31A and saturation current to 35A
- High temperature operation, up to +155 °C
- Dielectric withstand voltage between coils to 1500VDC
- Custom options for inductance, impedance, DCR and current rating are available
- Through-hole mounting configurations available
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

### Applications

- High current and high temperature applications
- DC-DC converters
- EMI Filters
- Motor noise suppressions

## VISHAY IHSR-2525CZ-5A SERIES AUTOMOTIVE ULTRA LOW DCR HIGH TEMPERATURE (155 °C) INDUCTORS



Low typical DCR and inductance for higher current density than competing technologies. Designed for multi-phase, high current power supplies and filters in under the hood applications, our new automotive grade inductor offers a high operating temperature range to +155 °C in the 2525 case size with a slim 3 mm profile

### Features

- High temperature rating, up to +155 °C
- Shielded construction
- Excellent DC-DC energy storage up to 10 MHz.
- Filter inductor applications up the SRF (see Standard Electrical Specifications table)
- Lowest DCR/ $\mu$ H, in this package size
- Handles high transient current spikes without saturation
- Ultra low buzz noise, due to composite construction
- AEC-Q200 qualified
- Patent pending
- Material categorization: for definitions of compliance please see [www.vishay.com/doc?99912](http://www.vishay.com/doc?99912)

### Applications

- Engine and transmission control units
- Multiphase DC-DC converters for ADAS microprocessors
- DC-DC converters for entertainment/navigation systems
- Noise suppression for motors
- Windshield wipers, power seats, power mirrors, heating and ventilation blowers, HID lighting

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## VISHAY P11H SERIES 12.5 MM MODULAR HIGH TORQUE PANEL POTENTIOMETER



Our latest modular panel potentiometer delivers industry-high rotational torque of 8Ncm – 200 % higher than the closest competing device – in a compact 12.5mm size with a 6.35mm shaft diameter.

### Features

- Keep the setting under high mechanical constraints (vibrations, shocks, ...)
- High torque (8 Ncm) with smooth feeling during all potentiometer life
- Torque stability under high environmental constraints

[VIEW PRODUCT DETAILS](#) 

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## VISHAY P11H SERIES MODULAR PANEL POTENTIOMETER



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### Features

- Keep the setting under high mechanical constraints (vibrations, shocks, ...)
- High torque (8 Ncm) with smooth feeling during all potentiometer life
- Torque stability under high environmental constraints

[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

## VISHAY MKP1848SE DC-LINK FILM CAPACITOR



Reduced size with higher shock and vibration resistance for 35A applications

Available with a low profile surface-mount or through-hole construction, our latest common mode choke is more robust than bulky toroid-based devices, while delivering superior performance across temperature ranges to +155 °C.

### Features

- Vishay MKP 1848 Se DC link film capacitors offer high performance and reliability in a compact low profile configuration designed for power electronics applications where economy of space is crucial, the MKP 1848 Se offers building height options from 12mm to 24mm while providing ample capacitance values The product is AEC Q 200 qualified and ensures high robustness under high humidity, thus granting high stability of electrical parameters throughout the product's lifetime

#### Slim – Low building height DC-Link capacitor

- The slim construction of the MKP1848Se enhances flexibility for compact designs on Power Electronics, the slim version capacitor is ideal for applications with severe limitations on available height and where high power density is required. The MKP1848Se also improves the robustness against vibration and shock due to its lower center of mass.

#### High robustness under high humidity

- The MKP1848Se is designed to withstand harsh ambient conditions of heat and humidity, while maintaining stable electrical parameters across life time, as demonstrated while tested under 60°C, 93% Relative Humidity for 56 days (1344 hours) biased at rated DC-Voltage.

#### Automotive Grade

- Fully compliant with Revision D of AEC-Q200, the MKP1848Se is qualified for Automotive use from -40°C up to +105°C offering a broad range of capacitance and rated DC voltages.

### Applications

- EV/PHEV power converters
- On-board and inductive charging systems
- Automotive HVAC systems
- Motor drives

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## VISHAY IHLE-2020CD-51 HIGH CURRENT INDUCTOR WITH E-FIELD SHIELD



Vishay/Dale IHLE® high current inductors are AEC-Q200 qualified devices with integrated e-field shields that negate the need for separate shielding. The IHLE series is rated for temperatures up to +155°C. These inductors offer excellent DC-DC energy storage up to 2MHz and 20dB e-field reduction at 1cm. Vishay/Dale IHLE® High Current Inductors withstand high transient current spikes without saturation.

### Features

- High temperature, continuous operation up to +155°C
- Patented shielded construction
- Excellent DC-DC energy storage up to 2MHz

### Applications

- Notebook/desktop/server applications
- High current POL converters
- Low profile, high current power supplies

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## LAIRD TTAPE 1000A THERMALLY CONDUCTIVE ADHESIVE TAPE



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Ttape™ 1000A Thermally conductive adhesive tape is a stand-alone pressure sensitive adhesive featuring one of the lowest thermal resistances (at 50µm) available on the market, designed to facilitate the transfer of thermal energy from heat sources, such as IC chips, to heat sinks. Ttape™ 1000A offers a high degree of substrate conformability and adhesion needing only finger pressure to achieve excellent thermal performance eliminating the need for mechanical fasteners or clamping devices during assembly.

### Features

- Best in class Thermal performance at +1.3-cm2/W at 100psi
- High mechanical strength
- RoHS compliant
- Specialized acrylic formulation
- Easy to use
- UL pending

### Applications

- Consumer electronics
- Telecommunication hardware
- Power supplies
- Audio amplifiers
- LED & ballast lighting
- Battery charging
- Inverters

## BOURNS PER60 SERIES LONG-LIFE INCREMENTAL RING ENCODER



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

In line with our commitment to provide products with innovative designs, superior quality and exceptional value, Bourns Sensors and Controls Product Line announces the release of the Model PER60 Long Life Incremental Ring Encoder.

The Model PER60 is designed for use in professional audio and lighting applications, low/medium risk medical\* and laboratory equipment, industrial automation controls and any other applications where a menu select encoder is required. This model features a ring interface that allows illumination or installation of other components in its center.

### Features

- Low profile incremental encoder
- High-class rotational feel
- Haptic detent feedback
- RoHS compliant\*\*

### Applications

- Professional audio equipment
- Professional lighting consoles
- Consumer white goods
- Low/medium risk medical\* and diagnostic equipment
- Test and measurement equipment
- Communications equipment
- Laboratory equipment
- Industrial automation controls

\* Bourns® products have not been designed for and are not intended for use in "lifesaving," "life-critical" or "life-sustaining" applications nor any other applications where failure or malfunction of the Bourns® product may result in personal injury or death. See Legal Disclaimer Notice [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

\*\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

## BOURNS PEC11D SERIES NEW DUAL CONCENTRIC ROTARY ENCODER



VIEW PRODUCT DETAILS 

BUY NOW 

In line with our commitment to provide products with innovative designs, superior quality and exceptional value, Bourns Sensors and Controls announces the release of the model PEC11D series dual concentric rotary encoder with momentary push switch.

The model PEC11D series is designed to meet the specifications of professional audio and lighting applications, communications equipment, industrial automation controls, and any other application with space constraints requiring two encoders in a single unit. This series features a momentary push switch with two stroke/actuation force options.

### Features

- Dual concentric shaft
- 15,000 rotational cycle rating
- -40°C to +85°C operating temperature range Quadrature output
- IP 40 dust seal rating
- Momentary switch in two optional strokes 15 PPR resolution
- RoHS compliant\*

### Applications

- Professional audio equipment
- Professional lighting consoles
- Low to medium risk medical\*\* and diagnostic equipment
- Test and measurement equipment
- Medical laboratory equipment
- Communications equipment
- Industrial automation controls

\* Bourns® products have not been designed for and are not intended for use in "lifesaving," "life-critical" or "life-sustaining" applications nor any other applications where failure or malfunction of the Bourns® product may result in personal injury or death. See Legal Disclaimer Notice [www.bourns.com/docs/legal/disclaimer.pdf](http://www.bourns.com/docs/legal/disclaimer.pdf).

\*\* RoHS Directive 2015/863, Mar 31, 2015 and Annex.

## OMRON G3VM-201WR SERIES P-SON HIGHER CURRENT TYPE MOSFET RELAY



VIEW PRODUCT DETAILS 

BUY NOW 

New non-leaded, high-current P-SON package.

### Features

- Load voltages 30V/60V/100V/200V.
- 30V relay: continuous load current of 4.5A max.
- 60V relay: continuous load current of 3 Amax.
- 100V relay: continuous load current of 2A max.
- 200V relay: continuous load current of 0.35A max.
- High ambient operating temperature: -40°C to +110°C

### Applications

- Semiconductor test equipment
- Communication equipment
- Test and measurement equipment
- Data loggers

## PANASONIC PHOTOVOLTAIC MOSFET DRIVER HIGH POWER TYPE



MOSFET drivers for high-speed operation and low on-resistance.

### Features

- Miniature SSOP package
- High-speed MOSFET operation (high output current: APV1111GVY)
- Low on-resistance of MOSFET (high output voltage: APV3111GVY)
- MOSFET drivers for high-speed operation and low on-resistance
- Photovoltaic MOSFET driver high power type

### Applications

- Driving MOSFET
- Measuring equipment
- Testing equipment
- Industrial machinery
- Industrial equipment
- Data center
- FA power supply

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## PANASONIC SWITCH EVQP0, EVQQ2, EVQ6Q2, EVQ7Q2, EVPBT SERIES 6MM SQUARE THIN TYPE SMD



Panasonic Electronic Components' light touch switches, which are often referred to as tact or tactile switches in the industry, are momentary push-on switches to be used with a small current. They provide a unique sharp and clear click operational feel, have low contact resistance, small bouncing noise, high contact reliability and come in a wide selection of operating forces.

### Features

- External dimensions : 6.5mm x 6.0mm, height 1.8mm (Excluding the push plate)
- With or without ground terminal, height, operating force
- Overstroke travel

### Applications

- Operating switches for other electronic equipment
- Operation switches for PC mouse
- Game

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# / ELECTROMECHANICAL

## SCHURTER TTS SERIES TOUCHLESS SWITCH



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SCHURTER TTS touchless switch is a robust stainless-steel switch that brings optical sensing to conventional switching to prevent the spread of pathogens in indoor and outdoor public spaces. This product features optical Time of Flight (ToF) technology for precise programming of each individual switch. The standard detection distance is set at 60mm to 0.2mm. This detection distance ensures that wiping or cleaning the switch surface does not trigger a switching malfunction. The TTS offers IP67 protection against splashes, drips, rain, or sunlight. The switch offers bi-colour ring illumination in red/green for optical feedback.

### Features

- Touchless momentary push button or latching switch
- Protection against unintended switching
- Precise operating
- Potential free output contacts
- Laser lettering possible
- Vandal-resistant
- 4 wires, 26AWG, and 0.128mm<sup>2</sup>
- Housing made from stainless steel
- Ring illumination
- Wearless, no moving parts
- Protects against water and rains

### Applications

- Automatic door openers in hospitals, airports, and transportation facilities
- Photoelectric barriers

## SCHURTER CHS1, CHS2, CHS3 SERIES CAPACITIVE HIDDEN SWITCH



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

Conventional switches inevitably require mounting holes in the user interface. Not so with the new SCHURTER CHS. CHS stands for "Capacitive Hidden Switch". They can be mounted hidden behind the surface of non-conductive materials and are therefore invisible. This approach allows completely new possibilities for designing user interfaces that ideally meet the requirements of specific applications.

With capacitive switches, an electric field is built up on the user surface of the sensor. This technology is used to design a switch with the SCHURTER CHS that no longer requires direct sensor contact with the finger to trigger. The electrical field change required to trigger the switching process is still achieved even if a non-conductive material (glass, plastic, wood, or similar) is inserted between the sensor and the finger.

