

Image distortion corrected on curved windshields

Epson has developed and begun volume production of the S2D13V40, Epson's first controller IC designed specifically for head-up displays. Epson plans to produce 100,000 of the new controllers per month. Aiming to enhance safety and lessen fatigue, vehicle manufacturers have increasingly sought to install head-up displays that can be read with minimal eye movement. Although demand is expected to expand, manufacturers have faced issues such as system cost and development time. Epson's new controller enables rapid head-up display system development by offering the ability to correct the distortion of images streamed from an SoC1 according to the curvature of a vehicle's windshield, without external memory. The controller is equipped with display safety functions and supports the building of more reliable display systems. This controller IC satisfies the strict quality requirements of the automotive industry. It is compliant with AEC-Q1002 and operates at temperatures up to 105°C. Epson seeks to advance the frontiers of industry and create a circular economy by applying the efficient, compact, and precision technologies that it has developed over many years to solve challenges. These technologies, which save energy, enable smaller products, and increase accuracy and precision, enable Epson to contribute to the Sustainable Development Goals (SDGs), which will bring about a better and more sustainable future for all. Epson also seeks to leverage its device technologies to realise a smart society. Toward this end, the company will continue to develop a variety of controllers and drivers for vehicle display systems that require high resolution and safety functions and that enhance the performance of its customers' products. Product features- The S2D13V40 is a controller IC for automotive standards-compliant head-up displays- In addition to distortion correction, the controller can flexibly correct images through rotation and scaling- Display safety functions

Product specifications

Model Number: S2D13V40

Supply voltage: 3.3 V (I/O), 1.8 V (internal core)

Input interface: Open LDI / dRGB (selectable)

Output interface: Open LDI / dRGB (selectable)

Supported resolutions: Up to 800 x 600 (24-bit)

Safety functions - Display safety functions

Automotive standard conformance: AEC-Q100

Operating temperature range: -40 to +105°C

Other: Built-in PLL, Built-in SSCG

Package: P-LQFP100-1414-0.50 (14 mm x 14 mm x 1.7 mm, 0.5 mm pitch)

For more information go to: [https://global.epson.com/products\\_and\\_drivers/semicon/products/interface\\_auto/index.html](https://global.epson.com/products_and_drivers/semicon/products/interface_auto/index.html)

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1 A system on a chip (SoC) integrates most or all the functions required for the operation of a system on a single chip. The configuration differs depending on the system, but SoC generally integrate a CPU, memory, and I/O functions.

2 AEC-Q100: The Automotive Electronics Council (AEC) is an industry group that creates standards for the reliability and qualification of automotive electronics. It was formed by the "Big Three" U.S. automobile manufacturers in partnership with major electronic component manufacturers. The AEC standard is a de facto global standard that has been widely adopted as a standard for automotive electronic components.

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