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Stackable Multi-Row Board-to-Board Connector Platform Snaps Together Without Solder

Mobility electrification solutions developer ENNOVI is successfully addressing the growing market demand forhigh-density interconnects in challenging automotive application scenarios. The new ENNOVI-MB2B multi-rowboard-to-board (BTB) connector platform features a proprietary ‘snap-in biscuit’ design, allowing multipleconnector units to be stacked together without solder. This unique cost-effective approach enables different pincount requirements to be accommodated via the same basic interconnect platform, without any extra expenseor engineering effort.

The new multi-row BTB connectors feature ENNOVI´s patented 0.4mm miniPLX press-fit terminals made from a copper alloy that exhibits very low levels of contact resistance (less than 1 mΩ). Each pin has a 3 A current carrying capability. The optional coating of these pins with the company’s patented IndiCoat plating technology mitigates tin whisker build-up, thus preventing the risk of short circuits and extending operational lifespan.

ENNOVI-MB2B connectors are available in board stacking heights from 7 mm to 30 mm. They can have between one and six rows, with up to 30 contact terminals being incorporated into each row. Conforming with automotive performance requirements, these rugged products can withstand high humidity levels (eight hour cycling up to 10% RH), mechanical shock (35 g for 5 ms to 10 ms across 10 axes) and vibration (eight hour per axis). A working temperature range of -40° C to 150° C is supported.

Figure 1. ENNOVI Multi-Row Board-to-Board Connector

There are a broad variety of applications that the robust, high-density, scalable multi-row BTB connectors will be targeted at. Among the most prominent of these are going to be electric vehicles, particularly for electric power steering and electronic control unit functions.