

F6921

Dual-Channel Low Noise Amplifier 10.7 – 12.75 GHz

Description

The F6921 is an ultra-low power consumption, dual-channel, low noise amplifier (LNA) RFIC designed for application in Ku-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

- 10.7 – 12.75GHz operation
- Two independent gain/phase-matched channels
- 19dB typical gain
- -5dBm typical output P1dB
- 15mW power consumption
- Supply voltage: 0.95 – 1.05 V
- 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
- Ku-band SATCOM terminals
- Aerospace and maritime
- Instrumentation

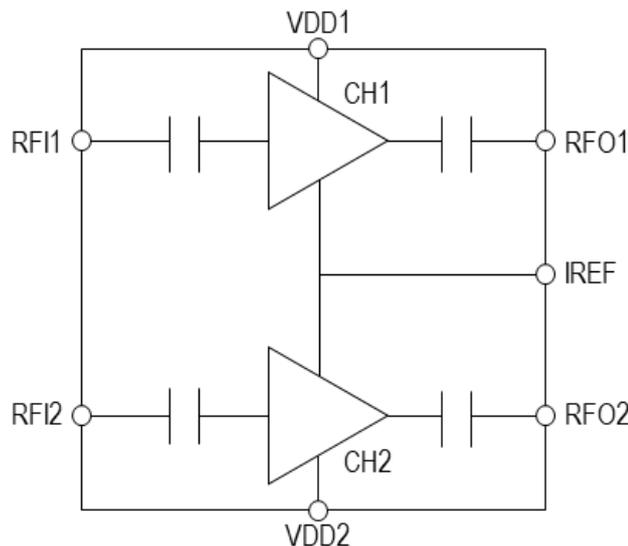


Figure 1. F6921 Block Diagram

Ordering Information

| Part Number | Package | MSL Rating | Carrier Type | Temp. Range |
|-------------|---------------------------|------------|--------------|----------------|
| F6921AVRI | 2.7 × 2.7 × 0.9 mm 23-BGA | 3 | Tray | -40°C to +85°C |
| F6921AVRI8 | 2.7 × 2.7 × 0.9 mm 23-BGA | 3 | Reel | -40°C to +85°C |
| F6921EVB | F6921 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. |