### Use in highly sensitive environments

The new CHS is simply glued behind a wide variety of non-conductive materials and thus enables the construction of control elements for devices (medical technology, food industry) where hygiene plays a major role. Since there are no holes or slots created by the installation and the switch also has no moving parts, potentially harmful microbes have no possibility to "settle" on the user interface. This means that materials can be chosen that are particularly easy to clean.

### CHS

- Capacitive switch that can be installed in a hidden way
- Designed for use behind all non-conductive materials where openings in the user interface are not desired
- Provides the designer with a lot of freedom in the design of the user interface
- Highest reliability and service life
- RGB area illumination

### Sensitivity adjustable

The SCHURTER CHS is programmed as standard so that it does not trip in the event of field changes caused by liquids or minor wiping contact. This is only done by precise touching of the switching surface. However, adjustments can be made here at the customer's request. This applies in particular to the thickness of the material behind which the switch is bonded. As standard, the sensitivity is designed for a glass thickness of up to 2 mm.

### Designer's Dream

Switches are always a challenge for industrial designers. Their installation in the user interface often "disturbs" the appearance and structure of the same. The desire for an invisible switch is therefore great, because with it one no longer has to make compromises and is to a great extent free in the design.

### Available in 3 variants

- The new SCHURTER CHS is available in three different variants.
- CHS 1 comes without illumination and is with a mounting depth of less than 6 mm the optimal solution for space constrained designs.
- CHS 2 provides optical feedback. The RGB lighting can be used as a design element.
- CHS 3 is the potted version with lighting for demanding use in harsh environments.

# / ELECTROMECHANICAL

## SCHURTER TTS CONTACTLESS SWITCH FOR HYGIENIC SWITCHING



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The Covid 19 pandemic has greatly increased the demand for non-contact push buttons and switches. Various studies show that the transmission of viruses and bacteria via surfaces exposed to constant contact with hands is high. A wide variety of technologies for contactless switching are vying for the favor of developers and buyers. But not everyone is suitable to the same extent. Often, they also send out false signals under certain conditions (e.g., splash water, rain) and this trigger unintentional switching. The optical technology TOF (Time of Flight) used in the SCHURTER TTS can be programmed individually, with high precision, so that malfunctions are prevented.

### Highest reliability

The switch is programmed so that the standard detection distance is 60 to 0.02 mm. This ensures that wiping over or cleaning the switch surface will not trigger a switching signal. SCHURTER TTS switches offer the highest reliability. Since they have no moving parts, their lifetime is more than 20 million switching cycles.

### Ring illumination and installation

The visual feedback is ensured by a two-color ring illumination (red/green) in the actuator, whose supply voltage is between 5 and 28 VDC. The simple installation of the TTS, which is fixed by means of a nut, and an anti-twist protection allow a maximum easy replacement.

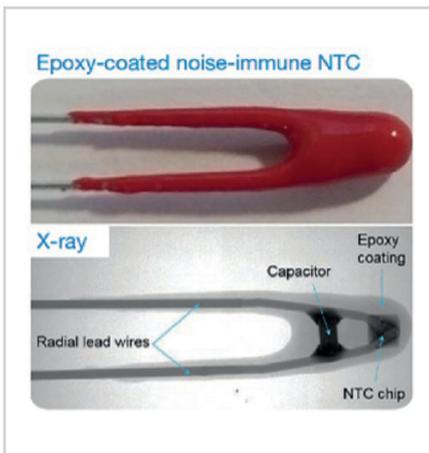
### Areas of application

The new TTS non-contact switch can be used for a wide range of applications. It is suitable in public areas, for example for vending machines, parking systems or in sanitary areas to avoid any contact by hand.

However, the detection distance can also be set so that the switch can be used as a photoelectric barrier for certain applications, this opening up a new field of application.



## AMPHENOL ADVANCED SENSORS THERMOMETRIC EPOXY-COATED TYPE NKI NOISE IMMUNE THERMISTORS



With increasing complexity of electric systems and density of electronic components in modern vehicles, conventional NTC thermistor sensors are vulnerable to stray electromagnetic interference causing self-heating.

Thermometrics has developed a noise immune NTC thermistor with an integrated radio frequency (RF) decoupling function, providing protection from electromagnetic interference (EMI) at the component level over a wide frequency range.

### Features

- EV/HEV/PHEV markets
- Battery temperature sensing
- Existing automotive - upgrade
- Drive systems
- HVAC
- Air intake/coolant

### Applications

- NTC element-level EMI protection
- Fast time response
- Drop-in upgrade for existing applications
- Reduced system cost:
  - Retrofit to use existing housing designs
  - Eliminate shielded cables
- EMC-tested to GMW3097 / ISO11452
- Range of conformal coatings available

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## KEMET FG-R05-4A SERIES FLUXGATE-BASED RESIDUAL CURRENT SENSOR



The FG-R05-4A sensor is a high-sensitivity AC and DC leakage current sensor with individual open drain alarms and an analog output for leakage current indication. In addition, its integrated test coil can be initiated by a test input to perform a functional alarm test.

### Features

- Open-loop, fluxgate-based current sensor
- PCB mounting
- Digital output of fault detection
- Conform to IEC 62752:2016 or A1:2018
- Conform to IEC 62955:2018 (conditional)
- Conform to UL 2231-2
- RoHS compliant
- 3000A surge current capability

### Applications

- Residual current sensor for in-cable control
- Protection devices (IC-CPD)
- Wallbox

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## KEMET FG-R02-4A SERIES FLUXGATE-BASED RESIDUAL CURRENT SENSOR



The FG-R02-4A sensor is a high-sensitivity AC and DC leakage current sensor with individual open drain alarms and an analog output for leakage current indication. In addition, its integrated test coil can be initiated by a test input to perform a functional alarm test.

### Features

- Open-loop, fluxgate-based current sensor
- PCB mounting
- Digital output of fault detection
- Conform to IEC 62752:2016 or A1:2018
- Conform to IEC 62955:2018 (conditional)
- Conform to UL 2231-2
- RoHS compliant
- 3000A surge current capability

### Applications

- Residual current sensor for in-cable control
- Protection devices (IC-CPD)
- Wallbox

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[BUY NOW](#) 

## KEMET FG-R01-4A SERIES FLUXGATE-BASED RESIDUAL CURRENT SENSOR



The FG-R01-4A sensor is a high-sensitivity AC and DC leakage current sensor with individual open drain alarms and an analog output for leakage current indication. In addition, its integrated test coil can be initiated by a test input to perform a functional alarm test.

### Features

- Open-loop, fluxgate-based current sensor
- PCB mounting
- Digital output of fault detection
- Conform to IEC 62752:2016 or A1:2018
- Conform to IEC 62955:2018 (conditional)
- Conform to UL 2231-2
- RoHS compliant
- 3000A surge current capability

### Applications

- Residual current sensor for in-cable control
- Protection devices (IC-CPD)
- Wallbox

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[BUY NOW](#) 

## KEMET FG-R05-3A SERIES FLUXGATE-BASED RESIDUAL CURRENT SENSOR



The FG-R05-3A sensor is a high-sensitivity AC and DC leakage current sensor with individual open drain alarms and an analog output for leakage current indication. In addition, its integrated test coil can be initiated by a test input to perform a functional alarm test.

### Features

- Open-loop, fluxgate-based current sensor
- PCB mounting
- Digital output of fault detection
- Conform to IEC 62752:2016 or A1:2018
- Conform to UL 2231-2
- RoHS compliant

### Applications

- Residual current sensor for in-cable control
- Protection devices (IC-CPD)
- Wallbox

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## KEMET C/CT HIGH CURRENT AC SNAP-ON TYPE CURRENT SENSORS



The C/CT series clamp-on current sensors can be used to measure currents in live wires.

### Features

- Compact and slim design
- Flat temperature characteristics
- UL 94V-0 flame retardant rated case
- RoHS compliant

### Applications

- EMS current measurement
- High performance distributions boards
- Power conditioners
- Power monitoring systems
- Inverters and industrial machinery.

[VIEW PRODUCT DETAILS](#) 

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# / CONNECTORS

## AMPHENOL FLEXLOCK 3.20MM PITCH FPC-TO-BOARD CONNECTORS



[VIEW PRODUCT DETAILS](#) 

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FlexLock® FPC-to-Board connector's compact design address the growing demand for automotive application market. The connector design is compliant to USCAR-T2V2 specifications. The connector has nominal current carrying capacity of 3A per contact to support higher power application.

FlexLock® 3.20mm pitch is supporting 10 to 26 positions double row with horizontal TH configuration.

### Features

- USCAR-T2V2 compliant
- Low mating and un-mating force
- Terminal Position Assurance (TPA) ensures proper terminal insertion position and retention
- Current rating 3A with each contact
- Meet higher power Amps performance
- Connector Positioning Assurance (CPA) ensures that connectors are properly mated and locked together

### Applications

- BMS (Battery Management Systems)
- ESS (Energy Storage Systems)
- OBC (On Board Charge)
- MCU (Micro Control Unit)
- EV power converter control
- Robotics

## AMPHENOL RJE3A AND RJE72 SERIES OF MODULAR JACKS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The RJE3A series of modular jacks is a SMT connector that meets CAT5e performance per EIA-568-C.2. It supports gigabit ethernet protocols as well as 2.5GBASE-T per IEEE 802.3bz. Shielding available for improved EMI performance and LEDs for link activity and network speed verification.

The RJE72 series of modular jacks meet CAT5e performance per EIA-568-C.2. It supports gigabit ethernet protocols. Shielding available for increased EMI performance and LEDs for link activity and network speed verification.

### Features and benefits

- **Contact resistance**
  - 20mΩ maximum
- **Insulation resistance**
  - 500MΩ minimum at 500VDC for 2 minutes maximum
- **Current rating**
  - 1.25A per contact
- **Voltage rating**
  - 125VAC
- **DWV**
  - Contact to contact: 1,000VAC, 60Hz, 1 min
  - Contact to LED: 1,500VAC, 60Hz, 1min
  - Contact to shield: 1,500VAC, 60Hz, 1min
  - LED to shield: 1,000VAC, 60Hz, 1min
- **LED forward DC current**
  - 20mA typical
  - LED forward voltage
    - 2.4Volts max. @ 2mA (for single colors)
    - 2.4Volts max. @ 20mA (for Bi-colors)
- **LED reverse voltage**
  - 5 Volts maximum
- **LED light intensity**
  - 4 to 30 mcd @ 20mA (for single colors)
  - 8 to 20 mcd @ 20mA (for Bi-colors)
- **LED wavelength**
  - Yellow: 587 ± 7nm measured @ 20mA
  - Green: 565 ± 6nm measured @ 20mA
  - Red: 625 ± 5nm measured @ 20mAHs compliant

### Applications

- **Data**
  - Storage
  - Servers
  - Routers
  - Switches
  - Hubs
- **Networking & Telecom**
  - 5G wireless
  - Modems
  - Fax machines
- **Consumer Goods**
  - Security systems
  - Set top boxes
  - Video game systems
  - PCs, laptops
  - Copiers, printers
- **Medical**
  - Analysis equipment
  - Mass spectrometers
- **Industrial and Instrumentation**
  - Uninterruptible power supply (UPS)
  - ATMs
  - Vending machines
  - POS terminals
  - Industrial IoT platforms

# / CONNECTORS

## AMPHENOL BERGSTAK SECURE UNSHIELDED CONNECTOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The BergStak® secure connector family contains one-time-use and multi-times-use solutions to support customers different needs on connection security. The family now contains variants with 3-row and 4-row contacts with 37 columns per row, and it can be extended in both (10) row and (100) column direction based on customer requirements, to fulfill high pin count/high signal density requirements.

With open-pin-assignment (GND/signal) data rates reach up to 32Gb/s. The optional shields improve EMI performance and support power transmissions, making it a hybrid solution.

