



RUGGEDIZED AUTOMOTIVE CAMERA CABLE SYSTEM DESIGNED & PROTOTYPED IN 8 WEEKS

A leading automotive OEM needed a high definition camera interconnect system developed using a new connector. They required rapid design and prototype delivery.

THE CHALLENGE

An automotive company needed a partner to co-design and manufacture a high definition camera cabling system by integrating power, video and a CAN bus. The solution had to incorporate a new water proof connector to accommodate high definition cameras and protect the fine gauge video signal wires from a harsh automotive environment including temperature variation from -40°C to $+50^{\circ}\text{C}$, precipitation and road debris.

WHY SANMINA

The customer was impressed with Sanmina's demonstrated expertise with advanced automotive cable designs operating in harsh environments. Sanmina's cable designers also provided an understanding of design for manufacturing, and the material properties of automotive cables and connectors. These designers have designed numerous cable systems and transferred them to production in Sanmina's twelve TS 16949 compliant manufacturing facilities.



SANMINA'S APPROACH

- A new connector was proposed by the OEM for use in the high-definition camera interconnection system, however it needed to be manufactured and waterproofed using an approved potting compound.
- Sanmina's design engineers developed & fully validated the processing of the connector assembly and introduced a semi automated potting compound dispensing system to seal the connector.
- A zero PPM manufacturing process was developed using custom double crimp tooling to handle the fine gauge wires of the video signals.
- Cross section analysis and pull tests were used to verify that all crimps were gas tight.
- Sanmina developed the CAD models, schematic drawings and a working prototype was tested in vehicles.
- The CAD drawings were provided in the customer's format.

RESULTS

- Cable system designed & prototyped in 8 weeks.
- Successfully tested in five different vehicles.
- The design successfully completed all the in-vehicle tests.
- The PPAP was successfully completed and the cable system went into production.



ABOUT SANMINA

Sanmina makes some of the most complex and innovative optical, electronic and mechanical products in the world. Recognized as a technology leader, Sanmina provides end-to-end design, manufacturing and logistics solutions, delivering superior quality and support to Original Equipment Manufacturers (OEMs) primarily in the communications networks, computing and storage, medical, defense and aerospace, industrial and semiconductor, multimedia, automotive and clean technology sectors.

More information regarding the company is available at www.sanmina.com