

USB Re-Synchronization IC for Automotive market

Enhancing the connection quality to support realizing a stable connection between the Smart Phones and the in-vehicle device

Seiko Epson Corporation has released the USB2.0 Re-Synchronization IC called "S2R72A11", which enhances the connection quality between the Smart Phone and the various USB application in the car such as Navigation or Display Audio.

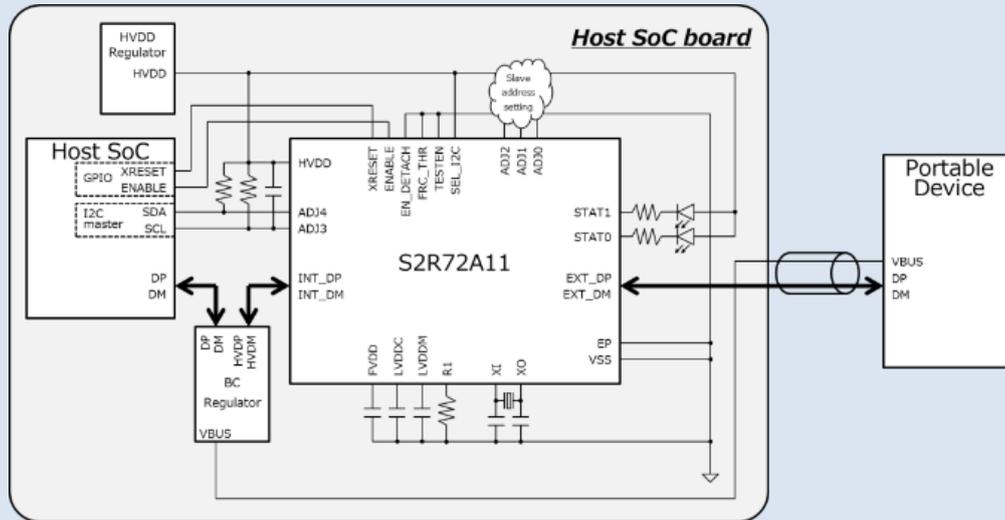
USB is currently getting a popular interface in the car and we can confirm several USB ports near the dashboard or console area. However, the market is facing some challenges of connection quality as the distance of the cable get longer and Epson's USB technology has been role of solution toward this issue since the release of the USB HUB controller IC series called "S2R72A4xx"



SQFN5-32pin-W

Features of S2R72A11: Realize a stable communication within the Automotive infotainment system

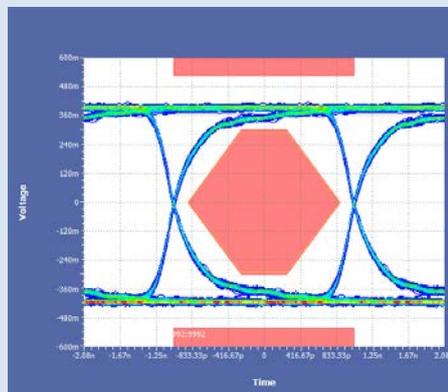
"S2R72A11" contains a high resistance communication just like the existing "S2R72A4xx series" and it take the role of enhancing the connection between the Automotive infotainment system (*1) with the evolving Smart Phone application. There is already some use case such as enjoying music by connecting the smart phone and the infotainment system, but the connection between the smart phone and the USB application in the car is getting more essential due to the increase of application to connect towards the automotive display direct via the smart phone. However, to adapt towards those evolving smart phone functions, it is starting to require such connection like 2 port OTG (*2) which is beyond the USB standard and furthermore showing some challenges on stable communication between those evolving smart phone to the USB applications. S2R72A11 can always maintain the USB communication path automatically without any connection direction restrictions between Host and Device by using the build in Bus monitors



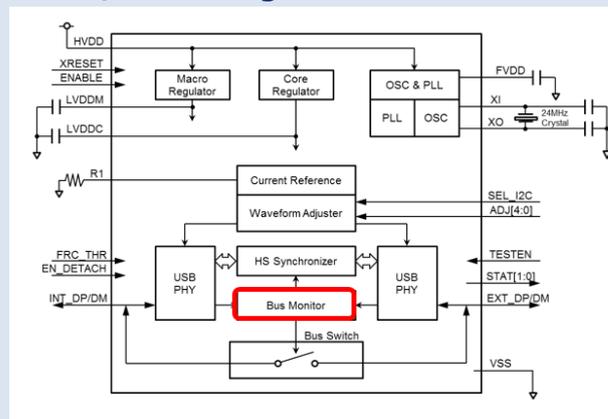
Automotive Quality

S2R72A11 is a component for Automotive and it is AECQ100(*3) compliant with the operating temperature of Max 105°C. The package type is SQFN5-32PIN-W (5mmx5mm) with a wettable frank(*4) structure. This wettable frank have advantage verifying a good solder fillet joint.

Characteristics during HS(480Mbps)



Automatic USB line monitor/controlling function



S2R72A11 features

Part #	S2R72A11
USB standard	USB2.0
Power supply	3.3V
	1.8V (Build in Regulator for the internal core)
	PLL/OSC Built in Charge Pump for Analog Switch
Automotive QA	AEC-Q100
Operation Temp range	-40~+105°C
Other	HS tx : Low jitter (tx waveform) HS tx power control
	HS rx : High resistance receiver
	Automatic USB line monitor/control feature
Package	SQFN5-32pin-W (Wettable Flank/0.5mm)

Summary

S2R72A11 can realize a stable communication of USB devices under severe condition such as longer cable connection within an Automotive system.

Epson policy is to utilize our technology and experiences to support such video, voice and connection requirements coming from the market.

S2R72A11 product information

- [USB Re-Synchronization IC product data sheet](#)
- [New release "S2R72A11" /USB Re-Synchronization IC for Automotive](#)
- [Contact Window](#)

Descriptions

※1 Infotainment system

A mixed phase between Information and Entertainment. Example, information of the Car Navigation, and the entertainment system provided via the car audio and DVD.

※2 OTG (On-The-Go)

OTG allows those devices to switch back and forth between the roles of host and devices.

※3 AEC-Q100

AEC stands for "Automotive Electronics Council". It is a set of qualification standards for the supply of the components in the automotive electronics industry

※4 Wettable Flank

This is a package structure which is protective of the copper and allows soldering to occur on this external flank area such that optical inspection can be made verifying a good solder fillet joint, and thus a good electrical connection.