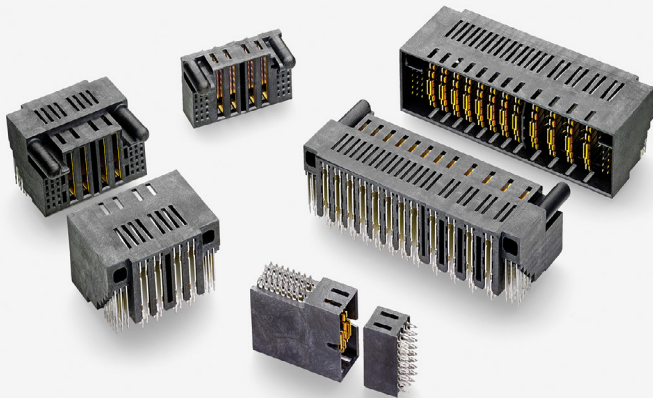




# MULTI-BEAM HIGH DENSITY (HD) CONNECTORS

TE Connectivity's (TE) MULTI-BEAM HD connectors are next-generation MULTI-BEAM connectors, which offer a more compact design with up to 135A per power contact, and feature high density power and signal which saves space and reduces overall power consumption. The scalable and modular design also supports greater flexibility in configuration and PCB design.

## Applications

- Data Center
- Telecommunications
- Industrial Automation Devices
- Power System

## Key Features

- High current density, max. 390Amps/linear inch.
- Uses TE's innovative MULTI-BEAM (6 Beams) power contacts.
- Three levels of contact sequencing: ground, power/signal, enable PIN.
- Flexible and modular configuration.

## Electrical Specifications

### Current-Ratings

| Power Contacts |                                |                         |                                |                                 |
|----------------|--------------------------------|-------------------------|--------------------------------|---------------------------------|
| Type           | Module Power Contact Pitch(mm) | Single Power Contact(A) | Four Adjacent Power Contact(A) | Eight Adjacent Power Contact(A) |
| Power          | 5.0                            | 135                     | 93                             | 75                              |
| Power          | 6.0                            | 135                     | 100                            | 78                              |
| Power          | 7.0                            | 135                     | 100                            | NA                              |
| Low Power      | 3.0                            | 42                      | 32                             | 22                              |
| Low Power      | 5.0                            | 42                      | 32                             | 23                              |

\*test data based on customized test setup

### Mechanical Specifications

- Durability: 500 mating cycles
- Mechanism shock: 50G Per EIA-364 standard
- Vibration: 4.9G, 20-500Hz
- Operating temperature: -40°C to 125°C
- Mating force:
  - 3.5N max. per power contact
  - 1.5N max. per low power contact
- Un-mating force:
  - 2.2N min. per power contact
  - 2.5N min. per low power contact
- Insertion force:
  - The insertion force per eye-of-needle (EON): 50N max.
- PCB thickness:
  - Press-fit type: 1.5mm min.
  - Solder type: tail length - 0.04mm max.

### Product Dimensions

- Length: 100mm max.
- Depth: 51.0mm (The total depth for plug and receptacle mating)
- Height above PCB face: 18.90mm.

### Contact Spacing and Operating Voltage

- High power
  - 7.0mm - up to 300V RMS or DC.
  - 6.0mm - up to 200V RMS or DC.
  - 5.0mm - up to 60V RMS or DC.
- Low power:
  - 5.0mm - up to 300V RMS or DC.
  - 2.0mm - up to 60V RMS or DC.
- Signal: 2.0mm grid.

### Application Tooling

- Flat-rock seating tools are required for press-fit version



### Features

- Six-beam design for power contact with 3-level beam length for sequencing and reliable connection.
- Reduced mating force about 40% lower than MULTI-BEAM XLE connector.
- Integrated signal pin and guide design of each side, saving 8mm (4mm x 2) overall length.
- Offering right angle plug, right angle receptacle and vertical receptacle versions with modular design.

### Material

High conductivity copper alloy and high temperature resin with RoHS compliance.

### Technical Documents

- Product Specification: 108-128007.
- Application Specification: 114-128010.

## MULTI-BEAM HD Part Number list

| Right Angle Header | Mating Vertical Receptacle | Mating Right Angle Receptacle | Description         |
|--------------------|----------------------------|-------------------------------|---------------------|
| 2204443-1          | 2204423-1                  | 2204403-1                     | 2P                  |
| 2204440-1          | 2204420-1                  | 2204400-1                     | 15s+2P+2P+15S       |
| 2204442-2          | 2204422-2                  |                               | 15s+8P+8LP+8LP+15S  |
| 2204446-1          |                            | 2204406-1                     | 10S+2P+2P           |
| 2204446-2          | 2204426-1                  |                               | 15s+4P+4P           |
| 2204446-6          |                            | 2204406-5                     | 10S+9P              |
| 2204440-2          | 2204420-2                  |                               | 15s+8P+4P+15S       |
| 2204442-1          | 2204422-1                  |                               | 15s+8P+8LP+8LP+15S  |
| 2204441-1          | 2204421-1                  |                               | 15s+2P+2LP+2P+15S   |
| 2204440-7          | 2204420-8                  |                               | 15s+3P+12S          |
| 2204440-8          | 2204420-9                  |                               | 15S+3P+3P+15S       |
| 2204446-3          | 2204426-2                  |                               | 2P+15S              |
| 2204452-1          | 2204422-3                  |                               | 15S+6P+2LP+15S      |
| 2204446-8          |                            | 2204406-6                     | 4P+20S(Press-fit)   |
| 2204456-1          |                            | 2204416-1                     | 4P+20S(solder tail) |

## For More Information

[www.te.com/products/multi-beam](http://www.te.com/products/multi-beam)

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