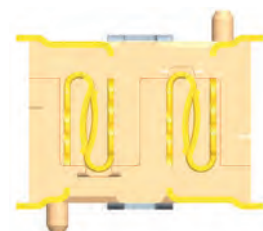


# MEZZOSTAK™ 0.5MM HERMAPHRODITIC CONNECTORS

Robust, miniature mezzanine design reduces total costs



Unique dual-point contacts

## DESCRIPTION

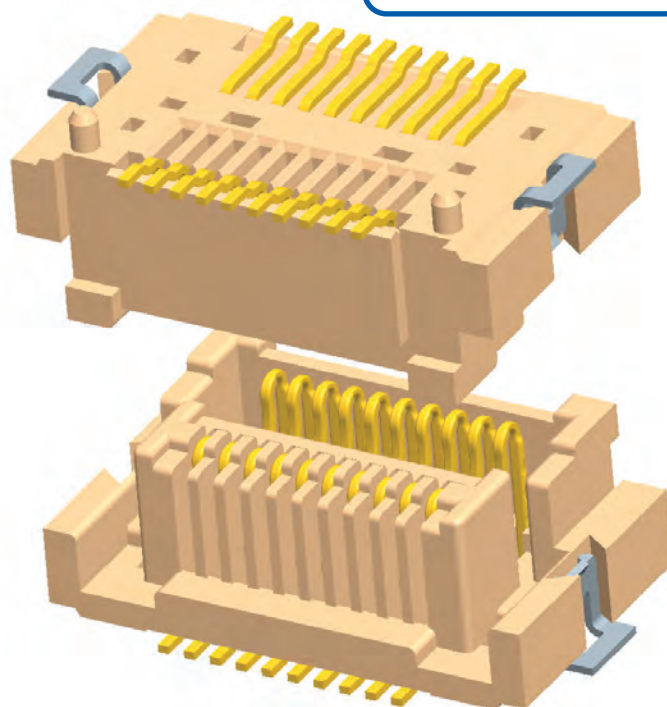
Robust, high density, 0.5mm pitch mezzanine connector suitable for a wide range of high reliability applications and demanding environments.

Innovative hermaphroditic design provides a precise mating interface. Reduced product mix simplifies customer connector qualification, documentation and maintenance.

Precisely oriented surface-mount solder leads and hold-downs enable highest quality assembly to printed circuit boards

Two versions offer a choice between supplemental PCB hold-downs or short overall length.

MezzoStak™ connectors are supported by MezzSelect™ services and web-based design tools.



## FEATURES & BENEFITS

- Hermaphroditic design “mates to itself”
  - Consolidates connector selection and documentation
  - Polarization prevents mis-mating
- Pressure-managed, dual-point contact mating interface provides easier use, fault tolerance and added reliability.
- Long 1mm minimum wipe assures reliable contact and accommodates system mechanical tolerances.
- Tactile feedback signals effective mating
- Extreme operating temperature range assures reliable performance between -40 and 125 degrees C.
- Precise 0.08mm maximum SMT lead co-planarity eases attachment of connector leads to PCBs
- Optional hold-downs increase strength of PCB solder attachment
- Footprint compatible with major competitors
- 0.5mm high density contact pitch in two rows
  - 7 Stack heights: 4mm to 7mm (0.5mm increments)
  - 7 Sizes: 10 to 70 positions (10 position increments)

## TARGET MARKETS / APPLICATIONS

- Portable and mobile electronic equipment
- Medical and Instrumentation
- Point-of-Sale/Retail equipment
- Hand-held terminals
- Automatic Identification and Data Capture
- Sensors
- Motor-vehicle
- Military
- Communications and Networking
- Data and mass-storage

## TECHNICAL INFORMATION

## MATERIALS

- Housing: LCP, 94V-0, Color: Natural
- Contacts: Copper Alloy
- Plating: Performance-based with noble metal
- All Materials lead-free RoHS compatible per GS-22-008

## ELECTRICAL PERFORMANCE

- Current rating per contact: 0.35 amps (de-rated)
- DWV: 500 volts
- Voltage Rating: 50 volts
- Contact resistance: 30 milliohm maximum
- Signal Integrity
  - (Differential pairs; 7mm stack height; Connectors with SMT pads and anti-pads/voids underneath)
    - 10+ Gbs capable
    - Impedance: 100 Ohms +/- 10% @ 50 ps edge
    - Insertion Loss: < 1 dB to 5+ GHz
    - NEXT and FEXT: <= 1.0% @ 50 ps edge (10-90%)

## ENVIRONMENTAL PERFORMANCE

- Operating Temperature: -40 to +125 deg.C
- Processing Temperature: 260 deg.C peak for 30 seconds

