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Non-ferrous connector systems designed for medical and instrumentation applications...

ERNI DEVELOPS INDUSTRY'S FIRST MINIATURE, ANTI-MAGNETIC HERMAPHRODITIC CONNECTOR

ERNI has expanded its miniature 0.8mm MicroStac® SMT connector series to include anti-magnetic versions with 12 pin (single row) and 54 pin (dual row) configurations with a 5 mm board-to-board stack height and a 1.5 mm effective wipe length. The non-ferrous connectors are designed specifically for medical and instrumentation applications such as MRI machines, where ferrous materials can be hazardous and degrade test results.

The MicroStac components are based on a patented hermaphroditic design that combines male and female connector halves into one solution. The unique design reduces logistic, inventory and manufacturing cost, as the connectors mate and un-mate to themselves.

“The combination of the extreme miniaturization and its innovative design makes the MicroStac ideal for extremely compact and demanding applications,” said Sam Hines, Product Coordinator at ERNI Electronics. “The MicroStac connector system not only offers exceptional flexibility in a compact design, but also reduces cost. Instead of requiring a male and female connector to create a mated pair, the MicroStac’s hermaphroditic design enables the connectors to mate with themselves. This means only one part number is required for each mated pair, resulting in both reduced inventory cost and a reduction in number of parts in the BOM.”

In spite of their extremely compact construction, MicroStac products achieve a high current-carrying capacity. With an ambient temperature of 20°C and current to all contacts, the 12 position MicroStac connector can transfer a derated 2.2A per contact. The contacts are formed through precision stamping. As a result, the contacts offer an extensive cross-section for low ohmic resistance, while at the same time providing a large radiating surface that yields higher current carrying capabilities than similar competing products.

The new connectors also offer a high mating tolerance with allowed misalignment tolerances of longitudinal and transverse axes of ± 0.7 mm. The allowed angular inclination tolerance is specified with ± 4 degrees.

The SMT terminals and the unique design of the MicroStac allow for economical automated assembly. The stability of the miniature connector is facilitated through a tilt-proof contact principle with dual-side positioning of the contact on the PCB. In addition, with its corresponding features of minimal weight (just 0.18g for the 6-pin design), co-planarity of < 0.1 mm and suction areas integrated in the insulating body for pick-and-place assembly, the MicroStac components are perfectly suited for high-speed manufacturing.

MicroStac connectors feature a high temperature-resistant insulating body and exact coplanarity to ensure a secure soldering experience. The black isolating body allows simple visual recognition during automatic assembly and, when delivered in the antistatic tape and reel packaging, the connectors are protected and ready for automatic assembly.

Ferrous versions are also available for a wide range of applications ranging from sensor technology, medical instruments and mobile communication to automotive electronics, automation engineering, measurement, test equipment and building automation. Available pin positions are 6, 10, 12, and 14 in single row with dual row available in 50 and 54 positions. Please inquire about non-ferrous position sizes other than 12 and 54. A 9 position single row with a 3 mm stack height is also available.

For more information:

Web: <https://www.erni.com/en/products-and-solutions/electronic-connectors/microstac-connectors/>

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About ERNI

ERNI Electronics is a leading global manufacturer and worldwide supplier of a broad line of interconnects for the telecommunications, data communications, computer, industrial and medical markets. ERNI Electronics GmbH belongs to the international ERNI Group of companies specializing in electrical engineering and electronics. At present, the ERNI Group employs some 650 people, with annual sales of approximately 150 million Euros. ERNI has manufacturing operations in Europe and Asia, as well as sales offices in more than 40 countries. ERNI products are also marketed via a worldwide network of representatives and leading distributors.

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