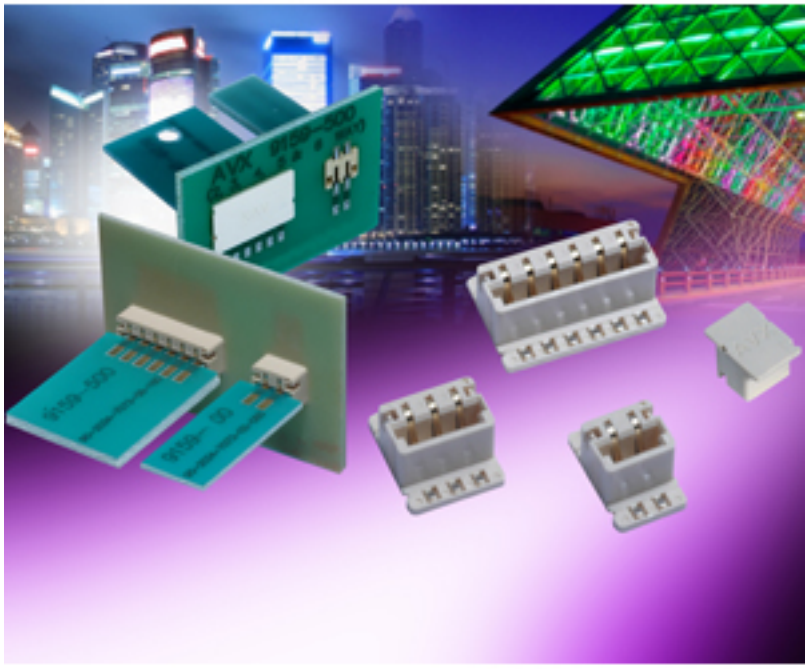
Board-to-board connector system eliminates labor-intensive hand soldering of wires on PCBs in SSL applications



AVX Corporation, a leading manufacturer of passive components and interconnect solutions, has developed a new high-performance, bottom entry, board-to-board, card edge connector system designed for use in Edison-replacement LED bulb assemblies. Providing significant cost and process improvements over existing products and termination methods, AVX's new 9159-500 surface mount, bottom entry, card edge connector allows a perpendicular PCB to be mated to a top-mounted main FR4 or metal core PCB from the bottom side using standard pick and place equipment and reflow soldering. Consequently, the new 9159 Series card edge connector provides a single-piece volume production solution that eliminates the labor-intensive process of hand soldering wires to the top side of the PCB in LED replacement bulbs.

AVX's new 9159-500 single-piece, bottom entry, board-to-board connector is available in a range of 2-6 positions, which allows for increased functionality in application designs, such as color control or specific line control. For example, white bulbs only require two connections, while architectural bulbs require two connections for power and ground in addition to four control lines to support red, green, blue, and white coloring. Featuring dual PCB slot widths, the bottom entry, card edge connector is also compatible with both 0.8mm and 1.6mm PCBs, which provides design engineers with increased flexibility regarding PCB layout and selection. The connector is also available with or without a safety cap, which can be supplied either preassembled or separately, and features an extremely low-profile

through-board height (1.00mm with the cap and 0.6mm without) to avoid interfering with light output.

Rated for 10 mating cycles, 2A per contact, 250VAC/DC, and use in temperatures ranging from -40°C to +120°C, the 2mm pitch connector provides high performance in a compact design, as well as facilitates fast assembly and board removal. Featuring gold-plated beryllium-copper (BeCu) spring contacts, the connector also provides long-term reliability, substantial insertion force tolerance, and maximum mating travel to absorb common manufacturing tolerances.

Fully insulated with halogen-free material, AVX's 9159-500 bottom entry, card edge connector features UL1977 approval, as well as meets the UL94 V-0 flammability standard.

Advantages over competitive surface mount, bottom entry, board-to-board, card edge connectors designed for use in solid-state lighting applications include: multiple position offerings, nearly twice the position density, twice the current capacity, a higher voltage rating, compatibility with two PCB thicknesses, a higher maximum operating temperature, better electrical characteristics, superior contacts, an optional versus integrated cap for reduced height, 33% less height above the PCB, 20% less board space, and larger assembly tolerances.

Although targeted at the LED bulb and spotlight markets, AVX's new 9159-500 single-piece, surface mount, bottom entry, card edge connector can also be used for rear connections on strip PCBs in addition to several other application that require rear plug-ins.

For more information, please visit www.avx.com [1]

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[1] http://www.avx.com