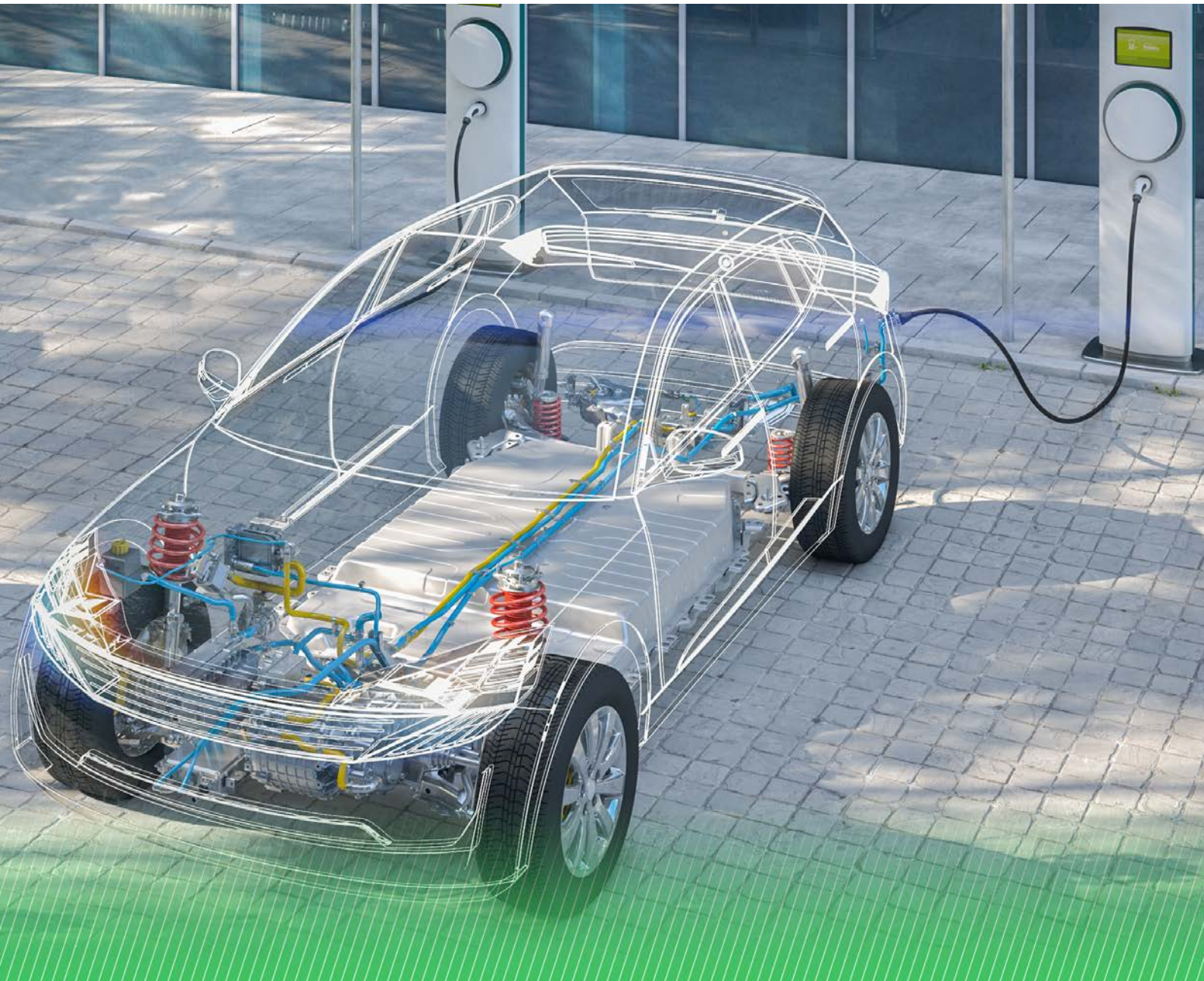


molex

AVNET[®] ABACUS



/ MOLEX VEHICLE ELECTRIFICATION AND CHARGING SOLUTIONS

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Introduction

Electrification is the driving force behind the major shift we're seeing in vehicle manufacture. As the market demands more electric vehicles (EVs), this rapid pursuit of EV technology is extending to all forms of travel – from our personal vehicles such as cars and bicycles, to public transport and commercial vehicles.

