

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 ultra-miniature RF coaxial connectors for antenna connection within wireless devices that achieves maximum performance with minimal space. Compatible with various communication standards, such as 5G mmWave/Sub6, 4G, LTE, Wi-Fi, Bluetooth, GPS, WiGig, M2M, IoT, SigFox, WiSUN, NB-IoT and LoRa.

- ◆ I-PEX's patented i-Fit® solderless connection technology provides stable VSWR performance up to 15 GHz
- ◆ Products with our ZenShield® technology, such as the MHF 7S, offer ensured EMC performance
- ◆ Industry's first miniature 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. They adapt to 112G PAM4 high-speed transmission.

- ◆ 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

Discrete wire 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 suitable for supplying large current power 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 suitable for automotive applications such as headlights, inverters, and DC-to-DC converters.

- ◆ Excellent vibration resistant due to housing post structure
- ◆ Plating process provides a structure with excellent visibility and stable solder wettability to ensure work efficiency during mounting
- ◆ Particularly suitable for automotive parts such as headlights, inverters, DCDC converters, etc.

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 mm wave, sub-6, and eDP HBR3.

- ◆ Shielded options to ensure EMC performance with ZenShield® technology
- ◆ Optional features include independent power terminals converters, etc.

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 excellent EMC protection 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 also a connector series optimized for FPC and FFC cables and has a connector shape known as ZIF (Zero Insertion Force) or LIF (Low Insertion Force).

- ◆ Various pitch ranges from 0.5 mm to industry's smallest class 0.175 mm
- ◆ Options of a variety of pin counts

Power connectors/terminals: AP series and ISFIT®



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 32A
- ◆ 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 provides 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.

- ♦ 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 and maintains uniform electrical characteristics.

- ♦ Ease of wiring work and maintaining uniform electrical characteristics are most important for antenna performance

Excellent EMC design: ZenShield®



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

- ♦ 360-degree EMC 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