

Omnetics Leads Electronic Equipment Miniaturization Trend with High Reliability Micro-Circular Connectors

Micro-miniature circular connectors reduce size and weight of high speed digital and analog applications.

Micro-offer



sized, (.050 inch pitch), connectors in compact metal or over-molded polymer shells dramatic size and weight reductions for circuits requiring multiple pin interconnection systems. Omnetics' offers an extensive array of micro-circular connector styles and formats using its specially designed flex-pin® contacts. These configurations are available solder cup, thru-hole and pre-wired up to 26 gauge wiring. Multiple metal shell options provide the designer a variety of locking systems and can also be used to connect cable shielding to a panel mounted

connectors on the instrument chassis. Over-molded polymer shells are also available and can be used to reduce overall diameter and weight. A number of mating systems from cable to cable and cable to panel mounts are exhibited in Omnetics' Micro 360 Catalogs and can be seen at

http://www.omnetics.com/products/circular-micro_miniature/

Micro-miniature circular connectors employ Omnetics' gold plated Beryllium plated Flex-pins® and are available as standard products ranging from 5 to 27 positions per shell. Current rating is set for up to 3 amperes with a dielectric withstand voltage of 660 volts and insulation resistance of 5000 Meg-ohms at 500 volts dc. These Micro-miniature connectors are designed to perform consistently up thru 20 gs of vibration with no discontinuities greater than 1 microsecond and pass 50 gs of shock. Metal shells and plating options include nickel, brass, stainless steel and black oxide finishes. Standard or custom back-shells as well as pre-molded strain-reliefs are designed to fit the size and shape of the cable attached. Beyond our standard circular designs, the designer can specify mixed signal formats to reduce even further size, shape and weight of the interconnection systems as a whole. When combining two connectors into one using two different pin types or pin sizes, inside one insulator/shell, the designer has reduced the number of outer shells and concentrated the signal and power entry area into the instrument. This significantly improves the miniaturization of the equipment involved.

Circular connectors by design are a natural shape for handling round cabling from high-speed digital, analog and power systems. With the evolution of miniaturization in full-swing, designers are now being pushed to reduce both size and weight within their existing electronics to allow for rugged portability within the field. Mobile robotic equipment, hand-held electronics, Future Soldier systems amongst others, are now requiring multiple circular connectors to route command signals and functions to different extremities within their instrumentation. Unmanned aircraft design is also trending this way, as many new UAV's are reducing size and weight in an effort to enable the units themselves to be launched by hand. To do so, the units must remain small and light enough for the launch itself to be conducted by a single person. Micro-miniature circular connectors can offer high speed digital surveillance equipment the circuit speed and performance to insure the highest signal integrity. For information and catalog details please see: www.omnetics.com

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