### Features

- High speed performance up to 32Gb/s
- Dual-beam receptacle contacts
- Multi row and multi column contacts
- Blind-mating features

### Applications

- Automotive
- IT&DACOM
- Industrial
- Communication

## AMPHENOL ICC'S IP67 WATERPROOF D-SUBMINIATURE CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Amphenol ICC's IP67 waterproof D-subminiature product line offers the terminations for board and cable ends, bringing down the overall cost of cable assembly and connectors significantly. The terminations include straight and right angle for board side and solder cup for cable side. Each termination variant has both socket and plug connectors.

The mating area contact finish is always gold with choice of three basic thicknesses: gold flash, 15 $\mu$ ", and 30 $\mu$ ", according to the adequate number of mating cycles desired. And the soldering area contact finish is always gold. The machined contacts provide robustness and reliability.

Two kinds of Jackscrew heights 4.7mm and 5.7mm offer panel mounting options for different panel thickness 2mm max.

### Features

- Standard D shape connectors
- Ensures proper mating orientation
- Metal shells for EMIGrounding dimples for plug
- Suitable for applications requiring high reliability
- Inserts are made of flame-retardant thermoplastic
- UL #E232356 certified
- High reliability machined contacts are available
- Suitable for high end applications
- Variants with a comprehensive range of terminations
- Meets industry standards
- Both socket and plug are available for each termination variant
- Supports various customer needs

# / CONNECTORS

## AMPHENOL ICC NPI MINITEK® PWR CEM-5 PCIe® CONNECTOR SYSTEM



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Amphenol ICC introduces the Gen 5, Minitex® Pwr PCIe® connector system. This new introduction CEM 5.0 PCI Express® 12VHPWR auxiliary hybrid connector and cable assembly support the 600W GPU cards. The 12VHPWR connector is not designed to mate with legacy PCI Express® 2x3 and 2x4 12V auxiliary power connectors. The 12VHPWR connector power pins have a 3mm pitch, while the contacts in a legacy 2x3 and 2x4 connector lie on a larger 4.2mm pitch. New PCIe® connector system (CEM5) is designed for power applications with current rating upto 9.5A/ pin (12 pins energized) and the 4 signal pins supporting signal transmission.

- Rated current up to 9.5A per contact with all 12 power contacts and 4 Signal contacts
- Fully isolated terminals
- Positive locking on housing with low thumb latch operation
- Low level contact resistance: 6mΩ max.

### Features

- High current alloy material used for contacts
- Rated up to 9.5A per contact with all 12 power contacts and 4 signal contacts loaded
- Fully isolated terminals
- Prevents terminals from potential damage during operation
- Positive locking on housing with low thumb latch operation
- Ensures secured mating retention
- Fully polarized housings
- Prevents accidental mismatching
- High retention force in housing
- Well secured terminals in housing
- UL94V-0 flammability rated Nylon material
- High flammability rating
- RoHS compliant and lead-free
- Meets environmental, health and safety requirements

### Applications

- **Communications**
  - AI and Cloud
  - Gaming consoles
  - Graphic interface
  - Networking
- **Data**
  - Computing system
  - Server and storage

## HARWIN ARCHER KONTROL SERIES 1.27MM PITCH CONNECTOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

A range of 1.27mm (0.05") pitch connectors, male and female shrouded connectors for board-to-board and cable-to-board connection. All connector part numbers start with the series code M55.

The socket connectors are twin-beam female contacts, and these mate to solid pin male connectors. All board mount connectors are double row and Surface Mount, supplied in tape-and-reel packaging (pick-and-place caps included when applicable). All connector housings include location pegs for additional placement assistance on the PCB, and SMT side tabs for additional peel strength and strain relief when soldered down.

Both male and female connectors are available in vertical or horizontal orientations, with 3 height options on the vertical connectors. The range can therefore be used for parallel board-to-board (mezzanine layouts), right-angle motherboard-to-daughterboard, or co-planar/edge-to-edge layouts.

All housings include polarisation within the design. All IDC female connectors are double row, available as individual connectors or horizontally mounted to a PVC ribbon cable. Connector housings feature a latch for quick and secure mating to the male half.

# / CONNECTORS

## HARWIN ARCHER KONTROL SERIES 1.27MM PITCH CONNECTOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Amphenol ICC introduces the next-generation OverPass™ solution – Mini Cool Edge IO. The 0.6mm pitch connector come with a slim form factor design, capable of transmitting high-speed signal up to 56G PAM4/PCIe® Gen 4/PCIe® Gen 5, and allowing much greater signal path lengths while maintaining SI performance when compared to conventional pcb routing methods. Mini Cool Edge IO not only provides a SI performance ready signal transmission but also a new way of system design that is cost-effective, highly modular, scalable, and extremely easy to repair.

- High speed – 56Gb/s PAM4 /PCIe® Gen 4/PCIe® Gen 5 capability
- Supports both cable and card edge connection

### Features

- 0.60mm pitch, vertical and right angle configurations
- Slim form factor for compact data center system designs
- Up to 56Gb/s PAM4, PCIe® Gen 4, PCIe® Gen 5, over 1m transmission distance
- Extends transmission range far more over the conventional PCB routes
- Supports both cable and card edge applications with one identical connector
- Provides flexibility in system design to meet highly modular, scalable and easy-to-repair requirements
- Optional for 92Ω (G42 series), 85Ω (G97 series) and 95Ω (G98 series) impedance and various pin number options – meeting PCIe®/NVMe/SAS/SFP(+)/QSFP specifications
- Saves system material cost, engineering and certification expenses with high succession of system design

### Applications

- Baseband
- Commercial systems
- Networking
- Radio units
- High-end computing system
- Server and storage systems

## HARWIN ARCHER .5 SERIES 0.5MM PITCH MEZZANINE CONNECTOR



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Following the recent introduction of Archer .8 (0.8mm pitch board-to-board connectors), the company has extended its range again with a 0.5mm pitch range.

Harwin's award-winning engineering design team developed this latest compact mezzanine connector in response to the increasing market feedback for even smaller and lighter solutions. Specifically designed for applications with limited available space, Archer .5 is the perfect choice of board, stack, or PCB connector.

Applications include compact control and monitoring equipment, embedded computing, sensor modules, camera/Lidar units, and IoT connected devices.

Like Archer .8, these latest 0.5mm pitch connectors meet all technical specification requirements expected by electrical designers of modern industrial equipment. Materials are compliant with RoHS and REACH SVHC and are also Halogen free.

Designed without compromise, pin count options of 30, 40, 80, and 100, and with a tiny pitch, but their contacts still have a current-carrying capacity of 0.5A each. The operating temperature range is between -55°C to 85°C, and they feature a board-to-board stack height of 8mm.

Archer .5 includes reliability and safety by design, as with all Harwin products. Polarisation features ensure the correct orientation and alignment to prevent mis-mating; shrouding protects contacts from accidental damage.

These connectors are supplied in tape and reel packaging and do not require a separate pick and place cap, making automated assembly easy. In-stock and ready to order from our global distribution network now, you can confidently start designing with Archer .5 today.

## HARWIN SYCAMORE CONTACTS ULTRA LOW-PROFILE WITH THREE POINTS OF CONTACT



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Maximize the life of your PCB by making your sensors and modules replaceable items. Use the triple contact design of Harwin's Sycamore Contact to provide robustness and signal continuity superior to two-point contact systems. The socket is made from a single piece of gold-plated metal to reduce contact resistance and provide a secure surface mount connection. Contacts are supplied in tape and reel to ensure your operational costs are kept under control. Choose from top or bottom entry and compatibility with mating pins of either Ø1mm or Ø1.5mm diameter, all with an ultra-low above-PCB height of 0.43mm maximum. These sockets are open-ended, so mating pins length is not limited. Ideal for your application in domestic or commercial gas detection systems, fire alarms or metering systems.

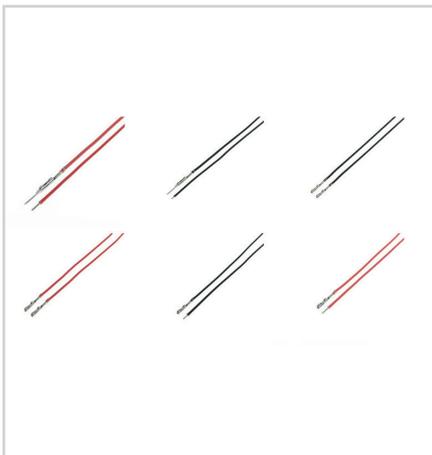
### Features

- A socket to retain pins on a PCB
- Great for use with external modules such as sensors
- Surface mount socket Ease of automation, no need for soldering on the underside of the board
- Single piece, stamped Easier to notice any damage, but still offers 500 mating cycles
- Gold plated
- Low contact resistance and High Conductivity improve the contact's performance making it suitable for sensitive components
- Packaged in
- Tape-and-Reel
- Provided in standard reels for ease of automation, no pick-and-place cap or tape required
- Both top and bottom entry models available
- Design flexibility in its use
- Compatible with Ø1.0mm and Ø1.5mm pins
- Can be used for a variety of sensors and external modules
- Protect sensitive components
- Remove the risk of heating sensor pins to damage important expensive components
- Low cost manufacturing
- Remove a hand soldering process and keep all soldering to one side of the PCB
- Patent published
- Design created and engineered by Harwin

### Applications

- **Industrial**
  - Gas detection sensors, fire alarms and meteringsystems, replaceable modules
- **Electric Vehicles**
  - Battery Management modules, LED lighting using IMS (Insulated Metal Substrate) PCBs
- **Commercial**
  - Domestic gas sensors and fire alarms, LED lighting panels

## MOLEX 217790, 217791, 217792, 217793 SERIES OFF-THE-SHELF (OTS) SQUBA DISCRETE WIRE CBLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Molex's range of pre-crimped leads offers a simple, cost-effective solution for prototyping, preproduction and mass production requirements.

These leads are offered in female-to-female and male-to-male configurations in lengths of 75mm to 600mm.

# / CONNECTORS

## MOLEX 215345, 215346, 215347, 215348 SERIES OFF-THE-SHELF (OTS) SQUBA 3.60MM PRE-CRIMPED LEADS



Molex's range of pre-crimped leads offers a simple, cost-effective solution for prototyping, pre-production and mass production requirements. These leads are offered in female-to-female and male-to-male configurations in lengths of 75mm to 600mm.

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

## MOLEX 218396, 218397 SERIES OFF-THE-SHELF (OTS) PICO-SPOX 1.5 TIN (SN) DISCRETE-WIRE CABLE ASSEMBLIES



OTS Pico-Spox 1.5 Sn Discrete-Wire Cable Assemblies deliver up to 3A and a variety of circuit sizes to facilitate both prototyping and global preproduction.

### Features

- **Readily available tooling**
  - Uses popular terminals to make it easy to access the crimp applicators, as they are widely available in the market
- **Vertical and right-angle single-row header with unique friction lock**
  - Provides latch protection; helps secure terminal retention
- **1.50mm-pitch connector**
  - Delivers secure mating retention without sacrificing compactness; 30% space savings compared to 2.00mm wire-to-board connector system
- **Friction lock**
  - Provides better mating retention
- **Polarization keys**
  - Prevent mismatching during assembly
- **SMT-type plug header**
  - Allows automatic assembly

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

# / CONNECTORS

## MOLEX 218322 218323 SERIES OFF-THE-SHELF (OTS) DURACLIK ISL SINGLE-ROW (SR) TIN (SN) DISCRETE-WIRE CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

OTS DuraClik ISL SR Sn discrete-wire cable assemblies deliver up to 3A and a variety of circuit sizes to facilitate both prototyping and global preproduction.

