

PA & E Announces New Lightweight, Hermetic Micro-D Connector

Design engineers in defense, aerospace and other industries where low weight and superior electrical performance are key considerations have a new option, following PA&E's release of its new aluminum Micro-D connector.

The new PA&E aluminum Micro-D is the only connector on the market that combines the lightweight characteristics of all-aluminum construction with high levels of hermetic performance. This MIL-PRF-83513 compliant, sealed connector is approximately 67% lighter than standard stainless steel alternatives. It can be mounted to a lightweight aluminum electronic housing with laser welding or an O-ring seal. The connector provides greater than 5,000 megohms of insulation resistance at 500 VDC and exhibits no evidence of dielectric withstanding voltage breakdown when tested in accordance with MIL-STD-1344, Method 3003. PA&E's lightweight aluminum Micro-D connectors can be configured with 9, 15, 21, 25, 31 and 37 pin counts. Its contacts are made of beryllium copper CDA alloy that are finished in nickel/gold plating. PA&E's new aluminum Micro-D connector has an operating temperature range of -55°C to +125°C.

The new connector uses PA&E's industry-proven polycrystalline ceramic-to-metal sealing technology, Kryoflex®, to achieve a leak rate of less than or equal to 1X10⁻⁵ cc/sec He at one atmospheric differential pressure. Its chemically active Kryoflex seals provide a direct ceramic-to-metal bond, by means of oxygen-pinned valence bonding. This unchanging chemical and mechanical bond is enhanced by Kryoflex's randomly organized crystalline structure, which allows this unique material to relieve stresses from within itself. Kryoflex has an electrical resistivity of 1x10¹⁸ Ohms/cm and easily maintained resistance values exceeding 50,000 megohms. Kryoflex seals allow the use of copper alloys so this connector has up to 70 times the current-carrying capacity of conventional products.

Because PA&E's new aluminum Micro-D connectors can be laser welded into an electronic package, a common failure point – solder joint fatigue – is eliminated. Laser welding is a non-contact, highly-precise welding process that produces an extremely small heat-affected zone, ensuring components or electronic packaging are exposed to the least-hostile welding environment possible.

For more information about aluminum Micro-D connectors from PA&E, or to learn more about the company's other interconnect products, EMI filters, and integrated electronic packaging capabilities, contact PA&E at 509-664-8000 or visit them at <http://www.pacaero.com> [1].

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[1] <http://www.pacaero.com>