

PRODUCT LINEUP

Leading in the field of high-frequency and high-speed transmissions, I-PEX contributes to the digital society by providing excellent signal integrity solutions with the development of a wide variety of ultra-precision connectors and our incomparable customer support.

RF Connectors: MHF® Series



- MHF®** is a series of Micro RF coaxial connectors for antenna connections used by wireless devices that achieves maximum performance within minimal space. They are compatible with major communication standards, such as 5G mmWave & Sub6, 4G, LTE, Wi-Fi, Bluetooth, GPS, WiGig, cellular M2M, IoT, SigFox, WiSUN, NB-IoT and LoRa.
- ◆ I-PEX's unique i-Fit® solderless connection technology provides stable VSWR performance up to 15 GHz
 - ◆ Products with our ZenShield® technology, such as the MHF® 7S, provide improved EMC performance
 - ◆ MHF® I LK & MHF® 4L LK are the industry's first micro-RF coaxial connector with locking mechanism
 - ◆ A wide range of options, from extremely small connectors with a mated height of 1.0 mm to connectors that support frequency bands up to 15 GHz

Micro-Coaxial Connectors: CABLINE® Series



- CABLINE®** is a connector series that uses micro-coaxial cables that can transmit high-speed signals in a space-saving manner inside a variety of equipment. It supports high-speed transmission such as 64 Gbps/lane PAM4, USB4, Thunderbolt 3, eDP HBR3 and PCIe Gen 3/4.
- ◆ Electromagnetic noise countermeasures and crosstalk reduction with ZenShield® EMI shielding technology
 - ◆ Highly flexible and can be used in narrow spaces by bundling cables
 - ◆ Ideal for internal connections with moving parts and strict wiring design requirements, such as the connection between the motherboard and display of a laptop PC
 - ◆ Some products include a mechanical lock

Twinax Connectors: DUALINE® Series



- DUALINE®** is a series of twinax cable connectors suitable for ultra high-speed transmission within enterprise computing applications, such as servers and switches, capable of up to 112 Gbps PAM4.
- ◆ Twinax cables have two copper conductors surrounded by insulation and an external shield to reduce EMI and crosstalk between signals for better signal integrity
 - ◆ Compact, low-profile design that can be used in tight spaces near the CPU or under a heatsink, contributing to the space-saving design of optical components and electronic switches
 - ◆ Also available as a LEAPWIRE® jumper harness solution

Board-to-Board Connectors: NOVASTACK® Series



- NOVASTACK®** is a board-to-board (FPC) connector series that supports high-speed transmission and high-frequency standards, such as USB4 (20 Gbps/lane), 5G mmWave, sub-6, and eDP HBR3.
- ◆ Shielded options to improve EMC performance with ZenShield® technology
 - ◆ Optional features include independent power terminals. .

FPC FFC Connectors: EVAFLEX® Series and MINIFLEX® Series



EVAFLEX® is a connector series for FPC and FFC cables that features one-action mating with a mechanical lock mechanism that ensures excellent retention. ZenShield® technology offers improved EMC and enables high-speed transmission, such as USB 4, USB 3.2, V-By-One HS, and eDP.

- ◆ Rated for high-temperature operation (up to 125 °C)
- ◆ Vertical and horizontal mating-types available

MINIFLEX® is a connector series optimized for FPC and FFC cables and has a contact shape known as ZIF (Zero Insertion Force) or LIF (Low Insertion Force).

- ◆ Various pitch ranges from 0.5 mm to the industry's smallest class, 0.175 mm
- ◆ Available in a variety of pin counts from 7 to 120

Wire-to-Board Connectors: ISH® and IARPB® Series



ISH® is a connector series that has excellent high temperature and vibration resistance and has a unique spring structure terminal to ensure high connection reliability. These connectors use discrete wires well-suited for supplying high current to devices.

- ◆ Long-term connection reliability
- ◆ Ideal for harsh environments, such as automotive and industrial applications

IARPB® is a board-in type discrete wire connector with excellent vibration resistance. Particularly well-suited for automotive applications, such as headlights, inverters, and DC-to-DC converters.

- ◆ Excellent vibration-resistance due to housing post structure
- ◆ Plating process provides a structure with excellent visibility and stable solder wettability to ensure work efficiency during mounting

AV-B is a connector for drone battery connection.

- ◆ Prevents unintentional unmating due to vibrations and shocks during drone navigation
- ◆ Half-mating prevention shape allows visual check for correct mating

Terminals: AP Series and ISFIT®



The **AP** series is a set of board-to-board power terminal products that supports high-current amperage and withstands high temperatures, all in small form-factors. They are ideal for in-vehicle chargers and industrial equipment that is subject to rapid environmental temperature changes.

- ◆ High level of flexibility gives superior floating performance, allowing mounting of multiple terminals
- ◆ Operate at currents up to 32 A
- ◆ Withstand temperatures up to 125 °C

ISFIT® is a solderless press-fit terminal with a unique design that includes a 4-point contact with an internal spring structure that provides low-mating force and eliminates damage to the through-hole on the PCB.

- ◆ Excellent contact reliability
- ◆ Highly accurate center position alignment helps to reduce workload of assembly operators and improves the inspection process

I/O Connectors: MINIDOCK™ Series

MINIDOCK™ is a family of board-to-board docking input/output (I/O) connectors that provide a rugged, secure and reliable docking solution for portable medical and industrial devices.

- ◆ Diecast housings and large tapered guide pins ensure up to 5,000 mating cycles
- ◆ Options include vertical and horizontal mating, pin counts ranging from 80 to 240, and 3-level pin sequencing for signal, power, and ground

Optical Modules: LIGHTPASS® Series

LIGHTPASS® is a family of ultra-compact and thin active optical modules featuring a silicon photonics IC, "IOCore™" (developed by AIO Core Co., Ltd.).

- ◆ By performing photoelectric conversion (E-to-O, O-to-E) on the board, closer to the processor, it is possible to shorten the electrical wiring distance and significantly reduce transmission loss
- ◆ Demonstrates stable performance even in high-temperature environments

SOLUTIONS

We provide precision manufacturing solutions, ensuring quality every step of the way from in-house tool design to fully automated manufacturing and inspections.

Jumper Harness Solution: LEAPWIRE®

LEAPWIRE® is the I-PEX high-speed jumper harness solution with DUALINE® and QSFP-DD module

- ◆ Minimizes PCB trace and achieves excellent high-speed signal transmission
- ◆ Applicable for internal connection of DPU and Smart NIC Twinax cable connectors

RF Coaxial Cable Solderless Connection Technology: i-Fit®

i-Fit® solderless termination technology used in the I-PEX micro-RF coaxial connector (MHF®) series eliminates variations in the electrical performance of RF cable assemblies caused by solder.

- ◆ Maintains uniform electrical characteristics
- ◆ Ease of wiring work and maintaining uniform electrical characteristics are important for antenna performance

Excellent EMC Design: ZenShield®

ZenShield® is the name for I-PEX's high-performance EMC technology available for many of our connector products. The connectors with ZenShield shielding provide significant mitigation of EMI.

- ◆ 360-degree EMI shielding prevents electromagnetic noise radiation from the board mounting part of the signal terminals
- ◆ Gives board designers more flexibility by allowing connectors to be placed near antennas