PwrBlade+™

Next Generation AC/DC Power Distribution Connector System

DESCRIPTION

The PwrBlade+ connector is a next generation AC/DC power distribution connector system for demanding applications requiring higher linear current density and low power loss.
It is capable of 192A/linear inch with eight adjacent high power contacts energized simultaneously and ≤ 0.7mΩ power contact resistance after environmental exposure.

The PwrBlade+ connector builds on the PwrBlade® connector's proven technology but includes enhancements to achieve increased performance and density. It is rated up to 75A per power contact without exceeding a 30°C temperature rise in still air. This product features an innovative high power contact design and housing that allows higher current carrying capability in a more compact package.

The high power contact features an optimized beam design and material property enhancements that significantly increase linear current density making it ideal for next generation 1U/2U servers, storage enclosures, telecommunications equipment and datacom/networking equipment.

The PwrBlade+ connector also features a highly vented, halogen-free housing design, a low power contact option for applications with multiple voltages and lower power requirements and half-bullet guides for a reduced connector footprint.

The PwrBlade+ connector is available with power and signal contacts integrated into a single molded housing for power distribution and power control. Similar to other FCI power solutions, it is modularly tooled making the product highly configurable in terms of the number and placement of the power and signal contacts for custom power needs. Right angle and co-planar options are available to accommodate various system architectures.

FEATURES & BENEFITS

- High power contact option (up to 75A/contact; 30°C temperature rise in still air) for cost-effective power delivery in 1U and 2U power supplies or power distribution applications
- Low power contact option (up to 49A/contact; 30°C temperature rise in still air) for applications with multiple voltages and lower power requirements
- Highly vented housing design maximizes heat dissipation for effective system cooling
- Half-bullet guides offer a reduced connector footprint
- Housing material is halogen-free for next generation environmental requirements
- Large operating temperature range (-40°C to +125°C) for extreme environments
- Right angle and co-planar options are available with both power contacts for power distribution and signal contacts for power control
- Number and placement of power and signal contacts are highly configurable for custom power needs
- Solder or press-fit tails are available for termination flexibility
- Compatible with lead-free processing temperatures

TARGET MARKETS / APPLICATIONS

- AC/DC pluggable power supplies in data, telecom & datacom/networking equipment
- Industrial PCs
- Industrial controls & instrumentation
- Medical

TECHNICAL INFORMATION

MATERIALS

- Housing
  - High-temperature thermoplastic (UL 94V-0, halogen-free), black
- Power contact base metal
  - High-conductivity copper alloy
- Contact finish
  - Separable interface: 30µin (0.76µm) performance-based plating over nickel (per the GS-12-658 product specification)
  - Board connector solder tail area: Matte tin over nickel

ELECTRICAL PERFORMANCE

- High power current rating: Up to 75A/contact (30°C T-rise in still air)
- Low power current rating: Up to 49A/contact (30°C T-rise in still air)
- Operating voltage
  - High power contacts: 912V maximum (fully loaded)
  - Low power/signal contacts: 124V maximum (fully loaded)
- Dielectric withstanding voltage
  - High power contacts: 2500V
  - Low power/signal contacts: 1000V
- Insulation resistance
  - High/low power contacts: > 1,000 MΩ initially as well as after environmental exposure
  - Signal contacts: > 500 MΩ initially as well as after environmental exposure

ELECTRICAL PERFORMANCE (continued)

- Contact resistance
  - High power contacts: ≤ 0.7 mΩ initially and after environmental exposure
  - Low power contacts: ≤ 1.5 mΩ initially and after environmental exposure
  - Signal contacts: ≤ 20 mΩ initially and after environmental exposure

MECHANICAL PERFORMANCE

- Contact wipe distance
  - High power contacts: 5.08mm
  - Low power contacts : 3.81mm
  - Signal contacts: 3.81mm
- Durability: 500 mating cycles

ENVIRONMENTAL PERFORMANCE

- Operating temperature: -40°C to +125°C
- RoHS information, this product is compatible according to the European Union Directive 2002/95/IEC

SPECIFICATIONS

- Product specification: GS-12-658
- Application specification: GS-20-141

CERTIFICATIONS & APPROVALS

- UL – in process
- CSA – in process
- TUV – in process

PACKAGING

- Trays

PART NUMBERS

MAIN PRODUCTS	PART REFERENCES
2P+16S+2P Right Angle Header	10106124-4004001LF
2P+16S+2P Right Angle Receptacle	10106126-4004001LF
10HDP+32S Right Angle Header	10106132-A008001LF
10HDP+32S Vertical Receptacle	10106139-A008001LF

ELXPWRBLAD+0112EA4

Power Solutions℠

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