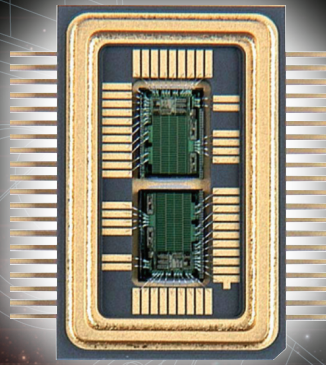


MIL-STD-1553B

ADT822 Transceiver

The Analog ADT822 Transceiver developed by Airbus DS is an integrated and cost effective MIL-STD-1553B transceiver implemented with two analog transceiver ASICs.

It consists of a dual complete transmitter and receiver fully compliant to the MIL-STD-1553B standard. Each transceiver is connected on one hand to the MIL-STD-1553B bus through an external isolation transformer and, on the other hand, to a standard Manchester encoder / decoder.

The ADT822 Transceiver is fully compliant with Airbus DS MIL-STD-1553B Remote Terminals and Bus Controller / Remote Terminal / Bus Monitor products.

The transceiver operates with 5 V power supply for the analog part, and 3.3 V or 5 V for the digital part by selecting the VCC voltage (5 V or 3.3 V).

Thanks to its low power consumption and its radiation tolerance, the ADT822 Transceiver is ideally suited for Space applications.

Key Features

- Two totally independent channels
- Receivers and transmitters fully compliant with MIL-STD-1553B standard, validated according to international standard VTP 1553 (SAE AS 4111)
- Operates with standard centre tapped transformers
- Compatible with long stub or short stub coupling
- Filtering on receiver to improve S/N ratio
- Inhibition of driver externally provided
- Compatible with Harris or Smith digital interfaces
- CMOS 5V/3.3V levels compatible digital interface
- Monolithic analog ASIC technology CMOS SOI 1 μm , allowing the use of a 10x16 mm flat-pack package, 10 times smaller than the same function in a former hybrid technology
- Transceiver developed in the frame of ESA ECI (European Component Initiative)

Main application fields

- Any equipment designed for space applications requiring validation tolerant components

Budgets

- Packaging MQFP 40 pins
- Size 10 x 16 mm²
- Mass 4 g
- Power max 300 mW @ 10%

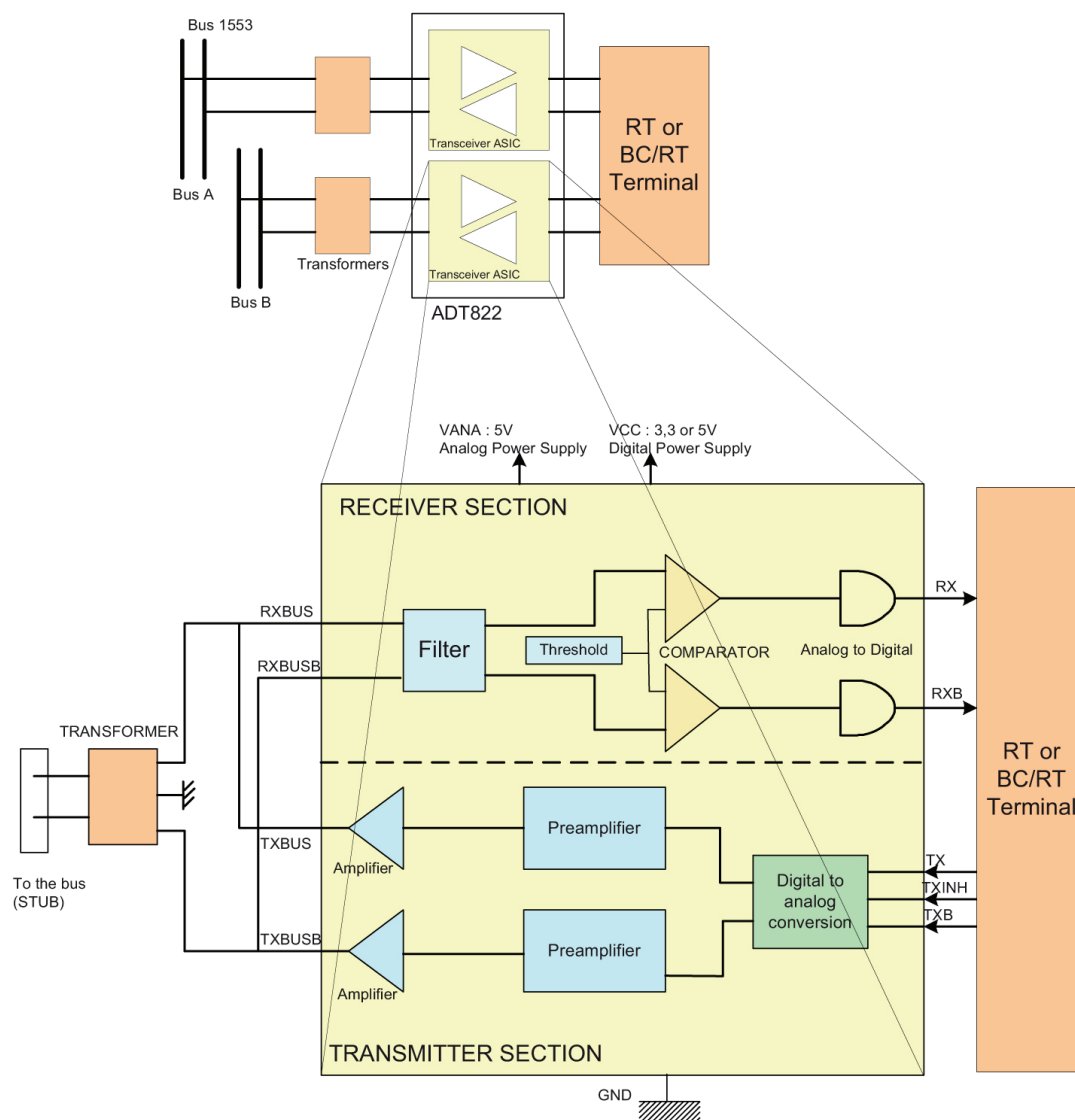
Interfaces

- Voltage in Full 5 V or 5 V and 3.3 V
- Digital 1553 IP (eg. ASP 55)
- Analog standard 1553 transformers

Environments / Reliability

- Temperature -55 °C to +125 °C
- Radiation 50 Krad total dose
SEU free (LET >80 MeV)
Latchup free
- Failure occurrence

Architecture



Technical features

Supply voltage,
Supply voltage, VCC

- 5 V $\pm$ 10%

Supply current, VaNa

- Stand-by
 - Operating (peak)
- Supply current, VCC

- Stand-by
- Operating (peak)

Temperature range (junction)

Radiation tolerance

Packaging

Mass

VaNa 4.75 V to 5.25 V

- 3.3 V $\pm$ 10%

10 mA max.

625 mA max. @ 100%

1 mA max.

2 mA max.

-55 °C to +125 °C

- > 50 krad
- > 80 MeV
- latch-up immune

40 pins Flat Pack 10 x 16 mm

4 g