With a growing portfolio of interconnects, Molex is equipped to provide the connectivity needed to progress your EV innovations from the factory floor to the road. Avnet Abacus works closely with Molex to bring you the highest level of product and technical support.

Explore the products and resources found in this brochure, [visit the microsite](#), or if you're ready to take the next step with your design, [get in touch with the team to discuss your EV needs](#).

An effective battery management system (BMS) is critical to the long-term operation of any electric vehicle, with the increased flow of data across the battery. The interconnects carrying this data must therefore be extremely reliable. With the latest interconnect innovations, Molex is helping EV customers to stay ahead of the connectivity curve when designing for today's EV needs.

SlimStack Board-to-Board connectors



FEATURES

- Wide alignment guides
- Dual contact design
- Versions with wide floating range
- Small body and low profile
- Metal covers available
- Contact locks

PowerPlane bus bar power connectors



FEATURES

- Float-mount design available
- Isolated left and right contacts
- Low voltage drop for minimal heat generation
- Mating with standard 25.40 x 3.18mm bus bar tab
- Mounts to bus bar using customer-supplied machine screws

NTC ring temperature sensor cable assemblies



FEATURES

- Ring terminal mounting tab
- Potted with thermally conductive epoxy
- UL certified, environmentally friendly connectors
- Micro-Lock Plus connector
- Compact temperature sensing solution

CHARGING STATIONS

The rapid adoption of electric vehicles will demand a significant increase in the number of charging stations. Major companies around the world are now accelerating the transition to electric mobility by installing charging stations. With charging infrastructure pivotal to the rollout of electric vehicles, Molex connectivity solutions support the increasing need for power distribution infrastructure.

USB Type-C connectors



FEATURES

- Supports 5.0A/100W power
- Long outer shell
- One-Row SMT soldering pin design
- Mid-plate design in receptacle
- IPX8-rated receptacle with Liquid Silicon Rubber (LSR) molded receptacle

Premo-Flex flat flexible cable jumpers



FEATURES

- Available in numerous circuit sizes (4 to 60) and custom lengths
- Contact area can be configured on the same or opposite sides of the flexible cable jumper
- Rated up to +105°C
- 60V voltage rating
- 730Ω per km. max. conductor resistance rating
- 10MΩ per km min. insulation resistance rating

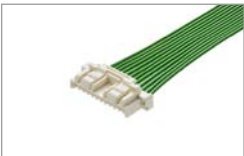
Picoflex Ribbon cable connectors and assemblies



FEATURES

- One-piece connector housing
- Selective gold plating
- Dual-beam contacts
- Polarised connector
- Termination windows and clearance slots
- Ejection tooling slots
- Insulation displacement termination

CLIK-Mate wire-to-board connectors



FEATURES

- Positive inner locks
- Tuning-fork style contact design
- Flat area for pick-and-place
- Footprint compatibility
- Reinforced metal solder tabs
- Variable plating options available

LTE cellular ceramic antennas - series 206760



FEATURES

- Low profile, high performance
- Frequency range: 698MHz to 960MHz/1.7GHz to 2.7 GHz
- Size: 38.00mm by 8.00mm by 3.00mm
- Return loss: < -5
- Peak gain: 1.3/4.4
- Total Radiation Efficiency: >60%/>70%

Mega-Fit power connectors



FEATURES

- Rated up to 26.0A per circuit
- Power-dense design with high-current terminals, tight pitch and row spacing
- Terminal interface has six independent points of contact
- Fully isolated header pins and receptacle terminals
- Positive locking housing
- Sacrificial contacts
- Extended barrel conductor crimp

Mini-Fit power connectors



FEATURES

- Rated up to 13.0A per circuit
- Long wipe lengths and increased contact area
- Crimp terminals are compatible with existing Molex tooling
- Advanced crimp design meets latest industry requirements
- High number of mating cycles
- Optional TPA (Terminal Position Assurance) retainer

