



Delivering up to 380.0A per linear inch, EXTreme PowerMass™ connectors provide the highest density board-to-board power connection in the market and are custom configurable for design flexibility

EXTreme Power-Mass™ is a high-current board-to-board hybrid power and signal, modular connection system. The system provides 380.0A per linear inch. Assemblies are custom configurable using individual connector modules to meet customer-specific design requirements with no tooling costs. The EXTreme PowerMass™ system is available in coplanar and right-angle to vertical board-to-board orientations.

With the highest current density of existing board-to-board connectors in the market, the EXTreme PowerMass system provides maximum current-to-length ratio at a 25.00mm profile height off the PCB. Compliant-pin tails are now available on the high-current 150A power module plus signal modules in all orientations.

EXTreme Power-Mass™ connectors complement Molex's robust EXTreme power-connector family offering. For more information on Molex power connectors, visit: www.molex.com/link/ext-power.html

Features and Benefits

Multiple power (150.0A, 80.0A, 40.0A) and signal (24 to 64 circuits) modules available

Provide maximum flexibility for customer design requirements

380.0A per linear inch, 150.0A per circuit at 30°C T-rise current rating

Highest density board-to-board power connector on the market

Less than 1 milliohm resistance (plane-to-plane) at end-of-life

Provides minimum heat generation with maximum current transfer

Press-fit and solder-board termination

Easy and reliable PCB mounting options

Die-cast guides

Rugged blind-mating capabilities

Modules assembled to metal stiffener

Assures true position with modular design flexibility

Variable power-blade and signal-pin lengths

Facilitates post-mate and pre-mate options

Markets and Applications

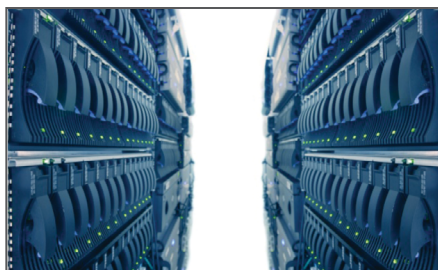
Data-communication equipment

- High-end servers
- Rack servers

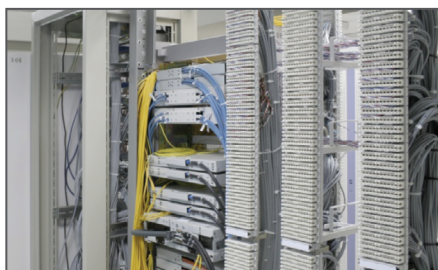
Telecommunication equipment

- Hubs
- Cellular base stations
- Switches
- Routers

Power supplies

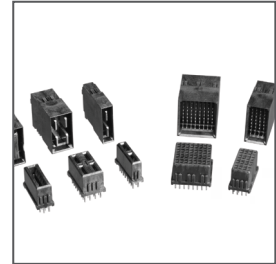


Data Center

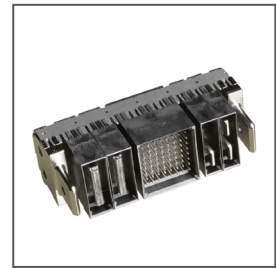


Server

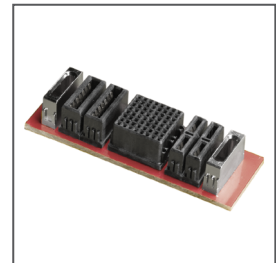
EXTreme PowerMass™ High Current Board-to-Board Connector Assemblies



EXTreme PowerMass™ connector modules used in custom-configurable assemblies



Example of right-angle plug assembly Series 75555, 171528



Example of vertical receptacle assembly Series 45840, 171529



Example of right-angle receptacle assembly Series 45840, 171529

Specifications

REFERENCE INFORMATION ELECTRICAL

Voltage:
 Signal Module: 250V
 150.0A Module: 600V
 Multi-Path:
 80.0A Module: 450V
 40.0A Module: 600V
 Current (at 30° C Temperature rise):
 Signal Module: 3.0A per circuit
 (24 to 64 circuits)
 150.0A Module: 150.0A
 Multi-Path: 40.0A per circuit
 (4 circuits)
 80.0A Module: 40.0A per circuit
 (2 circuits)
 40.0A Module: 40.0A
 Contact Resistance (milliohms per blade):

	Initial	Delta	End of Life
Signal Module –	10.0	10.0	20.0
Multi-Path –	0.55	0.75	1.30
150.0A Module –	0.16	0.25	0.41
80.0A Module –	0.55	0.75	1.30
40.0A Module –	0.55	0.75	1.30

Dielectric Withstanding Voltage:
 No breakdown
 Insulation Resistance: 5000 Megohms min.

