Introduction of HEAD UP DISPLAY CONTROLLER

The S2D13V40 is a warping correction controller IC specific to Head Up Display. It features an internal Surface Correction Engine which fixes visual distortions caused by non-linear display surfaces. It is also able to simultaneously perform other image manipulations such as rotation and scaling.

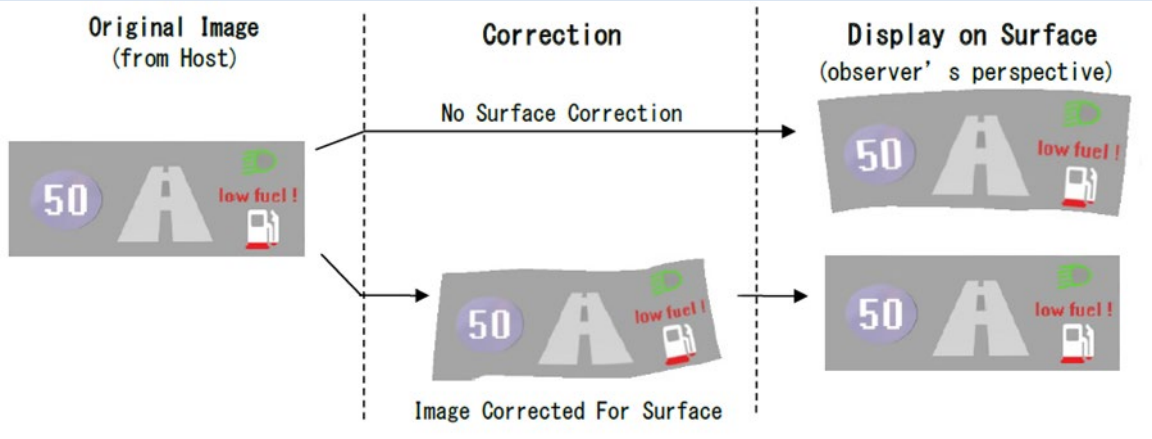
Seiko Epson Corporation (TSE: 6724, "Epson") has developed and begun volume production of the S2D13V40, Epson's first controller IC designed specifically for head-up displays.

QFP15-100PIN(P-LQFP100-1414-0.50)

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 SoC[*1] 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-Q100[*2] and operates at temperatures up to 105℃.

Original Surface Correction Engine



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

Outline Specifications

Part Number	S2D13V40
Power Supply	3.3V（I/O）
	1.8V（Internal）
Input Interface	Open LDI / dRGB (Selectable)
Output Interface	Open LDI / dRGB (Selectable)
Host Interface	SPI/I2C
Resolution	Up to 800x600 (24bit)
Safety Features	Comprehensive Safety Features
Automotive QA	AEC-Q100
Operating Temperature	−40～+105℃
Miscellaneous	Internal PLL
	Internal SSCG
Package	QFP15-100PIN(P-LQFP100-1414-0.50)

S2D13V40 Information

- **Product Page**
- **News Release**
- **Sales & Support**

*1: System on a chip

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.