Nano-Fit power connectors



FEATURES

- Rated up to 8.0A per circuit
- Smallest, fully-isolated headers in the market
- Multiple mechanical keying and color-coded options
- Optional TPA (Terminal Position Assurance) retainer
- Ultra-low mate force terminal
- Positive-lock housing with anti-s snag design

Micro-Fit 3.0 power connectors



FEATURES

- Fully isolated contacts
- Full polarisation
- Positive locks
- Up to 5.0A per circuit
- 600V AC rating
- UL 94V-0, CSA, TUV approved

Ultra-Fit power connectors



FEATURES

- Up to 14.0A per circuit
- Multiple mechanically keyed color-coded options
- Colour coding provides visual indication of the proper mating connector – enabling faster assembly
- Ultra-low mating force terminal
- Provides PCB space savings with optimised current density
- Optional TPA (Terminal Position Assurance) retainer
- Positive-lock housing with anti-s snag design

NTC ring temperature sensor cable assemblies



FEATURES

- Ring terminal mounting tab
- Potted with thermally conductive epoxy
- UL certified, environmentally friendly connectors
- Micro-Lock Plus connector
- Compact temperature sensing solution

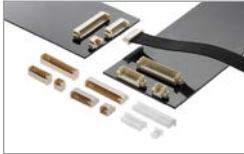
Modular jacks



FEATURES

- RJ11 / RJ45 jacks available in various styles
- 4, 6 and 8 contacts available
- Shielding available for both plugs and jacks
- 1.27µm (50µ") all-gold plating options
- Cat. 3 and Cat. 5e speeds available
- Various panel grounding tab configurations

PicoBlade connector system



FEATURES

- Friction lock
- Polarised mating geometry
- Vacuum caps
- Reliable terminal
- Solder tabs
- Embossed tape packaging

EXTreme Ten60 high power connectors



FEATURES

- Split power or standard blades
- Configurable with dovetail design
- Top or side guides
- Press fit or solder tail
- PCB polarising pegs
- Blade and signal length options
- Low-profile design (10.00mm)

Easy-On FFC/FPC connectors



FEATURES

- -40°C to +125°C operating temperature range
- Movable terminals
- Reinforced actuators for large circuit sizes
- Various cable-tab and actuator locking styles
- Accepts standard or shielded FFC cables
- Grounding terminals
- Positive inertia lock

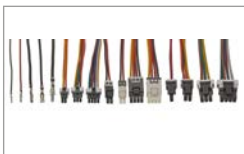
DuraClik connector system



FEATURES

- 2 to 15 circuits in vertical and horizontal configurations
- Wide solder tabs designed and tested to SAE automotive vibration standards
- Inertia lock on TPA (2 to 8 circuits)
- Audible click on mating
- Enclosed contact design

Off-the-Shelf cable assemblies



FEATURES

- Discrete cable assemblies with a range of Molex connectors available off-the-shelf
- Meets current cable assembly industry standards
- Meets 2011/65/EU RoHS compliance
- UL 1061 and UL 1007 discrete wires
- Pin-to-pin mapping from receptacle to PCB header
- Custom assemblies for production also available

Increasing electronic content in the form of powertrain electrification and sophisticated advanced driver assist systems is advancing vehicle technology. As a result of extensive cabling and a large increase in connection points, connectors are now competing for space in dense car architectures. Molex connection systems help meet the needs for reduced package size, space consumption, weight and wire gauge.

Easy-On FFC/FPC connectors



FEATURES

- -40°C to +125°C operating temperature range
- Movable terminals
- Reinforced actuators for large circuit sizes
- Various cable-tab and actuator locking styles
- Accepts standard or shielded FFC cables
- Grounding terminals
- Positive inertia lock

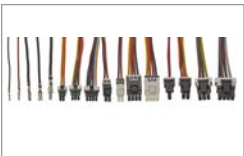
DuraClick connector system



FEATURES

- 2 to 15 circuits in vertical and horizontal configurations
- Wide solder tabs designed and tested to SAE automotive vibration standards
- Inertia lock on TPA (2 to 8 circuits)
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Off-the-Shelf cable assemblies



