

F6922

Dual-Channel Low Noise Amplifier 17.7 – 21.2 GHz

Description

The F6922 is an ultra-low power consumption, dual-channel, low noise amplifier (LNA) RFIC designed for application in Ka-Band SATCOM planar phased array antennas. The exceptional combination of low power consumption, low noise, high gain, and compact size, maximizes the antenna array G/T while minimizing overall system power dissipation. An externally supplied reference bias current is used to trade LNA power consumption against P1dB and gain, completely shut off (idle) the amplifier during operation or for gain compensation versus temperature.

The LNA is supplied in a compact 23-pin, 0.5mm pitch BGA package with 50Ω matched single-ended RF inputs and outputs for ease of integration onto phased array antenna panels.

Features

- 17.7 – 21.2GHz operation
- Two independent gain/phase-matched channels
- 19dB typical gain
- -3dBm typical output P1dB
- 20mW power consumption
- Supply voltage: 0.95 – 1.05V
- 2.7 × 2.7 × 0.9 mm, 23-pin FC-BGA package
- -40°C to 85°C ambient operating temperature range

Typical Applications

- Phased array antennas
- Ka-band SATCOM terminals
- Aerospace and maritime
- Instrumentation

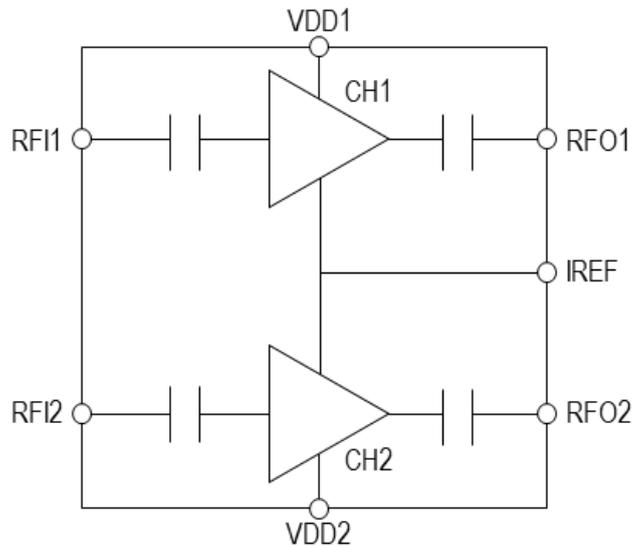


Figure 1. F6922 Block Diagram.

Ordering Information

Part Number	Package	MSL Rating	Carrier Type	Temp. Range
F6922AVRI	2.7 × 2.7 × 0.9 mm 23-BGA	3	Tray	-40°C to +85°C
F6922AVRI8	2.7 × 2.7 × 0.9 mm 23-BGA	3	Reel	-40°C to +85°C
F6922EVB	F6922 Evaluation Board			

Revision History

Revision	Date	Description
2.00	Dec 29, 2025	Updated document branding and layout to Axiro Semiconductor standard. No changes to device functionality or specifications.