

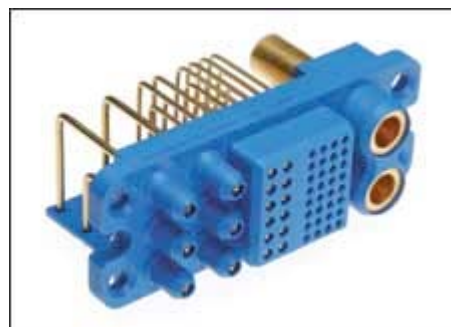


# Power Connectors For The Computer And Communication Markets

Bishop and Associates has just released the new ten-chapter research report analyzing Power Connectors For The Computer And Communications Markets. This comprehensive report provides detail on all aspects of the computer and communication power connector market, including connector statistics by region, market, power rating and connector type the years 2005-2006 and 2011 (including five-year CAGRs).

Beyond detailing the factors that are driving the increase in power demand, this new report includes detailed data covering contact physics, power connector types, test methodology, the status of industry standards that define power connectors, as well as connector failure mechanisms. The issue of thermal management along with current and anticipated cooling options is discussed. A detailed review of existing as well as recently introduced power connectors from 17 leading suppliers is also included.

Market demand for products that offer greater functionality and faster processing speed while consuming less space has been the mantra driving the electronics industry for many years. Satisfying these objectives have resulted in remarkable improvements in performance and packaging density, but have also created new challenges in managing increasing levels of power as well as resulting heat. Individual processors can draw several hundred watts driving ambient temperatures within the box to levels that can raise serious concerns about system reliability. Closely space daughtercards packed with heat generating devices pose serious challenges to traditional passive and fan based cooling schemes. The semiconductor industry has recognized the threat that power and heat pose to the continuation of Moore's Law, and are developing new devices that feature reduced power consumption. Multi-core processors for instance can run at slower, less power intensive speeds while increasing processing throughput. Current trends indicate that power reduction at the device level will only slow the overall rate of increase at the system level. The need for efficient power distribution in this environment is having a significant impact on the design and application of connectors for next generation equipment.

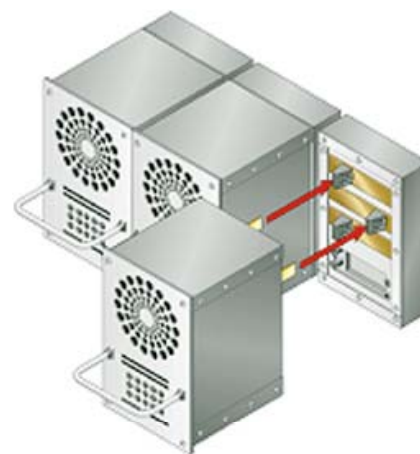


Quantifying the performance of a power connector is less than a precise science. Power ratings for connectors are typically defined by a 30° C temperature rise at the contact, but the methods used to determine this rating varies among suppliers. Factors such as airflow, ambient temperature, location of the thermocouple on the contact, the number of adjacent energized contacts, as well as how the contact is terminated will have a significant influence on the test results. Suppliers many not disclose this level of test detail leaving users the challenge of estimating the current rating of a connector in the unique environment of their specific application. Conservative de-rating of the published performance

is common due to concern about catastrophic failure, but often results in connectors that consume unnecessary space and cost. Reduced voltage and increasing current levels is driving system currents up, making precise voltage regulation critical.

Several industry standards groups such as PICMG and VITA have begun to recognize the critical role that power connectors play in the overall performance of the system and are defining the power connector in new specifications. Power connectors that originated in response to a specification are now being utilized in a wide range of new applications due to well-documented performance, design flexibility, multiple sources, and low cost.

Power connector manufacturers are responding to the challenges of greater power density, design flexibility and lower cost. Traditional power connectors typically are larger than their signal carrying cousins, and are available from a much smaller segment of the connector market. Unique application demands often require many near-custom configurations with relatively low volume resulting in high cost per circuit. The fractured group of power connector manufacturers includes both leading suppliers that offer a wide range of signal and power connectors as well as smaller companies who have chosen to focus their offerings specifically on power connectors.



Newly released power connectors are addressing the need for greater current per linear or square inch by extending current technology. Contacts utilizing copper alloys with greater conductivity, new contact designs, as well as vented housings to facilitate cooling airflow can double the current ratings of standard connectors. Low profile housings offer reduced resistance to system airflow. Many of these products are designed to allow a wide variety of custom configurations with no tooling charges to the customer.

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## To Order Power Connectors For The Computer And Communication Markets . . . .

Research Report P-660-07, **Power Connectors For The Computer And Communication Markets** is available for \$3,500. If you would like additional information about this report, or would like to place an order, please complete the following information and fax or mail it to Bishop & Associates, Inc. You may also place your order on our website: [www.connectorindustry.com](http://www.connectorindustry.com). Additional print copies of this report are available for \$350.

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