DATASHEET

Sentrality High-Current Pin and Socket Interconnect System ›

Sentrality Right-Angle Pin and Socket Interconnects enable co-planar, offset-planar and reverse-planar mating configurations, while providing a +/- 1.00mm self-aligning feature on the socket assemblies to mitigate tolerance stack-up issues. With Sentrality pin and socket assemblies, manufacturers can have the design flexibility they need and achieve high electrical performance in their products.

ADVANTAGES AND FEATURES

Offers low contact resistance
Multiple contact beams minimize heat generation at the contact interface, resulting in optimized electrical performance.

Enables for tighter board-to-board stack heights with shorter socket assemblies than most market equivalents using hyperbolic sockets
This interconnect system has a compact conical socket design.

Allows the socket to freely move radially +/- 1.00mm within the socket assembly during mating to help ensure no contact beam deformation
Its self-aligning sockets float between wave springs.

Current	75.0 to 350.0A
Voltage	1,000V
Durability (min.)	200 mating cycles
Operating Temperature	-40 to +125°C

Offers design flexibility for attaching pins to various substrates
The screw-mount pins attach to both printed circuit boards (PCBs) and busbars; the surface-mount pins attach to printed circuit boards; the knurled press-fit pins attach to busbars.

Mitigates tolerance stack-up issues
Pin and socket assemblies are oriented to attach to PCBs with a right-angle orientation.

Allows manufacturing flexibility when attaching the connectors to a PCB
These are wave solder process- and reflow solder process-capable connectors.

Ensures the right-angle socket assemblies and right-angle pin assemblies are placed in the correct position and are properly oriented on the PCB
Unique solder tail patterns for each size and gender polarizes the connectors' PCB footprints.

Sentrality 8.00mm socket assembly using COEUR conical socket to achieve 10.00mm overall height

Competitor 8.00mm socket assembly using hyperbolic socket to achieve 24.00mm overall height

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ADVANTAGES AND FEATURES

Offers design flexibility for attaching sockets to different substrates
The surface-mount sockets attach to PCBs; the knurled press-fit sockets attach to busbars.

Allows engineers to stack substrates in different configurations for design flexibility
Socket assemblies are available in top-entry and bottom-entry forms.

Allows for manufacturing flexibility with manual placement options
Knurled press-fit pins and screw-mount pins are packed in trays.

Press-Fit Socket for Busbar Applications

Pin-in-Paste Reflow for PCB Applications

SMT Socket for PCB Applications

Sentrality Top-Entry Socket Assembly

Sentrality Bottom-Entry Socket Assembly

Example of top-of-board to top-of-board stacking using top-entry socket assembly

Example of top-of-board to bottom-of-board stacking using bottom-entry socket assembly

Example of power tap pin using two sockets to connect three boards/busbars

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ADVANTAGES AND FEATURES

Supports easy customization for achieving the optimal application-specific protrusion above and/or below the substrates
Socket assembly's flange can be positioned anywhere along the side of the part.

Supports easy customization for achieving the optimal application-specific board-to-board or busbar-to-board stack height
Pin length can be set to meet specific height requirements.

Surface-mount pins with pick-and-place caps arranged in tape and reel, or trays
Allow for manufacturing flexibility with high-speed automated placement.

MARKETS AND APPLICATIONS

Telecommunication/Networking
Servers
Data storage units
Power distribution units (PDUs)
Uninterruptible power supplies
Digital cross-connect switches
Network routers
Energy storage system

Data Centers
Enterprise switches
Servers
Data storage units
Power shelves
Power distribution units (PDUs)
Uninterruptible power supplies
Environmental control equipment

Industrial Automation
Battery charging stations
DC-to-AC inverters
AC-to-DC rectifiers
Robotics

Energy Storage System

Data Center Servers

DC-to-AC Inverters

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SPECIFICATIONS

Reference Information

Packaging: Tape and reel, tray or bag depending on part number; see packaging specifications for details
UL File No.: E29179
CSA File No.: 70184994
Use With: Printed circuit boards and busbars
Designed In: Millimeters
RoHS: Yes
Halogen Free: Yes

Physical

Eye-of-Needle Socket Housing: LCP (black)
Contact: High–performance Copper (Cu) Alloy
Plating:
- Socket Contact Area—Gold (Au)
- Eye-of-Needle Socket Compliant Tail—Silver (Ag)
- Pin - Silver (Ag)

Busbar Thickness (min.): 2.00mm
Operating Temperatures: -40 to +125°C

Electrical (3.40mm Size)

Voltage (max.): 1,000V
Current (max.): 75.0A
Contact Resistance (max.): 0.25 milliohms

Mechanical (3.40mm Size)

Mating Force (max.): 20.0N
Unmating Force (min.): 6.0N
Alignment Force (max.): 10.0N

Electrical (6.00mm Size)

Voltage (max.): 1,000V
Current (max.): 120.0A
Contact Resistance (max.): 0.20 milliohms

Mechanical (6.00mm Size)

Mating Force (max.): 30.0N
Unmating Force (min.): 7.0N
OmniGlide Alignment Force (max.): 10.0N
Durability (min.): 200 mating

Electrical (8.00mm Size)

Voltage (max.): 1,000V
Current (max.): 200.0A
Contact Resistance (max.): 0.20 milliohms

Mechanical (8.00mm Size)

Mating Force (max.): 40.0N
Unmating Force (min.): 10.0N
Alignment Force (max.): 15.0N
Durability (min.): 200 mating cycles

Electrical (11.00mm Size)

Voltage (max.): 1,000V
Current (max.): 350.0A
Contact Resistance (max.): 0.40 milliohms

Mechanical (11.00mm Size)

Mating Force (max.): 55.0N
Unmating Force (min.): 10.0N
Alignment Force (max.): 70.0N
Durability (min.): 200 mating cycles

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