### Features

- **Independent secondary lock (ISL)**
  - Detects incomplete terminal insertion; provides up to 50N of terminal retention force; helps position terminals while meeting stringent automotive requirements
- **Wide solder tabs designed and tested to meet Society of Automotive Engineers (SAE) automotive vibration standards**
  - Provide secure PCB retention that can withstand an upward pull force of 100N (10kgf) to meet automotive vibration requirements
- **Crimp terminal variation**
  - Offers gold and tin plating
- **2 to 15 circuits in vertical and horizontal configurations**
  - Offer design flexibility
- **Audible click sound on mating**
  - Provides mating confirmation
- **Inner positive lock**
  - Provides secure mating and space savings and helps prevent latch breakage from wire tangling
- **Enclosed contact design**
  - Protects contact against dust and debris and avoids tangling during harness assembly

### Applications

- Automotive
- Air-conditioning
- Exterior lighting
- Heads-up displays (HUDs)
- Inverters
- Shift levers
- Steering components
- Wiper/blinker levers
- Commercial vehicle
- Cranes
- Tractors
- Trucks
- Consumer
- LED lighting
- Industrial automation
- Factory automation

## MOLEX 2218310, 218311 SERIES OFF-THE-SHELF (OTS) MINI-FIT SIGMA DUAL-ROW TIN (SN) DISCRETE-WIRE CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

Off-The-Shelf (OTS) Mini-Fit Sigma dual-row tin discrete-wire cable assemblies deliver up to 11.5A of current and offer a variety of circuit sizes to facilitate both prototyping and global preproduction.

### Features

- **V-0 Glow Wire combination resin**
  - Reduces the cost of materials and labor and allows customers to meet the European standards for electrical requirements
- **Polarized mating geometry**
  - Helps ensure header and receptacle cannot be mated
- **Positive locking housings**
  - Help ensure connectors are fully mated with easy-to-operate thumb latch; help prevent accidental unmating

### Applications

- **Automotive**
  - Harness manufacturers
  - Inside devices
  - Non-sealed applications
- **Commercial vehicle**
  - Electronic control modules
- **Consumer**
  - Gaming equipment
  - Gaming machines
  - Vending machines
- **Data/computing**
  - Copiers
  - Printers
- **Home appliance**
  - White goods
- **Industrial**
  - Industrial equipment
  - Power suppliers
- **Industrial automation**
  - Automation equipment
  - Food and beverage dispensers
- **Medical**
  - Medical devices
  - X-ray machines
- **Telecommunications/networking**
  - Backplanes
  - Fan-tray assemblies
  - Rack-mount servers
  - Routers
  - Servers
  - Switches

# / CONNECTORS

## MOLEX 207017, 207019 SERIES DUAL-ROW MINI-FIT SIGMA SEALED POWER CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Mini-Fit Sigma sealed wire-to-wire connectors utilise traditional Mini-Fit TPA2 terminals and wire gauges while providing protection from moisture, foam and dust debris ingress.

### Features

- **Panel Mount Ears**
  - Recommended panel cut-outs for 0.89mm to 3.00mm thick panels .
  - Panel cut-out tolerances +0.1mm.
- **Provides safety, and stability of housing to the panel.**
- **TPA supports**
  - Used to properly support the optional.
  - TPAs after terminals are inserted and seated into the housing.
- **Seal cap supports**
  - Provides excellent support for the rubber cap that mounts around the back of the housing.
- **Keying and polarization**
  - Allows for accurate mating to standard Mini-Fit 4.2 power connectors
- **TPA stop**
  - Provides stability for the terminal in the receptacle housing. Offers a physical block for the terminals to back out if a TPA is properly inserted.
- **Elongated contact points**
  - Provides larger contact area

### Applications

- **Home Appliance**
  - Refrigerators
  - Ovens
  - Dishwashers
- **Consumer and Commercial**
  - Air duct machines
  - Air conditioners
  - HVAC units
- **Industrial Automation**
  - Robotic arm
  - Drives and conveyer lines
  - Motors
  - Process control

## MOLEX 215330, 27159 SERIES OFF-THE-SHELF (OTS) MINI-FIT OVERMOLDED CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The Mini-Fit overmolded cable assemblies deliver up to 6A, provide terminal position assurance options and offer off-the-shelf and customized versions with various circuit sizes and lengths.

### Features

- **Both custom and off-the-shelf assemblies available**
  - Provides quick availability for development and production programs and customized
- **Overmolded strain relief**
  - Reduces mechanical stress on wires and terminals
- **Positive locking housings**
  - Help ensure connectors are fully mated with easy-to-operate thumb latch. Helps to prevent accidental unmating
- **Polarised mating geometry**
  - Helps ensure header and receptacle cannot be mated

### Applications

- **Automotive**
  - Harness manufacturers
  - Inside devices
  - Non-sealed applications
- **Commercial Vehicle**
  - Electronic control modules
- **Consumer**
  - Gaming equipment
  - Gaming machines
  - Vending machines
- **Data/computing**
  - Copiers
  - Printers
- **Home appliance**
  - White goods
- **Industrial**
  - Industrial equipment
  - Power suppliers
- **Industrial automation**
  - Automation equipment
  - Food and beverage dispensers
- **Medical**
  - Medical devices
  - X-rays
- **Telecommunications/networking**
  - Backplanes
  - Fan-tray assemblies
  - Rack-mount servers
  - Routers
  - Servers
  - Switches

# / CONNECTORS

## MOLEX OFF-THE-SHELF (OTS) MILLI-GRID DUAL-ROW TIN DISCRETE-WIRE CABLE



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

OTS Milli-Grid DR Sn discrete-wire cable assemblies offer a variety of cable lengths for connector systems based on a 2mm x 2mm grid pattern and provide design flexibility for wire-to-board, board-to-board and cable-to-board applications.

### Features

- Available gold or tin
  - Tin provides cost-savings; low contact resistance and good solderability
- Center polarization key
  - Prevents mismatching
- Locking windows
  - Ensure firm locking to receptacle
- IDT receptacle strain relief (optional)
  - Enhances cable retention
- Marking feature
  - Provides marking for first circuit location
- Early entry system crimp terminals
  - Provides longer pin wipe for a more reliable contact
- Locking ramps
  - Provide strong retention force to header
- Center polarization slot
  - Prevents mismatching

### Applications

- Automotive
  - Car audio
  - Data / telemetry
  - GPS
- Consumer
  - Copiers
  - Fax machines
  - Printers
  - Satellite radio

- Telecommunications/networking
  - Routers
  - Servers
  - Switches

## MOLEX 213274 SERIES POWERPLANE BUSBAR POWER CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

PowerPlane Busbar power connectors deliver high-current performance along with various configurations and feature options, making them applicable for a wide range of power-distribution applications.

### Features

- High-conductivity copper alloy
  - Provides superior electrical performance
- Float-mount design available
  - Allows up to +/- 1mm of misalignment, facilitating blind mating in deep racks
- One part number mates with 3mm and 3.18mm thick busbar tabs
  - Facilitates mating with de facto output blades for typical power supply applications
- Silver plating for lower resistance
  - Provides excellent reliability and performance
- Low-voltage drop
  - Affords minimal heat generation
- Dimensionally compatible with competitors' connectors
  - Allows for drop-in replacement for second-source opportunities
- Multiple, independent points of contact
  - Allows for 40% more points of contact than competitive products for high reliability and enhanced performance
- Mounts to a busbar via two holes using customer-supplied machine screws as well as solder tab options
  - Promotes secure fastening to busbar

### Applications

- Consumer
  - Power connections
- Data center solutions
  - Routers
- Networking
  - Network interfaces
  - Networking equipment
  - Power supplies
  - Rack-mount servers

- Telecommunications
  - Base stations
  - Routers
  - Switches
- Industrial automation
  - Automobile construction equipment
- Commercial vehicle
- Energy Storage Systems
  - Electrical switch panels

# / CONNECTORS

## MOLEX VERSABLADE 2-CIRCUIT FLANGE WIRE-TO-WIRE CONNECTOR SYSTEM



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

VersaBlade wire-to-wire connectors deliver reliable signal and power transmission at 300V and 15A with superior mating reliability, polarization and easy harness assembly. High-temperature variants support -55°C to +150°C, 600V/14A max. power requirements with robust positive-locking and Terminal Position Assurance (TPA) accessory for contact reliability. Glow Wire-compliant versions ensure the safety of consumer appliance users.

### Features

- **Polarized housing and terminal dimple**
  - Prevents incorrect connector insertion and mating
- **Multi-branched wiring capabilities**
  - Offer harness design options to reduce time and cost
- **Terminals can be crimped with two wires**
  - Enables daisy-chain connections
- **Friction and positive lock**
  - Provides improved mating retention
- **Variety of TPA types**
  - TPA ensures wires are fully inserted and variety provides design flexibility
- **Dual-row system**
  - Facilitates heat dissipation and low engagement force
- **Glow-wire capable housing with optional TPA accessory**
  - Meets global safety environmental environments
- **Snap-in mounting ears (optional)**
  - Enables easy panel mount and ensures strong retention force
- **Wide, flat-blade tab terminals**
  - Supports high voltage and current (300V/15A) for standard versions, (600V/14A max.) for high temperature versions
- **Housing lance: plastic hook captures the hole on terminal**
  - Improves terminal-to-housing retention and eliminates flares or weak metal tangs

### Applications

- **Consumer/home appliance**
  - Refrigerator
  - Washing machine
  - Microwave oven
  - Air conditioner
  - Air cleaner/dehumidifier
  - Exercise equipment
  - Printers
- **Data/computing**
  - Copiers
- **Medical**
  - Medical equipment

## MOLEX 213032 SERIES JUWEL BACKSHELLS FOR FCT D-SUB CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Jewel backshells for FCT D-Sub connectors offer cable management by enabling a straight to 45-degree adjustment of the d-sub connector's orientation and provide click-and-close assembly, protection and strain relief.

### Features

- **Flexible cable outlet adjusts from straight to 45 degrees**
  - Allows for convenient cable management
- **No loose parts**
  - Eliminates risk of lost screws and simplifies installation
- **Screw versions available**
  - Provide an excellent installation method for specific applications
- **Modern design with sleek back panel**
  - Enables customization with logos or other elements and is visually appealing

### Applications

- **Commercial aerospace**
  - Aircraft cabins
- **Medical**
  - MRI testing equipment
  - Patient monitoring units
- **Scientific**
  - Test and measurement equipment
  - Telecommunications/networking
  - Rack-mounted system
  - Head-end equipment
- **Defense**
  - Security devices
  - Surveillance equipment
- **Industrial automation**
  - Food and beverage equipment
  - Drag-chain systems
- **Electrical**
  - Wire harnesses
  - Transportation
  - Railway

# / CONNECTORS

## MOLEX 218509, 218510 SERIES OFF-THE-SHELF (OTS) MILLI-GRID DUAL-ROW (DR) TIN DISCRETE-WIRE AABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

OTS Milli-Grid DR Sn discrete-wire cable assemblies offer a variety of cable lengths for connector systems based on a 2mm x 2mm grid pattern and provide design flexibility for wire-to-board, board-to-board and cable-to-board applications.

### Features

- Available gold or tin
  - Tin provides cost-savings; low contact resistance and good solderability
- Center polarization key
  - Prevents mismatching
- Locking windows
  - Ensure firm locking to receptacle
- IDT receptacle strain relief (optional)
  - Enhances cable retention
- Marking feature
  - Provides marking for first circuit location
- Early entry system crimp terminals
  - Provides longer pin wipe for a more reliable contact
- Locking ramps
  - Provide strong retention force to header
- Center polarization slot
  - Prevents mismatching

### Applications

- Automotive
  - Car audio
  - Data/telemetry
  - GPS
- Consumer
  - Copiers
  - Fax machines
  - Printers
  - Satellite radio

- Telecommunications/networking
  - Routers
  - Servers
  - Switches

## MOLEX OFF-THE-SHELF MICRO-ONE 2.0 CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Molex Off-the-Shelf (OTS) Micro-One 2.0 cable assemblies offer a 2.00mm-pitch solution with an integrated independent secondary lock (ISL). This ISL feature ensures that the terminals are fully inserted. These cable assemblies have a low-profile design that reduces weight and saves space, and the 2- to 8-circuit vertical and right-angle header assemblies offer design flexibility. Molex OTS Micro-One 2.0 cable assemblies have UL certification. Applications include consumer and industrial, including household appliances, drones, factory automation, robotics, and more.

