

Automotive Grade USB 2.0 Re-Synchronization IC

■ Descriptions

S2R72A21 is the Re-Synchronization IC which re-synchronizes the HS packet of USB 2.0 (Universal Serial Bus Specification Revision 2.0).

S2R72A21 monitors the Bus condition on the basis of USB 2.0 standards once this device is inserted in between the Bus of USB port of the SoC and the USB Type-A receptacle. It automatically switches the Bus path to HS Synchronizer during HS connection and to Bus Switch during non-HS connection. Unlike the Hub, there is no directional limitation such as Upstream / Downstream, so the S2R72A21 can maintain the Bus path when the Host is connected to either port.

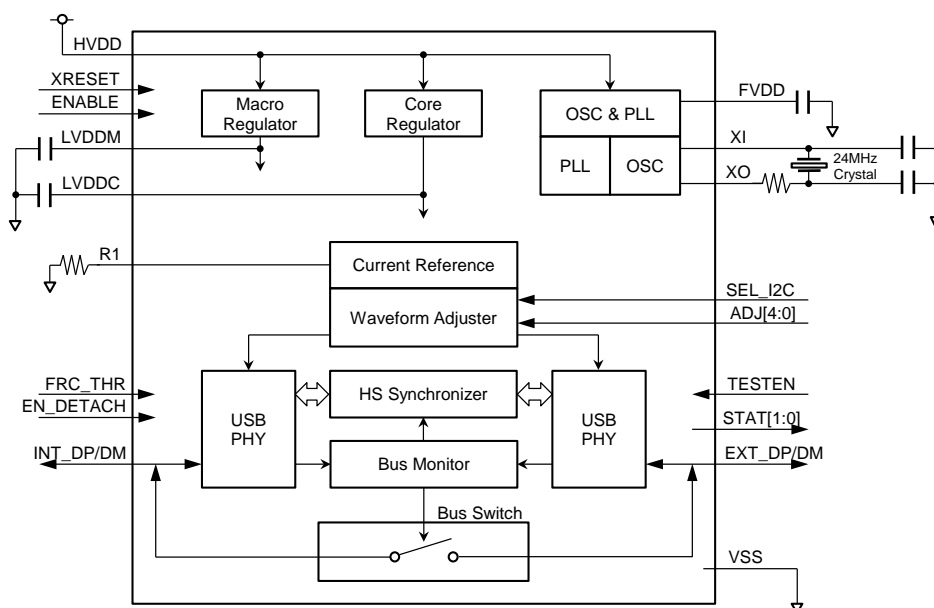
The HS Synchronizer would surely receive the HS packet from one port, re-synchronize using its own clock, and transmit to the other port. Herewith, the S2R72A21 would reduce the jitters of the HS signal waveform along with controlling its aperture. This realizes a stable longer connection using various USB applications, such as car navigation / car display audio to the smart phone / portable audio player.

S2R72A21 complies with the automotive level grade quality and supports the max temperature range up to 105°C.

■ Features

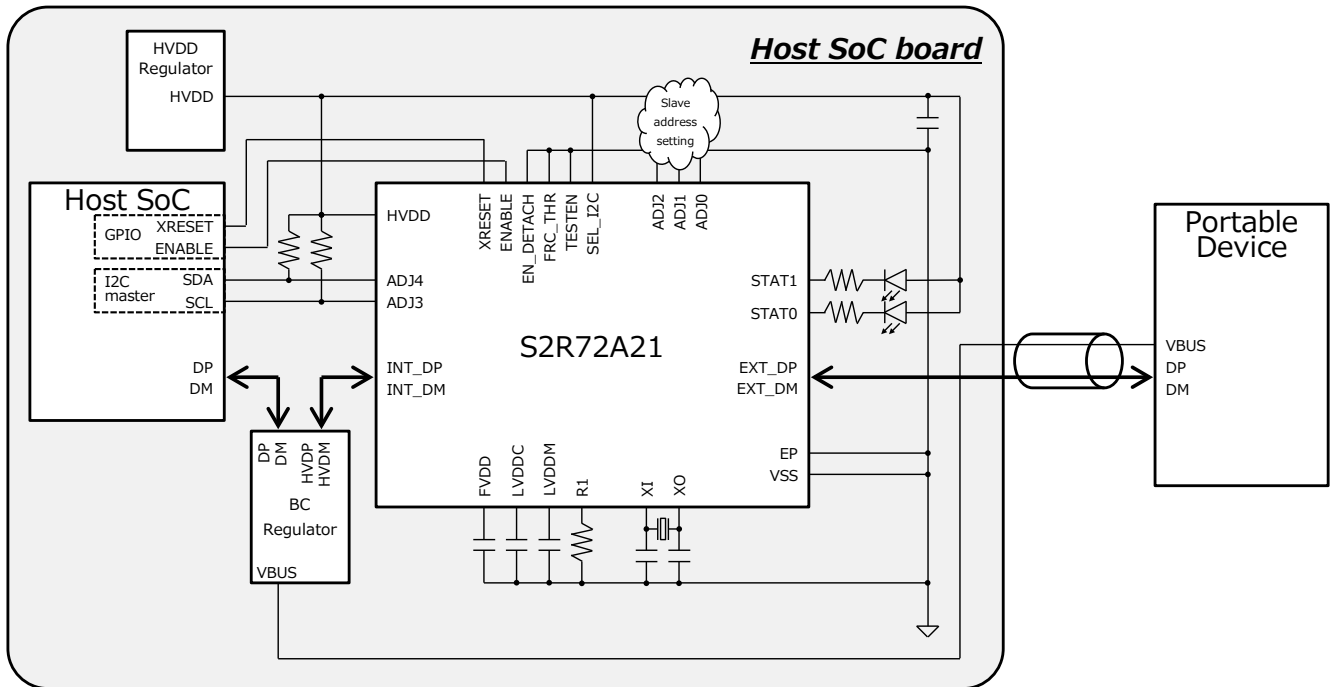
- AEC-Q100 certified
- Excellent data communication characteristics (HS 480Mbps)
 - HS transmission: Transmission waveform with low jitter
 - Support HS transmission current control
 - HS reception: High reception tolerance
- Automatic USB line monitor and control function
 - HS communication: Re-synchronizes with HS Synchronizer
 - Except for HS communication: Passes through with analog switch
- Wide temperature range
 - Operating temperature range is -40°C to +105°C
- Other features
 - Supports 24MHz crystal oscillator (with built-in oscillator circuit and feedback resistor)
 - Power supply voltage: 3.3V
 - Built-in Regulator to generate voltage (1.8V) for the internal core and PLL/OSC
 - Built-in Charge Pump for Analog Switch
 - Package: SQFN5-32PIN-W (Wettable Flank, 32pin, 5mm square, 0.5mm pitch)

■ Block Diagram



S2R72A21

■ Connection Example



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Document code: 414120400
 First issue December, 2020
 in Japan