

## Description

The F1429 family is a series of differential input / single-ended output 1400MHz to 6000MHz high gain RF amplifiers. The combination of low noise figure and high linearity performance allows these devices to be used in both receiver and transmitter applications.

The F1429 series is designed to operate with a single 5V power supply using a nominal 70mA of  $I_{CC}$ . With a supply voltage of 5V, the F1429 provides 18dB typical gain with 4dB noise figure and +35dBm OIP3 at 3600MHz.

Each F1429 variant is packaged in a 2mm x 2mm, 12-pin DFN, with either 50Ω or 100Ω differential RF input and 50Ω single-ended RF output impedances for ease of integration into the signal-path.

## Competitive Advantage

- High Gain
- Excellent Gain Flatness Over Frequency
- Outstanding Gain Variance Over Temperature
- STBY Feature
- Differential Input for Direct Interface with Transceiver Outputs
- Optional DC Feed Capability

## Typical Applications

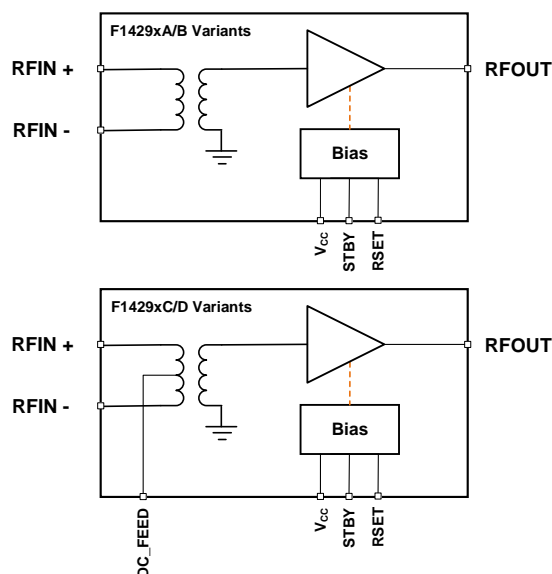
- 5G / MIMO Base Stations
- 4G TDD & FDD Base Stations
- 2G/3G Base Stations
- Repeaters and DAS
- Point to Point Infrastructure
- Public Safety Infrastructure
- Military Handhelds

## Features

- RF Range: 1400MHz to 6000MHz
  - F1429Lx Variants: 1400MHz to 3200MHz
  - F1429Mx Variants: 3000MHz to 4200MHz
  - F1429Hx Variants: 4000MHz to 6000MHz
- Gain = 18dB @ 3600MHz
- Noise Figure = 4dB @ 3600MHz
- OIP3 = +35dBm @ 3600MHz
- Output P1dB = +21dBm @ 3600MHz
- Near-Constant Gain versus Temperature
- 5V Power Supply
- $I_{CC}$  = 70mA @ 5V
- 2mA Standby Current
- 350mW Typical DC Power @ 5V Supply
- 50Ω or 100Ω Differential Input Impedances with or without DC Feed Functionality
  - F1429xA Variants: 50Ω Differential Inputs
  - F1429xB Variants: 100Ω Differential Inputs
  - F1429xC Variants: 50Ω Differential Inputs with DC Feed
  - F1429xD Variants: 100Ω Differential Inputs with DC Feed
- 50Ω Single-ended Output Impedances
- 1.8V and 3.3V Logic Support for STBY Control
- Operating Temperature ( $T_{EP}$ ) Range: -40°C to +115°C
- 2mm x 2mm, 12-pin DFN Package

## Block Diagram

Figure 1. Block Diagrams



## Component Family Variants

| Base Part Number | Frequency Band | Frequency Coverage | DC Feed Option | Differential Input Impedance |
|------------------|----------------|--------------------|----------------|------------------------------|
| F1429LA          | Low            | 1400MHz to 3200MHz | NO             | 50Ω                          |
| F1429LB          |                |                    |                | 100Ω                         |
| F1429LC          |                |                    | YES            | 50Ω                          |
| F1429LD          |                |                    |                | 100Ω                         |
| F1429MA          | Mid            | 3000MHz to 4200MHz | NO             | 50Ω                          |
| F1429MB          |                |                    |                | 100Ω                         |
| F1429MC          |                |                    | YES            | 50Ω                          |
| F1429MD          |                |                    |                | 100Ω                         |
| F1429LA          | High           | 4000MHz to 6000MHz | NO             | 50Ω                          |
| F1429LB          |                |                    |                | 100Ω                         |
| F1429LC          |                |                    | YES            | 50Ω                          |
| F1429LD          |                |                    |                | 100Ω                         |

## Ordering Information

| Orderable Part Number | Package                       | MSL Rating | Shipping Packaging | Temperature    |
|-----------------------|-------------------------------|------------|--------------------|----------------|
| F1429LANELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429LANELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429LBNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429LBNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429LCNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429LCNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429LDNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429LDNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429MANELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429MANELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429MBNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429MBNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429MCNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429MCNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429MDNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429MDNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429HANELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429HANELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429HBNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429HBNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429HCNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429HCNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429HDNELI           | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Tray               | -40° to +115°C |
| F1429HDNELI8          | 2mm x 2mm x 0.75mm 12 pin DFN | 1          | Reel               | -40° to +115°C |
| F1429EVB              | Evaluation Board              |            |                    |                |

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