Bidirectional Amplifier Chip

AAS3112

Product Specification

V1.0

1. Product Features

Frequency Range: 5 ~ 7 GHz

Receive Mode:

- Small-signal Gain: 18.0 dB
- Typical Noise Figure: 5.6 dB
- Output P1dB: 12.5 dBm
- Bias Conditions: VDR = 4.5 V, VDT = TTL = 0 V, VS = -4.5 V, IDQ = 34 mA, Ivs = 10.1 mA

Transmit Mode:

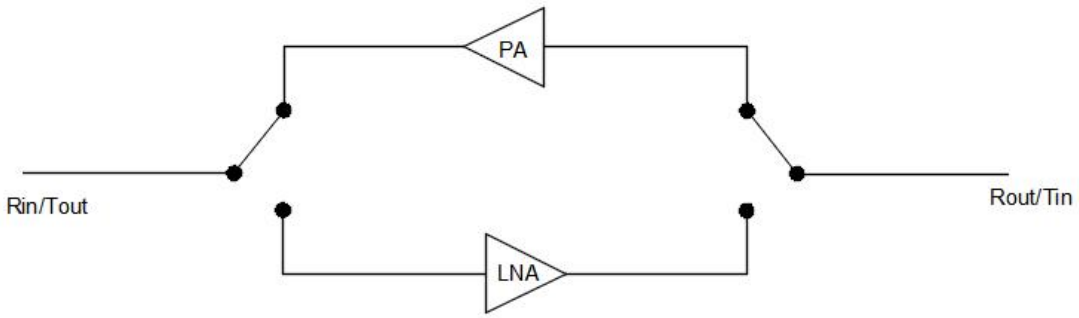
- Small-signal Gain: 10.0 dB
- Output P1dB: 12.5 dBm
- Bias Conditions: VDR = 0 V, VDT = TTL = 4.5 V, VS = -4.5 V, IDQ = 29 mA, Ivs = 10.4 mA
- Chip Dimensions: 1.65 mm × 1.45 mm × 0.08 mm

2. Functional Description

This chip is a bidirectional amplifier chip operating at 5 ~ 7 GHz. In receive mode, under the conditions of 4.5 V and 34 mA, it provides a gain of 18.0 dB and an output P1dB of 12.5 dBm. In transmit mode, under the conditions of 4.5 V and 29 mA, it provides a gain of 10.0 dB and an output P1dB of 12.5 dBm.

The chip features a 50 Ω port impedance and is grounded via backside metal.

3. Block Diagram



4. Typical Applications

Suitable for applications including communications, radar, electronic warfare and related fields.

5. Electrical Performance Parameters

5.1 RF Characteristics

Unless otherwise specified, all electrical characteristics are measured at TA = +25 ° C, in a 50 Ω system under continuous wave conditions.