ADL6332

0.38 GHz to 12 GHz RxVGA

FEATURES

- Broadband RxVGA interfacing LNA and beamformer to RF ADC
- Operating frequency range: 0.38 GHz to 12 GHz, 2 product variants
  - ADL6332-A: 0.38 GHz to 8 GHz
  - ADL6332-B: 1.0 GHz to 12 GHz
- Differential signal chain optimizes common-mode rejection of RF ADC, even order harmonics and intermodulation
- 50 Ω single-ended input and 50 Ω differential output
- Integrated broadband RF input balun
- 70 dB of gain control range in 1 dB step
- RF DSA range: 24.0 dB with 1.0 dB step
- Amplifier bypass loss of 12 dB each
- Asynchronous toggle between multiple pre-defined attenuation values and bypass amplifier stages
- Power gain at 4 GHz: 15.3 dB (ADL6332-A), 15.4 dB (ADL6332-B)
- Noise figure at 4 GHz: 8.6 dB (ADL6332-A), 8.3 dB (ADL6332-B)
- OIP3 at 4 GHz: 31.3 dBm (ADL6332-A), 32.5 dBm (ADL6332-B)
- OIP2 at 4 GHz: 57 dBm (ADL6332-A), 62 dBm (ADL6332-B)
- OP1dB at 4 GHz: 12.7 dBm (ADL6332-A), 13.0 dBm (ADL6332-B)
- Fully programmable through a 3-/4-wire SPI
- Single 3.3 V supply
- 24-terminal, 4.0 mm x 4.0 mm LGA

APPLICATIONS

- Aerospace and defense
- Instrumentation and test equipment
- Communication system

GENERAL DESCRIPTION

The ADL6332 RxVGA is intended to provide an interface from LNA/Beam Former/Rx Front End to RF Analog to Digital Converters (RF-ADC). Each ADL6332 IC is composed of a balun, two differential RF amplifiers with bypass attenuators, and a digital step attenuator (DSA) to provide suitable receiver performance in a 24-terminal, 4.0 mm x 4.0 mm LGA package.

Serial-port interface (SPI) control is available to configure RF signal path or to optimize supply current vs. performance.

An integrated RF balun is used to provide a single-ended output over 0.38 GHz to 8.0 GHz (ADL6332-A) or 1.0 GHz to 12.0 GHz (ADL6332-B) with good impedance match.

Table 1. ADL6332 Frequency Ranges

ADL6332 Variant	Frequency Range (GHz)
A	0.38 to 8.0
B	1.0 to 12.0

FUNCTIONAL BLOCK DIAGRAM

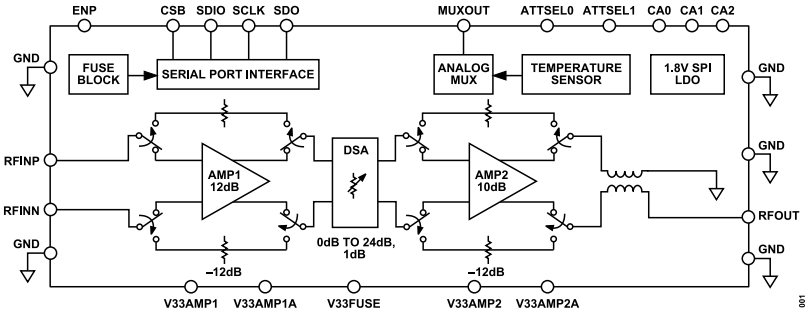

Figure 1. Functional Block Diagram

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