

Limiting Low-Noise Amplifier Chip

AAS2505-AS2208

Product Specification

V1.0

AAS2505–AAS2208

限幅低噪声放大器芯片

1. Product Features

- Frequency Range: 14–18 GHz
- Small-Signal Gain: 28 dB
- Noise Figure: 1.5 dB (typical)
- Output 1 dB Compression Point: 5.8 dBm
- Power Withstand Capability: 50 W (pulse width 4 μ s, duty cycle 40%, 85 °C)
- Bias Condition: $V_D = 3.3$ V, $IDQ = 25$ mA
- Chip Dimensions:

Limiter: 1.55 mm \times 2.1 mm \times 0.10 mm

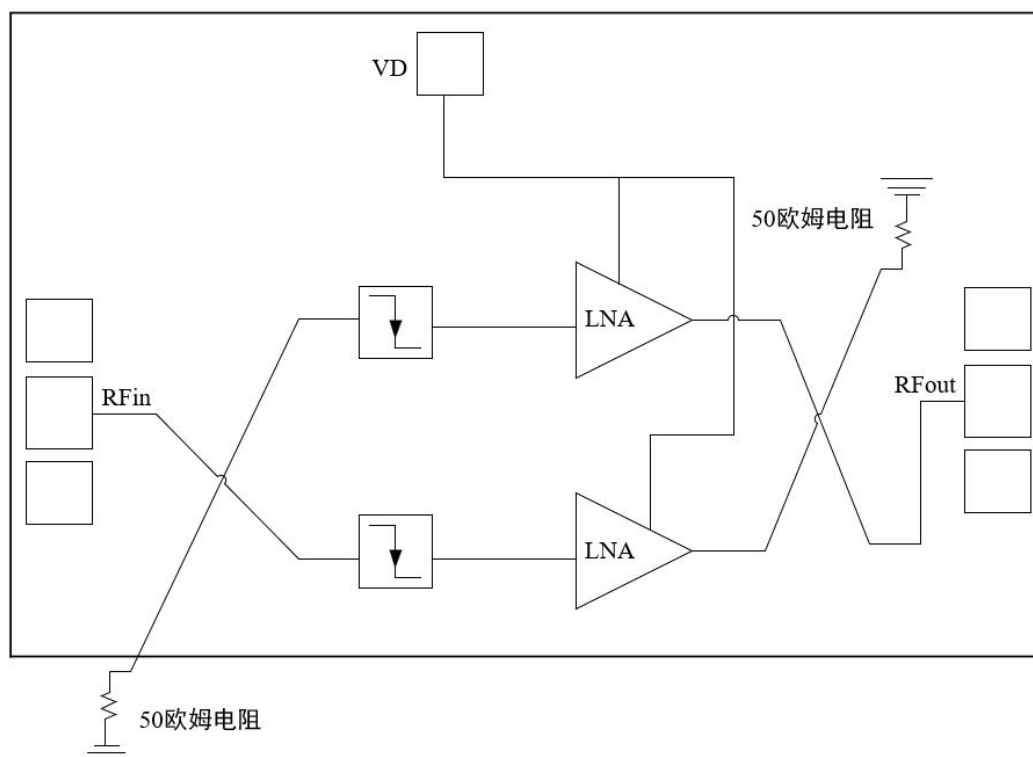
LNA: 1.1 mm \times 1.35 mm \times 0.10 mm

2. Functional Description

AAS2505–AAS2208 is a limiting low-noise amplifier chip operating at 14–18 GHz. Under the operating conditions of +3.3 V and 25 mA, it provides a gain of 28 dB, an output 1 dB compression point of 5.8 dBm, and a typical noise figure of 1.5 dB. It can withstand a power of 50 W at 85 °C with a pulse width of 4 μ s and a duty cycle of 40%.

The port impedance of the chip is 50 Ω , and the chip is grounded via backside metallization.

3. Block Diagram



4. Typical Applications

Suitable for applications such as communications and radar systems.

5. Electrical Performance Parameters

5.1 RF Characteristics

Unless otherwise specified, all electrical characteristics are measured under the conditions of $V_D = 3.3\text{ V}$, $I_{DQ} = 25\text{ mA}$, small-signal $P_{in} = -35\text{ dBm}$, $T_A = +25\text{ }^\circ\text{C}$, $50\ \Omega$ system, and continuous wave (CW).