FEATURES

- Discrete cable assemblies with a range of Molex connectors available off-the-shelf
- Meets current cable assembly industry standards
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- UL 1061 and UL 1007 discrete wires
- Pin-to-pin mapping from receptacle to PCB header
- Custom assemblies for production also available

HSAutoLink interconnect system



FEATURES

- Shrouds and latches standard
- Standard Molex automotive and USB connector components used
- Full-length cable shielding
- Flexible, expandable product family with data rates up to 5Gbps.
- Available in 6 and 12 circuits

Mini50 unsealed connector system



FEATURES

- Board alignment and retention features
- High-temperature thermoplastic housings
- Female terminal wire grips for wires 0.35mm² and smaller
- Three polarisation options
- Connector position assurance
- CTX50 terminal wire grip design

USB Type-C connectors



FEATURES

- Supports 5.0A/100W power
- Long outer shell
- One-Row SMT soldering pin design
- Mid-plate design in receptacle
- IPX8-rated receptacle with Liquid Silicon Rubber (LSR) molded receptacle

SlimStack Board-to-Board connectors



FEATURES

- Wide alignment guides
- Dual contact design
- Versions with wide floating range
- Small body and low profile
- Metal covers available
- Contact locks

stAK50h connection system



FEATURES

- Standard USCAR colour-coded housings
- PCB-alignment posts for mating headers
- Compliant to USCAR-2 and global automotive OEM standards
- 0.50mm and 1.20mm terminals developed around NanoMQS and AK (Arbeitskreis) specifications

In-vehicle smart charging modules



FEATURES

- Protected, low-profile positive latch
- IP68 sealed
- 1.89mm pitch
- Wraparound insulation crimp
- Seal caps that protect and align terminals during insertion
- Primary lock enables 30N terminal retention

POWERTRAIN

Key drivers of electrification include the importance of decarbonisation and the reduction of the carbon footprint of vehicles. These requirements are influencing fundamental shift from the conventional internal combustion engines (ICE) to electric powertrains. With an increasingly harsh operating environment, Molex provides interconnects that can withstand extreme heat, moisture and vibration in the vehicle powertrain.

Stac64 single, multi-pocket and hybrid header system



FEATURES

- Stackable connection system
- Modular-housing design with standard dovetail features molded into the housings
- High temperature thermoplastic housing
- PCB alignment posts
- The header and receptacle housings are molded in standard USCAR color schemes for additional polarisations
- Pre-assembled TPA to receptacle housing shipped as single assembly

MX150 Sealed hybrid and panel mount connector system



FEATURES

- Matte seal technology
- Preassembled terminal position assurance (TPA) housing
- Conforms to USCAR-2/USCAR-21/GMW3191
- Temperature class 4 (-40 to +150°C) and 22.0A current rating
- Connector position assurance option available
- V0 versions available (UL 1977 certified)

CMC and CMX sealed, hybrid, modular connectors



FEATURES

- Offers several colour coding options and mechanical polarisation
- Wide range of standard headers
- High-performing sealed-connection system using matte-seal technology (CMX)
- Lever-actuated movable seal protector (CMX)
- CP female terminals, offered in tin or gold (CMC)
- Moveable interfacial-seal protector surrounding CMX connector (CMC)

Mizu-P25 sealed connectors



FEATURES

- Meets IP67 rating
- Compact size
- Positive locks
- Integral seal stopper feature
- Raised-body male terminal design
- Spring-beam terminal design

Squba 1.80mm pitch sealed wire-to-wire connectors



FEATURES

- Protected, low-profile positive latch
- IP68 sealed
- 1.89mm pitch
- Wraparound insulation crimp
- Seal caps that protect and align terminals during insertion
- Primary lock enables 30N terminal retention

MX64 sealed connectors



FEATURES

- Meets all USCAR footprints and testing requirements for 0.64mm square-pin connector systems
- IP67-rated matte seals
- Integrates with automotive OEM-approved terminal systems
- Four polarisation options available in 4 different colors
- Accommodates 18AWG to 22AWG wires and ISO metric wires
- Available with or without CPA



ENGINEERING SERVICES – ASK AN EXPERT

Have a question?
Avnet Abacus' regional technical specialists are on hand to help

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