Press Information

New Kyocera 5655 Series Board-to-Board Connectors Feature One for the World's Lowest Stacking Heights, Ideal for Automotive Electronics

Stacking height of just 4mm supports applications in limited spaces

Kyoto/London, September 9th, 2019. Kyocera announced its new 5655 Series electronic Board-to-Board connectors optimized for high-speed data transmission, featuring a 0.5mm-pitch and a stacking height of just at 4mm — among the world's thinnest for this class of connector[1]. Samples are now available globally upon request, and Kyocera will exhibit the new connectors at electronica India 2019, an international trade fair for electronic components, systems and applications to be held from September 25 through 27 in Delhi, India (Hall 11, Booth #EG01).

5655 Series Board-to-Board connectors feature a 4mm stacking height and 0.5mm-pitch

Product name	5655 Series Board-to-Board connector
Applications	Automotive electronics (millimeter-wave radar, LiDAR, e-mirrors, navigation systems, cameras, etc.), connecting internal boards of electronic equipment

Development Background

In recent years, the development of advanced driver assistance systems (ADAS) and deployment of connected vehicles has greatly expanded the scope of automotive electronics. In several major markets, including the U.S., Europe, and Japan, tests of self-driving vehicles are currently taking place on public roads. The commercialization of these autonomous driving systems will require

[1] Based on Kyocera's research of 0.5mm-pitch connectors with floating contact structure (as of August 31st, 2019).

highly miniaturized automotive electronics to be mounted on limited available space within the vehicle.

Kyocera's new 5655 Series connectors feature a stacking height of just 4mm, and a proprietary floating structure optimized for high-speed data transmission. The connectors are also available in larger dimensions to serve a wide range of design requirements.

The connectors' dual-point contact structure ensures excellent contact reliability. Furthermore, the connectors' mold structure reduces breakage when connecting or disconnecting to ensure superior durability. The new 5655 series is designed for use in advanced equipment including millimeter-wave radar and LiDAR to detect vehicles and pedestrians; e-mirrors; navigation systems; and driver monitoring cameras. The connectors can operate in extreme temperatures from -40℃ to +125ºC, and they comply with the MIPI D-PHY standard (2.5Gbps) for high-speed transmission interfaces.

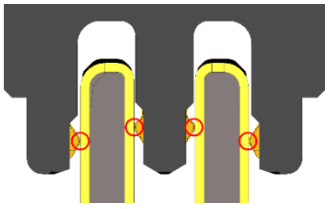
Main Features

1. Among the world's lowest stacking heights – 4mm – helps to downsize automotive electronics

With a stacking height of just 4mm in a 0.5mm-pitch, the floating-structure connector contributes to the miniaturization of automotive electronics. In addition to the 4mm-profile type, other versions up to 7mm are also available to meet wide-ranging customer requirements.

2. Excellent contact reliability and durability

The terminals feature a dual-point contact structure, which pinches the board to ensure excellent contact reliability amid the typical shock levels within a vehicle. In addition, the connectors' mold structure reduces breakage during connection and disconnection to ensure high durability.



Dual-point contact structure (circled in red)

Mold structure enhances durability (circled in blue)

3. Complies with MIPI D-PHY (2.5Gbps) standard

The 5655 Series complies with the MIPI D-PHY high-speed data transmission standard (2.5Gbps).

High-current version

4. High-current version also available

In addition to the 0.7A/pin rated current, Kyocera also offers versions rated up to 3A/pin for high-current power.

5. Fully resistant to automotive temperature extremes

The 5655 Series is capable of operating at temperatures ranging from -40℃ to 125℃, ideal for all forms of advanced automotive electronics.

6. Complies with IATF 16949 standards

The new connectors are manufactured at a factory with IATF 16949 certification, specifying conformance to the Quality Management System (QMS) requirements for automotive production.

7. RoHS compliant

Specifications

No. of pins	10 to 100	Operating temperature range	-40 °C to +125 °C
Pitch	0.5mm	Rated current	DC 0.7A/Contact DC 3A/Power pin
Height stacking mate	4 to 7mm	Rated voltage	DC 50V/Contact
Depth	8.8mm	D.W. voltage	AC 500V, 1min.
Floating range	±0.5mm (XY directions)	Materials	Copper alloy/ heat-resistant resin
Interface standard	MIPI D-PHY	RoHS	Compliant

See the video clip for more information.

For more information on Kyocera: www.kyocera.co.uk

About Kyocera

Headquartered in Kyoto, Japan, Kyocera Corporation is one of the world's leading manufacturers of fine ceramic components for the technology industry. The strategically important divisions in the Kyocera Group, which is comprised of 286 subsidiaries (as of March 31, 2019), are information and communications technologies, products which increase quality of life, and environmentally friendly products. The technology group is also one of the most experienced producers of solar energy systems worldwide, with more than 40 years of know-how in the industry.

The company is ranked #655 on Forbes magazine's 2019 "Global 2000" listing of the world's largest publicly traded companies. With a global workforce of over 77,000 employees, Kyocera posted net sales of approximately €12,99 million in fiscal year 2018/2019. The products marketed by the company in Europe include printers, digital copying systems, semiconductor-, fine ceramic-, automotive- and electronic components as well as printing devices and kitchen products. The Kyocera Group has two independent companies in the United Kingdom: Kyocera Fineceramics Ltd. and Kyocera Document Solutions.

The company also takes an active interest in cultural affairs. The Kyoto Prize, a prominent international award, is presented each year by the Inamori Foundation — established by Kyocera founder Dr. Kazuo Inamori — to individuals and groups worldwide who have contributed significantly to the scientific, cultural, and spiritual betterment of humankind (converted at approximately €818,000 per prize category).

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