HIROSE ELECTRIC CO., LTD.

New Technologies

［To the press］ 【 April 16, 2026】

Hirose Releases COM-HPC®-Compliant BGA Mezzanine Connector IT18 – Delivering High Speed, High Density, and High Reliability for the AI Era –

COM-HPC® is one of the latest standards promoted by PICMG (PCI Industrial Computer Manufacturers Group). PICMG is a consortium with more than 25 years of experience in embedded computing and has published over 50 industry standards.

With the rapid advancement of AI technologies, the industrial equipment sector is undergoing major transformation, including a shift from cloud-based processing to edge computing. As the importance of AI inference at the edge continues to grow, demand for COM-HPC® modules is increasing rapidly. To meet this market need, Hirose Electric has developed and released the IT18 Series, delivering high reliability and high-speed performance for next-generation embedded systems.

Example of expected application

Industrial PCs, industrial robots, humanoid robots, AGVs and AMRs, medical equipment, measuring instruments, semiconductor manufacturing equipment, broadcasting equipment, gaming devices, and other advanced embedded systems.

● Supporting Next-Generation Equipment with High Speed and Reliability

In recent years, rapid advances in AI technology, including the spread of generative AI and improvements in inference accuracy, have driven major transformation in industrial equipment. In particular, growing interest in processing not only in the cloud but also at the edge reflects the increasing importance of AI inference at the edge for real-time performance and security. As a result, demand is rapidly expanding for COM-HPC® modules that support higher-performance edge computing.

【Inquiries from the press】

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To address these technological shifts, Hirose Electric has developed and released the IT18 Series, a COM-HPC®-compliant BGA mezzanine connector offering both high reliability and high-speed performance. The IT18 Series features a 0.635 mm narrow pitch and small-diameter BGA design to support excellent high-speed transmission, high-density signal placement, and reliable soldering using the pin-in-ball method.

In addition, line spacing is optimized to provide sufficient routing space, and the footprint design suppresses crosstalk through the addition of GND vias. Weld tabs (retention tabs) are also incorporated to strengthen solder ball retention and help prevent damage. Furthermore, the connector is delivered with a metal cap to prevent deformation during reflow and to protect against foreign material during handling and assembly.

The IT18 Series supports performance improvements across a wide range of industrial equipment using COM-HPC® modules.

● Features

1. **COM-HPC® Standard Compatible Connector** (Version with weld tabs)
2. **High Speed Transmission**
   ・PCIe Gen5(32GT/s),Gen6(64GT/s PAM4),100Gbps Ethernet (4×25Gbps)
3. **Low-Profile Design**
   ・Available in 5mm and 10mm stacking heights
4. **High Pin Count and Density**
   ・400 positions (0.635mm Pitch)
5. **Open Pin-field Layout**
   ・Flexible pin mapping for various system architectures
6. **Reliable BGA Termination**
   ・Pin-in-ball structure ensures high mounting reliability
7. **Officially Licensed COM-HPC® Connector by Samtec**

● Future Product Development

We are currently developing a new COM-HPC®-standard–compliant variation featuring a design without solder balls.

Hirose Electric will continue to respond to increasingly diverse market needs and contribute to the advancement of equipment technology.

● Company Profile and Related Information

■ Company Overview
https://www.hirose.com/corporate/en/about/corporate_data/
■ Product Series Page
https://www.hirose.com/en/product/series/IT18/
■ Product Images
https://prd-4s-public.s3.ap-northeast-1.amazonaws.com/sys-master/public/h8a/h1e/9854934646814/IT18-series-connecter-front-view.png

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