## MECHANICAL PERFORMANCE

- Durability: 30 mating cycles in environment
- Mating Force: 42g max per contact pair
- Un-mating force: 25g min per contact pair
- Wipe length: 1.0 mm minimum
- SMT lead co-planarity: 0.08mm maximum

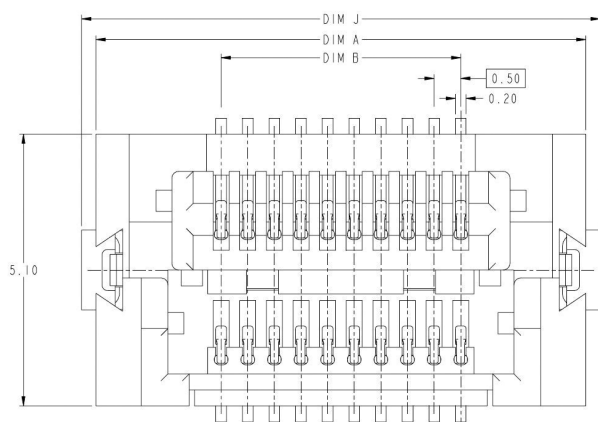
## SPECIFICATIONS

- Product Specification: GS-12-577; Packaging Specification: GS-14-1320
- Drawing Numbers: 10090503 (Standard); 10090504 (Short Length)
- UL and CSA pending

## PACKAGING

- Tape and reel, pickup cap pre-installed

10090503 Standard, with alignment pegs and metal hold-downs



BASE PART NUMBER-XX X X X 2 LF

| NUMBER OF POSITIONS |
|---------------------|
| 01 = 10 POS         |
| 02 = 20 POS         |
| 03 = 30 POS         |
| 04 = 40 POS         |
| 05 = 50 POS         |
| 06 = 60 POS         |
| 07 = 70 POS         |

| PRACTICAL CONNECTOR HEIGHT<br>NOTE 8 |
|--------------------------------------|
| 1 = 2.0MM                            |
| 2 = 2.5MM                            |
| 3 = 3.0MM                            |
| 4 = 3.5MM                            |

| PEG OPTION             |
|------------------------|
| 1 = PEGS (10090503)    |
| 0 = NO PEGS (10090504) |

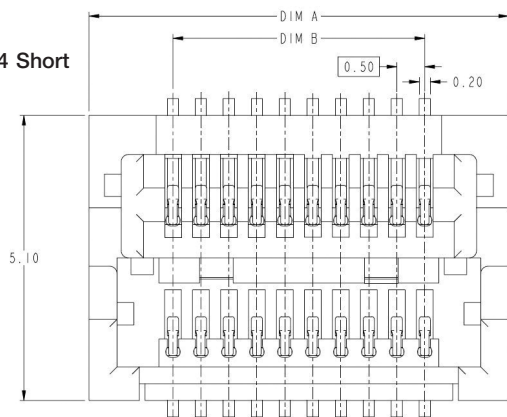
| LEAD FREE INDICATOR            |
|--------------------------------|
| 2                              |
| PACKAGING                      |
| TAPE AND REEL WITH PICK-UP CAP |

| HOLD DOWN OPTION             |
|------------------------------|
| 1 = HOLDDOWNS (10090503)     |
| 0 = NO HOLD DOWNS (10090504) |

Add practical connector heights of two mated connectors to determine final PCB stack height

PCB footprint dimensions available on customer drawing at: [www.fci.com/mezzostak](http://www.fci.com/mezzostak)

10090504 Short



| MM/IN | 10090503 STANDARD LENGTH |            |            | 10090504 SHORT LENGTH |            |
|-------|--------------------------|------------|------------|-----------------------|------------|
|       | NUMBER OF POSITIONS      | DIM J      | DIM A      | DIM B                 |            |
|       | 10                       | 7.24/.285  | 6.70/.274  | 2.00/.078             | 5.00/.197  |
|       | 20                       | 9.74/.383  | 9.20/.362  | 4.50/.177             | 7.50/.295  |
|       | 30                       | 12.24/.482 | 11.70/.461 | 7.00/.276             | 10.00/.394 |
|       | 40                       | 14.74/.580 | 14.20/.559 | 9.50/.374             | 12.50/.492 |
|       | 50                       | 17.24/.679 | 16.70/.657 | 12.00/.472            | 15.00/.591 |
|       | 60                       | 19.74/.777 | 19.20/.756 | 14.50/.571            | 17.50/.689 |
|       | 70                       | 22.24/.876 | 21.70/.854 | 17.00/.669            | 20.00/.787 |

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