### Features

- UL certification
  - Helps ensure reliability
- 2.00mm pitch low-profile design
  - Reduces weight and saves space
- Independent secondary lock (ISL)
  - Detects incomplete terminal insertion
- 2- to 8-circuit vertical and right-angle header assembly
  - Offers design flexibility

### Applications

- Consumer
  - Air conditioner
  - Refrigerator
  - Vacuum cleaners
  - Washing machine
  - Water heaters/boilers
- Industrial
  - Drones
  - Factory automation
  - Power tools
  - Robotics
  - Test equipment
  - Vending machines

# / CONNECTORS

## MOLEX 219656, 219657 OFF-THE-SHELF PICO-LOCK 2.0 CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

OTS Pico-Lock 2.0 Cable Assemblies offer 1.00mm, 1.50mm and 2.00mm-pitch versions in a variety of cable lengths and provide durable locking for secure mating retention.

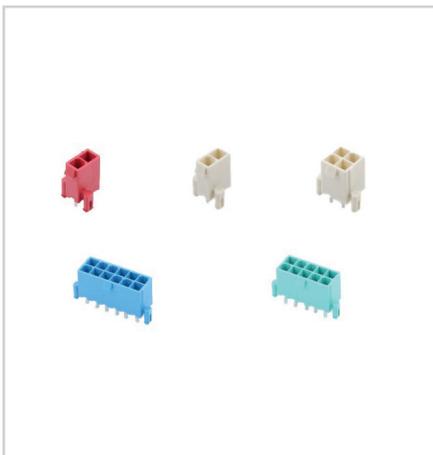
### Features

- **Polarization/mating guide features**
  - Help prevent mismatching and facilitate mating
- **Side positive locks**
  - Help ensure secure mating retention and additional space savings
- **Wide robust fitting nails (solder tabs)**
  - Offer secure PCB retention and additional mechanical stability
- **Beveled header pin design**
  - Provides smoother mating and pin-and-contact protection
- **Ultra-low-profile mated height (1.50mm and 2.00mm versions)**
  - Provides space savings
- **Top friction locks**
  - Provide additional mating retention and visual mating assurance

### Applications

- **Automotive**
  - Control units
  - Heads-up display (HUD)
  - Infotainment systems
  - Interior equipment manufacturers
  - Mirrors
- **Consumer**
  - Gaming equipment
  - LCD TV
  - LED TVs
  - Notebook PC
  - Tablets
- **Industrial**
  - Factory automation
  - Power supplies
  - Security systems
  - Smart meters
  - Surveillance cameras
- **Lighting**
  - LED lighting
  - Transformer
- **MedTech**
  - On-body health monitoring systems
  - Mobile devices
  - Tablets
- **Telecommunications/networking**
  - Wireless modem

## MOLEX 172447 SERIES MINI-FIT VERSA COLOR CONNECTORS



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

Molex Mini-Fit Versa color connectors offer five color options for quick connector identification and ease of assembly and also provide their standard offerings.

### Features

- **Panel-mount and vertical- header options; with or without peg options**
  - Maintain current rating through application surfaces or panels
- **Robust latch design**
  - Provides superior retention
- **Visual color pairing (colors can be intermated)**
  - Ensures proper mating during termination
- **V-0 glow wire combination resin**
  - Reduces the cost of materials and labor and allows customers to meet the European standard for electrical requirement

### Applications

- **Industrial**
  - HVAC
  - Power tools
- **Consumer and Home Appliance**
  - Refrigerators
  - Ovens
  - Dishwashers
  - Washers/dryers
  - Vacuum cleaners
- **Automotive**
  - Harnesses
  - Telematics
  - Non-sealed applications
  - Infotainment
  - Lighting
- **Lighting**
  - Connected lighting

# / CONNECTORS

## MOLEX 219658, 219659 SERIES OFF-THE-SHELF (OTS) C-GRID III CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

OTS C-Grid III cable assemblies offer complete design flexibility and unique design features to facilitate both prototyping and global preproduction.

### Features

- **Gold flash and two-sided gold plating on contact available**
  - Offers a more cost-effective solution
- **High mechanical stability after soldering**
  - Helps ensure reliable connector performance
- **Single- and dual-row options available**
  - Provides design flexibility
- **Polarization and friction-lock feature**
  - Helps prevent mismatching during assembly
- **High pin retention force**
  - Provides excellent retention for secure locking and proper mating
- **Easy breakaway feature**
  - Produces smaller sizes for design flexibility and quick turnaround

### Applications

- **Automotive**
  - Infotainment systems
  - Safety systems
- **Consumer**
  - Desktop PCs
  - Home entertainment systems
  - Monitors
  - Office equipment
  - Vending machines
  - White goods
- **Industrial**
  - Industrial equipment
  - Measurement equipment
- **MedTech**
  - Laboratory devices
  - Medical equipment
- **Telecom/Datacom**
  - Exchange station
  - Base stations
  - Control rooms
  - Servers

## MOLEX 218056, 218057 SERIES OFF-THE-SHELF EXTREME GUARDIAN



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Molex Off-the-Shelf (OTS) extreme guardian discrete wire cable assemblies offer a range of design options and are available in 2- and 3-circuit sizes.

### Features

- **UL and CSA certification**
  - Has accredited safety agency approval and meets safety requirements
- **Current density up to 80.0A per inch**
  - Provides one of the greatest current density solutions
- **High temperature of 105 °C power contact rating**
  - Provides greater margin for customers' temperature designs
- **Redundant contact design that handles up to 125V**
  - Supports AC or DC high-voltage applications with the lowest feasible voltage drop and irreversible dissipative power losses

### Applications

- **Aerospace and defense power supplies**
  - Uninterruptable power supplies (UPSs)
- **Automotive**
  - Electric vehicles
- **Data Communication Equipment**
  - High-end servers
- **Telecommunications**
  - Cellular base stations
  - Hubs
  - Servers
  - Routers
  - Switches

# / CONNECTORS

## MOLEX ZERO-HACHI CONNECTOR SYSTEM



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

The Zero-Hachi connector's fine pitch, low-profile height and extensive circuit size range address the concerns of shrinking electronic device space across industries. The connector's dual-point contact feature enhances electrical reliability during operation.

### Features

- **Fitting nail**
  - Provides robust PCB retention and protects the connector against breakage when wires are wrenched upward
- **Dual-point contact design**
  - Secures the connector's electrical contact
- **Low-profile height (1.60mm)**
  - Enables engineers to design slimmer devices
- **Friction lock on crimp housing**
  - Offers better mating retention and reliability of header and harness
- **U-shaped crimp terminal**
  - Guides crimp terminal insertion to the connector housing in the correct direction
- **Easy-to-grip design feature**
  - Facilitates easy handling during mating or unmating processes
- **'Checking-Mark' feature on crimp housing**
  - Aids in checking if the connector is fully mated. When the terminal contacts are not exposed, it indicates the crimp housing is completely mated to the receptacle. The exposed terminal contacts indicates the crimp housing is not completely mated to the receptacle.

### Applications

- **Consumer**
  - AR/VR devices
  - Gaming headsets
- **Mobile Devices**
  - Tablet PCs
  - Wearable devices
- **Connected home**
  - Smart speakers
  - Doorbells
- **Industrial**
  - Drones
  - UAVs

## MOLEX 214092, 214093, 214094 ONEBLADE 1.00MM PITCH WIRE-TO-BOARD CONNECTOR SYSTEM



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

The modular OneBlade 1.00mm-pitch wire-to-board connector system with friction lock and spacious pick-and-place area combines design simplicity with speed and ease of assembly.

### Features

- **Friction lock**
  - Provides better mating retention of header and harness
- **Dual-point contact design**
  - Offers secure electrical contact and reliability
- **Integrating both nail and terminal in a single part**
  - Reduces the number of loose parts serving each function
- **Single connector housing used interchangeably as a vertical or right-angle header**
  - Simplifies parts inventory management
- **Single connector header design**
  - Singular header design can be used in vertical or right-angle mating and mounting orientations
- **Dual-function soldertab**
  - Serves as both fitting nail and soldertail in both vertical and rightangle version connectors

### Applications

- **Home appliances**
  - Washing machines
  - Refrigerators
  - Air conditioners
  - Vacuum cleaners
- **Consumer**
  - Desktop computers
- **Data center**
  - Servers
  - Routers
- **Connected home**
  - Smart speakers

# / CONNECTORS

## MOLEX 215922 SERIES MICRO-FIT+DUAL-ROW WIRE-TO-WIRE POWER CONNECTORS



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

The micro-fit+ connector system offers a 3.00mm pitch, a higher-current rating of 12.5A and superior design options for flexibility and efficient assembly.

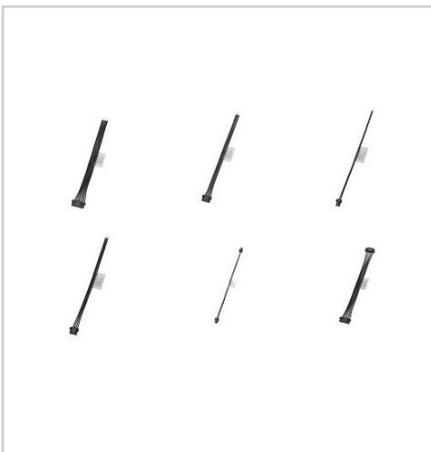
### Features

- Fully isolated contacts on each side of the interface
  - Help prevent potential arcing
- Unique keying design
  - Prevents mis-mating; different than standard Micro-Fit 3.0
- Reduced mating force by 40%
  - Allows for ease of work, reducing operator fatigue during assembly with its unique design compared to standard Micro-Fit 3.0
- Fully polarized housings
  - Help ensure proper mating orientation; not compatible with standard Micro-Fit 3.0 connectors
- V-0/glow wire combination resin
  - Reduces the cost of materials and labor and allows customers to meet the European standard for electrical requirements
- Reflow options available
  - Reduces labor costs, saves time and resources. Offers a +260°C reflow-capable temperature
- Smaller PCB footprint
  - Provides design flexibility
- Enhanced TPA design
  - Provides stability and security for the terminals inside the receptacle; offers easy assembly for operators

### Applications

- Consumer
  - Copiers
  - Freezers
  - Pinball and slot machines
  - Printers
  - Refrigerator
  - Vending machines
  - Video poker and pachinko
  - Washing machine
- Telecommunications/networking
  - Routers and switches
  - Servers
  - Storage
- Medical
  - Diagnostic equipment
  - Patient monitors
- Sustainable Energy
  - Solar power
- Automotive
  - Telemetrics
  - Non-critical applications

## MOLEX 218101, 218102 OFF-THE-SHELF MICRO-LOCK PLUS 2.0 TIN DISCRETE WIRE CABLE



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

Off-the-shelf Micro-Lock Plus 2.0 tin discrete wire cable assemblies offer a 2.00mm pitch in single-row and a variety of circuit sizes to facilitate both prototyping and global preproduction.

### Features

- OTS Micro-lock plus 2.0 tin discrete wire cable assemblies
  - Delivers secure mating retention without sacrificing compactness
- Robust metal solder tabs
  - Provide secure PCB retention and strain relief to solder joints
- Tin-bismuth terminals
  - Prevent whiskering for a clean and uninterrupted signal. Supports terminal ruggedness and reliability
- Withstands up to +105°C operating temperature
  - Meets automotive industry requirements withstands harsh environments
- Inner lock for dual-row versions; outer lock for single-row versions
  - Strengthens lock for more reliable connection
- Dual contact terminal design
  - Offers secure contact and terminal retention
- Two to 15 circuits, single rows, receptacle-to-receptacle and receptacle-to-strip configurations\*
  - Offer design flexibility
- Wide positive latch that delivers audible click
  - Provides secure mating retention.
  - Ensures proper mating

### Applications

- Automotive
  - Internal connections with units
  - Steering wheels, paddle shifts, combination switches
- Consumer
  - Air conditioners
  - Desktop PCs Drones
  - Gaming machines
  - Laser printers
  - Power tools
  - Vacuum cleaners
  - White goods

# / CONNECTORS

## OMRON D6F-PH SERIES MEMS DIFFERENTIAL PRESSURE SENSOR



Compact, high-accuracy differential pressure sensor with superior resistance to environments.