PHYSICAL

Housing: LCP
 Contact: Copper (Cu) Alloy
 Plating:
 Contact Area — 30µ" Gold (Au) min.
 Solder Tail Area — 150µ" Tin (Sn) min.
 Underplating — 50µ" Nickel (Ni) min.
 Operating Temperature:
 -40 to +105°C
 Flammability Rating: 94V-0

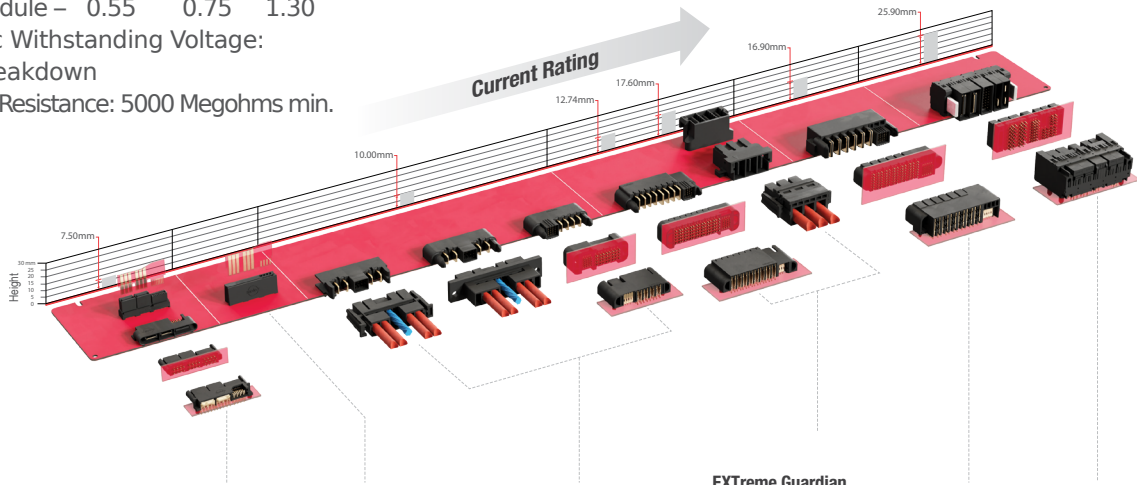
REFERENCE INFORMATION

Packaging: Tray
 File No.: E29179
 File No.: LR19980
 File No.: Pending
 Designed In: Millimeters

EXTreme PowerMass™ High Current Board-to-Board Connector Assemblies

MECHANICAL

Mating Force:
 Signal Module: 120g per pin
 150.0A Module: 2600g
 Multi-Path: 2920g
 80.0A Module: 1460g
 40.0A Module: 730g
 Un-mating Force:
 Signal Module: 65g
 150.0A Module: 1720g
 Multi-Path: 1600g
 80.0A Module: 800g
 40.0A Module: 400g
 Contact Retention: 225g
 Durability: 50 cycles



EXTreme LPHPower

Current Rating:
 30.0A / Blade
 50.0A / cm
 Profile Height: 7.50mm
 Voltage (max): 250V

EXTreme PowerEdge

Current Rating:
 40.0A / Blade
 62.0A / cm
 Voltage (max): 250V

EXTreme Ten60Power

Current Rating:
 60.0A / Blade
 109.0A / cm
 Profile Height: 10.00mm
 Voltage (max): 600V

EXTreme Guardian

Board-to-Board
 Current Rating:
 80.0A / Blade
 155.0A / cm
 Profile Height: 12.74mm
 Voltage (max): 120V
 Wire-to-Board
 Current Rating:
 80.0A / Blade
 73.0A / cm
 Profile Height: 17.60mm
 Voltage (max): 600V

EXTreme EnergetiC

Current Rating:
 100.0A / Blade
 130.0A / cm
 Profile Height: 16.90mm
 Voltage (max): 320V

EXTreme PowerMass

Current Rating:
 150.0A / Blade
 150.0A / cm
 Profile Height: 25.90mm
 Voltage (max): 600V

Ordering Information

Connector Assemblies

Hybrid Power and Signal Connector Assemblies	Molex Series Number*	
	Soldertail Power and Signal Contacts	Compliant-Pin Power and Signal Contacts
Right-Angle Receptacle	45840	171529
Right-Angle Plug	75555	171528
Vertical Receptacle	-	75541

*Connector assemblies are customer specific. Each assembly will be designated its own part number. Please contact Molex

www.molex.com/link/ext-power.html