### Features

- High accuracy of  $\pm 3\%$  RD
- Linearized and temperature compensated
- Digital output (I2C communication)
- High flow impedance to reduce the influence of bypass configuration

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

## PANASONIC R35K SERIES NARROW PITCH CONNECTORS FOR BOARD-TO-FPC



Panasonic R35K Narrow-Pitch Connectors are ultra-small (1.3mm width, 0.6mm mated height) connectors that are robust with a high mating force.

Panasonic R35K Connectors support 3A power terminals and have a 30VAC/DC rated voltage. The TOUGH CONTACT construction withstands rugged environments despite its slim, low-profile size. Applications include wearables, batteries, side switches, and various sensor modules.

### Features

- Slim with a 1.3mm width
- Low-profile construction with a 0.6mm mated height
- Supports 3A power terminals
- TOUGH CONTACT construction withstands tough environments despite being slim and low profile
- Double contact with a simple lock structure
- Allows for low profile
- Good connector clicking feel
- High removal force

### Applications

- Wearables
- Internet of Things (IoT)
- Industrial
- Consumer

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

# / CONNECTORS

## SCHURTER EC12 SERIES APPLIANCE INLET FILTER



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

SCHURTER expands the successful EC12 appliance inlet filter family with new variants for snap-in mounting. This allows the compact power entry module to be mounted even faster and easier. The EC12 filter series combines an IEC C20 appliance inlet with a high quality 1-stage filter and power switch.

### Snap-in mounting

New variants of the EC12 power entry modules feature two snap-in springs instead of the screw flange for even simpler and more efficient installation. Thanks to the high-quality springs, a tight-fitting installation is ensured with good electrical contacting of the mounting panel at the same time. The wide metal flange contacts the housing over a large surface area, thus enabling optimum filtering and shielding effect.

### Applications

- The EC12 filter series is available as a standard or medical version and is used in devices that require particularly high resistance to interference. This includes IT or telecom systems according to IEC 92368-1 and medical equipment according to IEC 60601-1.
- Filter versions with increased surge withstand voltage capability are also available. These have interference suppression capacitors of safety class X1 for surge voltages of 4kV between L and N and Y1 for surge voltages of 8kV. The series is compatible with V-Lock cord retention device connection cables.
- The EC12 series is certified for currents up to 16A/250VAC according to IEC and 20A according to UL/CSA at 125VAC or 250VAC. It comes with ENEC, CQC and cURus approvals.

## TE CONNECTIVITY 1.25MM, 1.5MM SINGLE ROW LOCKING HPI CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity's (TE) wire-to-board High Performance Interconnect (HPI) connector system is available in 1mm, 1.25mm, 1.5mm, 2.0mm, and 2.5mm centerline pitch. This connector system offers vertical and horizontal (right angle) connector mounting for versatility, and the square-peg technology enables product compatibility with industry standard products. HPI products can be used anywhere a signal or low power needs to be routed through a device. If your application has more than one printed circuit board then HPI product is an option to connect the PCBs.

### Features

- 1mm to 2.5mm centerline
- Vertical and horizontal PCB mount
- Through hole (DIP) and Surface Mount Termination (SMT)
- Polarized
- Partially and fully shrouded
- Square termination posts
- Latching and gold plating options available
- Reach up to 2A
- Provides design flexibility
- Cost effective wire-to-board
- Ensures proper compatibility of both the header and the housing
- Prevents stubbing contacts
- Enables inter-changeability with industry standard designs

### Applications

- Business and retail equipment
- Consumer devices
- Industrial
- Automotive
- Medical
- Appliance

# / CONNECTORS

## TE CONNECTIVITY SOLDERSLLEEVE DEVICES FOR SPACE APPLICATIONS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity (TE)'s SolderSleeve device for space is our response to support the critical requirements of the space industry. This product is designed and developed for applications within this vertical market (including LEO satellites) which require low outgassing and resistance to extreme temperatures. SolderSleeve device for space helps provide reduced size, weight and power (SWaP) and environmentally protected shield termination on cables as well as insulation, protection and strain relief. This product can be used for splicing wires as well as shield terminations. The space industry also demands solutions which have minimal to zero levels of foreign object damage (FOD) in key applications.

The use of flux free solder leaves no traces of particles post installation and the sealing rings helps ensure that the installation remains intact.

SolderSleeve device for space can be used for silver plated cables. In addition, standard tools such as the heat gun and reflector will work and follow the RCPS-100-70.

### Features

- Heat shrinkable technology for one-step shield results in easy inspection
- Transparent insulation sleeve saves time during installation
- Provides strain relief with ratings of up to +150°C
- Minimal tools required to achieve connection, insulation and protection
- Inhouse design and quality controlled process offers reliability and traceability

### Applications

- Small, nano and cube satellites for LEO constellations
- Launch pads

## TE CONNECTIVITY SPE M8 SERIES HYBRID BOARD RECEPTACLE AND CORDSET IP67



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Single Pair Ethernet (SPE) allows for a single open, scalable Ethernet-based network within the automation system. It standardizes the transmission of Ethernet over only one pair of copper wires. In addition to data transmission via SPE, the M8 Hybrid solution also provides power transmission over a separate wire pair. Data transmission is possible up to 1Gb/s, and power supply up to 400W. At 10Mb/s speed transmission distances up to 1,000 meters are possible.

### Features

- Data and power in one cable
- 1Gb/s communication
- Higher power levels are possible compared to PoDL
- EC 6317-6 standard supported
- Reduce number of connectors needed
- Enables IoT in small package
- Higher power levels possible
- Galvanic separation power and data
- More noise allowed on power lines
- No special circuitry required
- More flexibility for powering devices

### Applications

- Sensor/actuator network
- Robotics
- Machinery
- Industrial automation
- Security and surveillance cameras

# / CONNECTORS

## TE CONNECTIVITY 112G PORTFOLIO SOLUTIONS



TE Connectivity's (TE) 112G wide-ranging product portfolio provides a robust and flexible array of solutions to enable next generation architectures. The product family supports standard form-factors and performance requirements, designed with reliability and upgradability in mind, enabling applications including compute/storage, high-speed networking and machine learning/artificial intelligence.

### Features

- Due to the demands on next generation high-speed designs, TE Connectivity (TE) has developed one of the most comprehensive, flexible and high-performing internal and external connector and cable assembly portfolios in the market
- Next generation products aligned with or exceeding the industry's 112G channel performance needs, delivering high marks in cross talk, return loss, and insertion loss performance
- Standard external input/output (I/O) form factors enable ecosystem connectivity for intra-rack and inter-rack applications
- Copper cable solutions provide cost-effective system design and connectivity options to achieve the performance demands of 112G architectures.

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

## TE CONNECTIVITY NTSEAL 48 POSITION CONNECTORS



Providing flexible and robust wire-to-wire connectivity in a compact footprint, TE Connectivity (TE)'s innovative NTSEAL 48 position, high-density hybrid sealed connector utilizes the proven DEUTSCH common contact system with both size 16 and size 20 contacts for serviceable applications in harsh environments.

The new 48 position connector introduces an improved design with an integrated locking lever which facilitates mating operation. This locking mechanism enhances user experience by speeding up assembly and helping to ensure proper connector mating.

### Features

- Ensure easy installation with new integrated locking lever designed for easier and faster mating/unmating operation
- Facilitate signal and power in one connection with the high-performance Deutsch size 16 and 20 common contact system
- Offer configuration flexibility where connector can be used panel-mounted or in-line with a simple mounting clip
- Withstand extreme temperatures and engine-level vibrations with excellent sealing performance rated to IP67, IP68 and IP6K9K (with backshell)
- Provide contact locking assurance with integrated Terminal Position Assurance (TPA)
- Helps ensure the connector stays mated with integrated Connector Position Assurance (CPA)

[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

### Applications

- Wire-to-wire
- Panel/bulkhead Mount
- Engine
- Chassis
- After-treatment
- Automation

# / CONNECTORS

## TE CONNECTIVITY FASTON LIF 250 SERIES LEFT HAND FLAG RECEPTACLE



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity's (TE) Faston products have been the industry leader in the appliance and automotive industries for years. TE continues to reinvent the Faston product line to meet the changing trends in these and other industries. We have seen the need for lower insertion forces, higher performance and higher temperature ratings within the Faston product family, so TE is proud to introduce several new products specifically designed to meet these requirements. These new products come with the same strong engineering support and high quality that TE has provided for over 60 years.

### Features

- Insertion force is 6 lbs. (27N), average, when used with Faston tabs, easing assembly
- Robust design fully meets specifications on sixth mating cycle, not just the first one, supporting applications where assembly operations or field repairs might require disconnection and reconnection
- Tin plated brass standard Faston receptacles are rated at +125°C, rather than the +110°C rating of some other tin plated brass quick disconnect terminals
- Nickel plated steel standard Faston receptacles are rated at +250°C
- Choice of crimp options for tin plated brass receptacles includes innovative 2D crimp that allows one terminal and one applicator to accommodate many wire sizes, potentially reducing design-in, procurement, inventory and production cost
- Standard Faston receptacles are backward compatible with housings designed for Premier, Budget and Lif line Faston receptacle

### Applications

- Standard Faston terminal Lin

## TE CONNECTIVITY ULTRA-SMALL SPRING FINGERS CONTACTS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Spring fingers (also known as shield fingers, grounding springs, universal ground contacts or antenna clips) can be used in all types of small printed circuit board (PCB) applications across multiple industries. A spring finger is a single contact, surface mountable internal connector with multiple functions on a PCB. Spring fingers can be used for antenna feeds, low voltage electrical connections, and grounding or shielding. They are beneficial in minimizing EMI noise and static caused by speakers, motors, microphones, or a variety of other types of connectors that can cause vibration within an application. TE Connectivity (TE) has a wide variety of spring fingers with industry leading specifications to address your needs.

### Features

- Product footprint of 1.7mm<sup>2</sup>
- The close-loop contact design can ensure reliable connection to the PCB, better normal force (0.7Nmin) and higher current capacity (1.5A)
- A special anti-lifting design that can improve assembly efficiency by locking the tip of the contact within the sidewall of the spring finger, which helps prevent the contact from catching during installation
- Pick-and-place area support auto-assembly processes
- Space savings
- Superior performance
- Improved assembly efficiency and ease of installation
- Resistance to over compression
- Wide portfolio of height and style options to fit a variety of applications (TPA)
- Helps ensure the connector stays mated with integrated Connector Position Assurance (CPA)

### Applications

- IoT
- Consumer electronics
- Industrial and production
- Medical devices

# / CONNECTORS

## TE CONNECTIVITY UNSEALED 36 AND 48 POSITION MONOBLOCK CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity's Unsealed interconnection system for industrial & commercial transportation is the ideal solution for customers in search of unsealed, rugged and flexible connectors - specifically designed for inside-cabin, bulkhead and control-unit applications of on- and off-road vehicles. Expanding the interconnection family, the Unsealed 36 and 48 position monoblock connectors feature a robust, compact and high-density design - with an improvement of the well-established lever system reducing the mating force and improving the assembly process. The connectors also offer integrated secondary locking features to enhance contact alignment, as well as adopt the popular AMP MCP 1.5K and MCON 1.2 contact systems. The all-in-one mono housing composition improves strength and the overall application experience, while the four color-codes help to reduce mismatching. All 36 and 48 position connectors also fit inside existing bulkhead cut-outs to eliminate the demand for further design changes - and complete the unsealed portfolio.

### Features

- **Flexible**
  - Expand the unsealed family, with a range of 1 - 48 position connectors now available
  - Fit into existing bulkhead cut-outs to eliminate demand for design changes
- **Dependable**
  - Increase durability with high density single pocket configuration
  - Ensure high reliability for long-term use with vibration resistance for cabin
- **Easy to assemble**
  - Reduce mating force with an improvement of the well-established lever system
  - Improve contact alignment with integrated secondary locking features
  - Help prevent mismatch with up to 4-polarization and color key mating configurations

### Applications

The Unsealed interconnection system operates in wire-to-wire, wire-to-board, control unit, bulkhead, in-cabin, and fuse and relay box applications

## TE CONNECTIVITY 250 FASTON PRINTED CIRCUIT BOARD TABS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The market is demanding improved quality and efficiency in the production of printed circuit boards for major home appliances, HVAC, transportation and industrial machinery controls. These 3 new Tin-plated tabs with Nickel underlayer in 2 and 3 post options. The Nickel underlayer prevents zinc (Zn) migration on surface and can help reduce PC board soldering temperatures, which help ensure good surface finish.

### Features

- Tin plated brass with nickel underlayer
- Nickel underlayer prevents Zn (zinc) migration to surface
- Lower soldering process temperatures
- 2 and 3 posts tabs options to accommodate multiple current ratings
- Better quality surface finish

### Applications

Any application that requires printed circuit board FASTON tabs

# / CONNECTORS

## TE CONNECTIVITY PRINTABLE CONTINUOUS TUBING (-CT)



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

TE Connectivity, a market leader for Identification Polyolefin Sleeves, is launching a heat-shrinkable high-performance tubing that can be used with any TE thermal transfer printer to create identification sleeves for wire and cable harnesses in harsh environments. Tubing supplied diameter ranges from 2.4mm (0.031Inch) to 50.8mm (2.0Inch) depending on product type.

Spooled continuous reels are useful when printing identical indents or when the user requires more flexibility on the length of the indent used. Reels are situated outside the printer on a TE universal reel holder (EC9926-000), product can be thread through a rear gap on any TE printer and follow the standard path through the printer. Cutter and perforator attachments can be used to create custom indent lengths immediately, or perforation allows the tubing to remain in a continuous format and each identification print can be easily removed.

The 'open' profile of the tube makes it easier to apply onto the wire and therefore reduces application time/increases productivity. Print legibility on identification tubing is guaranteed when using TE products in conjunction with the recommended TE software, ribbon and thermal transfer printers.

### Features

- High performance thermal transfer printable tubing in a continuous format
- Material, sizes and colours to suit both harsh environment and commercial print criteria
- Compatible with all TE printers
- Data input with WinTotal
- Open profile to allow easier application
- Standard color white and yellow. Other colors on demand
- Create identification labels for wire and cable harnesses in harsh environments with any TE Connectivity thermal transferable printers
- User flexibility to design custom length markers from 5mm to 3m using TE WinTotal software
- Optimal reel length to maximize bulk printing and minimize storage space
- Reduce installation time with a more open profile

### Applications

- Rail
- Aerospace
- Industrial
- Automation
- Panel builders

## TE CONNECTIVITY HDC- HK-HDW3/1/1-23/16/47 HEAVY DUTY CONNECTORS



[VIEW PRODUCT DETAILS](#) →

[BUY NOW](#) →

TE Connectivity's Heavy Duty Connectors (HDC) deliver, reliable performance in harsh environments. Designed specifically for high performance EMC demand for industrial applications, the new HDC HKHDW3/1/1-23/16/47 combines power and signal in one small H10B hood with EMC shielding. The connector has a high density of the connector can contain 47 positions of signal (2.2A 32V), 16 positions of power (3.7A 300V) and 23 positions of power (11A 400V).

The dynamic contact makes it possible to reduce cable assembly costs by using semi-automatic or fully-automatic crimping of dynamic contacts. Building on TE's proven dynamic contacts technology, the new HDC HK insert deliver performance comparable with traditional HDC connectors.

### Features

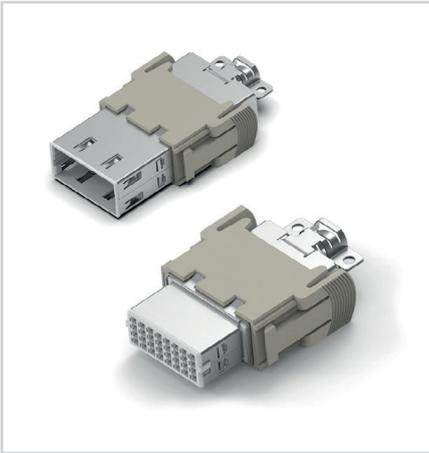
- Hybrid Power+Signal
  - Signal (HD1) 47P (2.2A 32V)
  - Power (HD1) 16P (3.7 A 300V)
  - Power (HD3) 23P (11A 400V)
- Reliable and high density
  - Signal (HD1) 47P (2.2A 32V)
  - Power (HD1) 16P (3.7 A 300V)
  - Power (HD3) 23P (11A 400V)
- EMC shielding
- Reliable dynamic stamping contact

### Applications

- Industrial robot
- Cobot
- SCARA robot
- Controller
- Machinery

# / CONNECTORS

## TE CONNECTIVITY HDC HMN EMC MODULE INSERT



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity EMC Shielding Modular Insert is designed to provide EMC protection solutions in modular systems.

The existing solution needs two connectors to transition power and signal separately, with new HMN shielding modular insert.

Which enables the customer to combine signal and power in one modular system. This is also beneficial for our customer helping to save space, reduce the cost and avoid additional power noise.

### Features

- EMC shielding
- Large position (32P) per module
- Small quantity components design
- Reliable HDC dynamic contact

### Applications

- Semi conductor
- Machinery
- Robotic
- Wind power
- Warehouse automation

## TE CONNECTIVITY CAT6A INDUSTRIAL MINI I/O FIELD INSTALLABLE CONNECTORS



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity (TE) industrial mini I/O connector can be used in Cat6A Ethernet connections where fast and flawless field installation is an important requirement. It can be connected to the cable without special tools and can accommodate 8-wire AWG24/26 cables.

The industrial mini I/O connector system is a compact, wire to wire and wire-to-board solution for reliable serial, bus, and Ethernet connections in industrial applications. Measuring only one quarter of the size of conventional RJ45 plugs, the industrial mini I/O connector provides space saving on a PCB – space that can now be used more efficiently.

The connector automatically cuts off the wire at the optimal length during contacting guaranteeing optimal transmission performance. To meet current network data rates. Cat5e (1Gbps) and Cat6A (10Gbps) variants are available both type I (D-mating interface) and type II (U-mating interface) are available to prevent connector mis-mating.

### Features

- Field installable technology enable easy, quick and error free installation
- Camera and other high-speed peripherals can be connected and supported via mini I/O and PoE

### Applications

- Robotics
- Machinery
- Drives
- Motors
- Distributed peripherals

# / CONNECTORS

## TE INDUSTRIAL MINI I/O FIELD INSTALLABLE CONNECTORS CAT5



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

The industrial mini I/O connector system is a compact, wire-to-wire and wire-to-board solution for reliable serial, bus and Ethernet connections in industrial applications. With only one quarter the size of conventional RJ45 plugs, the industrial mini I/O connector provides critical space saving on a PCB – space that can now be used more efficiently. Mini I/O Field Installable cable connector (3 parts) allows easy, quick and error free installation without the need for tools and wire length preparation.

The connector automatically cuts off the wire at the optimal length during contacting, guaranteeing optimal (Cat5) transmission performance. TE's Industrial Mini I/O solution has been designed for the stringent demands of industrial environments.

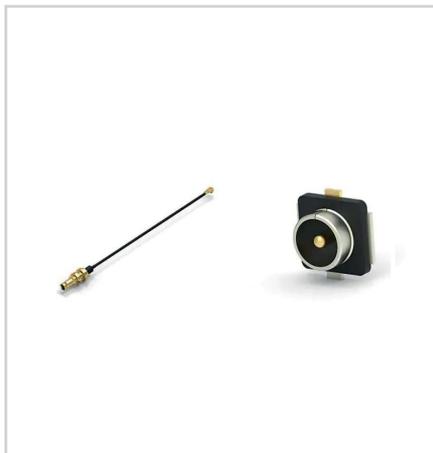
### Features

- Consists of only two parts: Termination unit and outer housing
- Toolless Installation: Standard tools can be used as assembly aid
- Integrated wire termination and wire cut off
- Rugged die casted housing for optimal protection and shielding
- Small form factor reduces PCB area and equipment height
- 2 unique keying styles (type 1/type 2) to prevent mismatching
- With only 25% of the size of a conventional RJ45, TE's Industrial Mini I/O solution allows you to save on valuable boards space
- EMI and Signal Integrity are optimized by the signal path design and the 360 degrees shielding brings in next generations to Cat6A performance
- High retention of the board connectors, combined with a compact metal latching mechanism prevents accidental pull or unmating, reducing potential system down time
- Allows latch activation in high density applications

### Applications

- DIN rail equipment: I/O, PLC
- Motor drives
- Robotics
- Other Ethernet application in shock and vibration prone environments (e.g. field devices with Ethernet connectivity) or in the need of space saving (compared to RJ45)

## TE CONNECTIVITY MICRO-COAXIAL RECEPTACLES AND CABLE ASSEMBLIES



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

TE Connectivity's (TE) micro-coaxial receptacles and cable assemblies offer excellent electrical performance to connect a RF cable assembly or antenna to a main printed circuit board. Our micro-coaxial receptacles can offer drop-in replacements for many existing RF receptacles on the market, so customers may not need to change their PCB layout during design or assembly. Micro-coaxial receptacles and cable assemblies can be supplied with competitive low price and fast delivery, with multiple custom configurations available.

### Features

- Excellent electrical performance and manufactured with precision tolerances
- Robust and heavy-duty design
- Competitive price and fast delivery
- Total end-to-end RF solutions provider
- Drop-in replacement, redesign of PCB is normally not required
- Impedance: 50Ohms
- Frequency range: DC to 9GHz
- Competitively priced

### Applications

- Automotive
- Industrial
- Medical
- Appliances
- Consumer products
- IoT

## ARTESYN LCM4000HV SERIES POWER SHELF



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

ADQ600B series quarter-brick isolated DC-DC converters produce a single fully regulated 12V output. Rated at 600W, these converters can deliver up to 50A output current and have no minimum load requirement. They have an input voltage range of 36V to 75V and are primarily designed for use with standard 48V supplies in computing and server applications, as well as regulated 48V supplies in communications equipment.

### Features

- 600W continuous power
- Ultra high efficiency: 95.5% typical at half load
- 36VDC to 75VDC telecom input range
- Baseplate optimized for contact cooling or heatsink mounting
- Trim -20%V to +10%V out
- Open frame version optimised for air cooling
- Low ripple and noise
- Fixed switching frequency
- High capacitive load capability
- Pre-bias start-up capability
- High reliability
- RoHS3.0 (2011/65/EU)
- UL94 V-0 materials
- DOSA footprint compliant
- PMBus Rev. 1.2 compliant
- Two year warranty (consult factory for extended terms)

## EXCELSYS CMK COOLMOD HIGHER VOLTAGE MODULE



[VIEW PRODUCT DETAILS](#)

[BUY NOW](#)

Designed for industrial and medical applications that require non-SELV DC voltages.

- 200V DC output and higher
- IEC60601-1 3rd edition
- IEC62368-1
- Industry leading 5-year warranty

We are happy introduce the new single slot CmK higher voltage module. Providing an isolated 200VDC output, this new CoolMod can be used across the full range of CoolX intelligent, configurable power supplies: CoolX600, CoolX1000, CoolX1800 and CoolX3000. The new CmK module will benefit customers by simplifying hardware design and system safety compliance for systems requiring higher DC voltages.

Each CmK CoolMod can deliver up to 200Watts at 200V, and a total of three CmK modules can be connected in series to provide 600VDC. Three CmK modules can also be connected in parallel to provide 200VDC for applications that require higher currents. This flexible module is adjustable between 175VDC and 205VDC, and as extension of the CoolX configurable range offers system designers greater flexibility with both analog and digital (PMBus®) monitoring and control capability.

Meeting the stringent creepage and clearance requirements for medical applications, the CoolX also provides 4KVAC isolation, 2 MOPP protection and is fully certified to IEC60601-1 3rd edition for medical applications as well as IEC62368-1 for industrial applications.

Typical medical applications include medical and laboratory equipment like clinical chemistry and analyzers, medical lasers, surgical robotics, imaging, and life science equipment, while typical industrial applications include test and measurement, additive manufacturing, and automation equipment.

## PANASONIC PAN9028 SERIES WI-FI® RADIO MODULE WITH INTEGRATED BLUETOOTH® WIRELESS FUNCTIONALITY



[VIEW PRODUCT DETAILS](#) 

[BUY NOW](#) 

Following the market's high demand for modules suiting highly integrated applications and rapid certification processes, Panasonic Industry now presents the PAN9028 Wi-Fi® radio module with integrated Bluetooth® wireless functionality.

Nowadays, the fast-paced product development cycles in almost any field of applications requires designers to resort to efficient solutions, that enable quicker prototyping, shortened certification processes – and a reasonable BOM.

Specifically for those highly-integrated and cost-effective applications, Panasonic Industry now introduces the PAN9028, a dual band 2.4GHz and 5GHz 802.11 a/b/g/n/ac Wi-Fi radio module with integrated Bluetooth® BR/EDR/Low Energy wireless functionality, based on the NXP Semiconductors 88W8987 wireless chipset.

Speaking of security, the PAN9028 complies with the IEEE 802.11i standard and comprises AES cryptography, CCMP as well as other established mechanisms.

Reliable performance and quality, speed and safety: For anyone interested in minimizing design, testing, calibration and certification efforts, the PAN9028 module might be the key to achieve a faster time to market.

### Features

- Dual band 2.4GHz and 5GHz 802.11 a/b/g/n/ac Wi-Fi/Bluetooth combo module
- Supports 802.11i security standards through AES, CCMP, and more security mechanism
- 802.11e Quality of Service is supported for multimedia application
- IEEE 802.11ac (Wave 2), 1×1 spatial stream with data rates up to 433Mbps (MCS9, 80 MHz channel bandwidth)
- IEEE 802.11ac MU-MIMO beam formee
- Bluetooth 5 (includes LE)
- Dual simultaneous and independent WLAN and Bluetooth operation
- Dynamic Rapid Channel Switching (DRCS) for simultaneous operation in 2.4GHz and 5GHz bands
- Indoor location and navigation with IEEE 802.11mc
- Power management with sleep clock
- Coexistence interface for arbitration of co-located WLAN, Bluetooth, or mobile wireless system (e.g. LTE or ZigBee®)
- Generic interfaces include SDIO 3.0 and high-speed UART for host processor connection
- Software driver Linux







# SENSORS

	NTC	PTC	RTD	Digital IC	Thermal reed switch	IR thermopile	Thermocouple	Pressure	Force, load, torque and tension	Humidity	VOC and CO <sub>2</sub>	Dust	Flow	Water level	Accelerometer, vibration and shock	Inclinometer and gyro	Geomagnetic	GMR, AMR and TMR	Inductive transducer	Capacitive touch	Resistive potentiometers	Optical encoder	Magnetic encoder	Photo interruptor	Ultrasonic	Passive Infrared (PIR)	Light convergent reflective	Magnetic proximity (reed and hall)	Current	Sunlight, ambient light and colour	Pulse oximetry (SpO <sub>2</sub> )	Microphone	Human vision		
	Temperature							Pressure	Gas and liquid					Motion											Current	Optical	Sound	Image							
Abracon	•																																		
Alps Alpine							•	•	•								•	•				•	•							•					
Amphenol	•	•				•	•		•	•	•	•										•	•						•		•				
Bourns							•			•												•	•	•											
Bulgin																												•							
CTS	•		•	•								•	•	•				•					•		•				•						
Grayhill																							•	•					•						
Harvatek																								•							•				
Hirose																															•				
Innovative Sensor Technology			•	•						•			•																						
KEMET					•						•					•											•			•					
Kingstate																																		•	
Kyocera AVX	•		•				•	•												•									•						
Molex																								•				•							
Murata	•	•					•				•					•	•	•				•				•	•								
NIC	•																																		
Nidec Copal							•							•								•	•							•					
Omron						•	•		•	•	•	•	•	•	•					•				•				•		•	•	•	•	•	
Panasonic Industry	•					•	•				•				•	•						•													
Panasonic Electric Works																								•			•								
PUI Audio																									•									•	
Pulse																														•					
Qinlon																									•										
TDK	•	•					•		•						•	•	•	•												•			•		
TE Connectivity	•		•	•		•	•	•	•	•	•	•	•	•	•	•		•	•		•	•			•			•			•				
Vishay	•	•	•																			•	•												
Yageo	•	•																																	

# / CONNECTORS

	Automotive	Lighting	Backplane, DIN 41612, 2mm and high speed	Board-to-board	Heavy duty	Industrial	Medical	Military and aerospace	Audio, signal and mobile	DSUB and accessories	DVI, HDMI and SCSI	Modular jacks, plugs and SDL	High speed: USB, firewire, infiniband and IEC	Multimedia and PC cards	Smart card and SIM	IEC connectors and entry modules	IEC distribution units	Heavy duty	Military and aerospace	DIL and SIL	PLCC, PGA and BGA	SIMM and DIMM	Battery and fuse	FFC and FPC	IDC 2.54, 2.00 and 1.27	Headers, receptacles and others	Terminal blocks	Wire-to-wire	RF inc. coax. and antennas	Fibre optics	Cable: FFC, ribbon flat and round	Cable assemblies	Terminal faston	Accessories, pins and contacts				
	Application specific	Board-to-board	Circular	I/O	Memory card	Power	Rectangular	Sockets	Wire-to-board	Terminal blocks	Wire-to-wire	High speed/ high frequency	Others																									
3M		•	•						•					•	•						•	•			•	•		•	•	•	•	•	•	•	•			
Alps Alpine														•	•																					•		
Amphenol	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•			•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•		
Aptiv	•								•				•														•		•		•		•		•			
Bel				•				•		•		•																			•		•		•			
Bourns				•																																•		
Bulgin					•	•			•			•					•	•							•													
Cinch Connectivity																																•						
CviLux		•		•						•		•	•									•	•		•	•	•	•	•	•	•	•	•	•	•	•		
Deltron Components									•								•	•																•	•			
Eaton																													•								•	
Glenair					•	•		•		•																						•	•		•			
Greenconn	•			•						•			•												•										•		•	
Harting		•							•	•	•	•	•						•							•												
Harwin				•				•													•	•				•	•	•	•	•	•	•	•	•	•	•	•	
Hirose	•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
ITT	•	•			•	•	•	•	•	•	•	•	•	•					•	•							•				•			•		•		
ITW										•																•												
Kycon									•	•	•	•	•									•	•		•											•		
Kyocera AVX	•	•		•					•																•	•	•	•	•	•	•	•	•	•	•	•	•	•
Lumberg	•					•		•																		•	•	•								•		
Molex	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Omron				•		•				•		•									•	•													•			
Phoenix Contact	•			•		•					•								•									•										
PRECI-DIP				•																																	•	
Pulse											•																								•			
Samtec		•	•		•			•				•										•	•		•	•	•	•	•	•	•	•	•	•	•	•	•	
Schaffner																	•	•																				
Schurter									•								•	•							•											•		
Switchcraft					•	•		•		•		•	•				•	•															•			•		
TE Connectivity	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	
Weidmüller																													•						•			

## AC-DC power supplies

	AC-DC controller IC's, start-up, isolators, Ix, CMC	Enclosed case panel mount	Open frame and U-frame with case/fan	Modular	DIN rail mount	Adaptors and external desktop chargers (incl. medical)	Board or chassis mounted	Brick type board mount	Conduction/convection cooled and fanless	CRPS data centre front-end rectifier	Higher output voltage 100-400Vdc	High power industrial / telecom	Medical EN60601-1 certified	Household EN 60335-1 certified	Battery chargers VRLA / Li-Ion / LiPo / LiFePO4	Battery chargers USB Type A, Type C	Battery chargers, smart high power	Power over Ethernet	Standard LED drivers (CC, CV, CP, CV-CC)	LED Drivers with Bluetooth (KNX, DALI)	LED emergency drivers with integrated batteries	LED modules and accessories	UV-C LED drivers & UV-C lamp ballasts
ABB Embedded Power																							
Aimtec																							
Advanced Energy (Artesyn / Excelsys)																							
Bel Power (Melcher)																							
CUI																							
Delta Electronics																							
Pulse (Egston)																							
MEAN WELL																							
Murata																							

## DC-DC converters

	Low power miniature isolated	Industrial	Bricks 50 - 1800W	Bricks IBC 200 - 1800W	Gate-drive DC-DC converters	Off-board chassis mount	Enclosed case panel mount	Open frame and U-frame with case	DIN rail	CRPS data centre front-end rectifier	Higher input voltage 100-2000Vdc	Higher output voltage 300-1200Vdc	Medical (certified)	Isolation amplifiers and interfaces	Transceiver modules (CAN-RS485/232/UART-SPI)	Railway and transportation	LED DC-DC converters	Switching buck regulators	Switching buck-boost regulators	Non-isolated bricks 100 - 3000W	DC filters input / output	Micro Point of Load 0.5 - 25A	Digital Point of Load 2 - 180A	Analog Point of Load (DOSA/POLA)	Power block modules	Direct conversion isolated	Intermediate Bus converters	High power non-isolated buck-boost	Automotive Point of Load buck/buck-boost			
	DC-DC ISOLATED																NON-ISOLATED & POINT OF LOAD															
ABB Embedded																																
Aimtec																																
Advanced Energy (Artesyn)																																
Bel Power (Melcher)																																
Cyntec																																
Delta Electronics																																
Eaton																																
Flex Power Modules																																
MEAN WELL																																
Murata																																
TDK (Faraday)																																

# WIRELESS ANTENNA WIRELESS CHARGING

	RFID	NFC	ANT	Bluetooth	Zigbee	Thread	WiFi	LoRa	SigFox	LTE cat. M1	NB-IoT	GNSS	Chip	GSM and LTE	WLAN and WiFi	NFC	ISM, Zigbee and Bluetooth	GPS and data	Small cell	DAS	Tx coil units (WPC)	Rx coil units	Tx modules	Tx or Rx coils	
	Wireless												Antenna								Wireless charging				
Abracon													•	•	•	•	•	•	•		•	•		•	
Alps Alpine				•			•					•													
Amphenol														•	•	•	•	•	•	•	•	•	•		
Fujitsu				•																					
Kyocera AVX								•					•	•	•	•	•	•				•	•	•	
Molex													•	•	•	•	•	•				•	•		
Murata	•	•	•	•			•	•	•	•	•			•		•									
Panasonic Industry	•	•		•	•	•	•																		
Pulse													•	•	•	•	•	•	•	•	•	•	•	•	•
TDK													•			•	•					•	•	•	•
TE Connectivity													•	•	•	•	•	•	•	•					
Vishay													•		•		•	•				•	•		
Yageo													•	•	•		•	•							





# / 50 YEARS OF MAKING IDEAS REALITY

AVNET ABACUS CELEBRATES THE FIFTIETH ANNIVERSARY OF ITS  
FOUNDATION – CELEBRATE WITH US!

We are Avnet Abacus, one of Europe's leading distributor of interconnect, passive, electromechanical, power supply, energy storage, wireless & sensor products, and a regional business unit of Avnet (NASDAQ: AVT). We are excited to announce this year as our 50th in business. We know that technology's next wonder is out there, somewhere. It may just be scribbles on a napkin right now, a possibility on paper, but tomorrow, it could change the world – with a little help from us. We are the smart connection between customers and suppliers, guiding your projects from idea to product, from product to market, and every step in between – wherever you are in your technology lifecycle, collaborating with us can make your ideas a reality.

We want to say thank you to our customers, employees and business partners. The best is yet to come, to the next 50 years. We look forward to working with you!

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