BGA734L16

Highly Integrated Tri-Band Low Noise Amplifier for UMTS and HSxPA Systems

THE BGA734L16 is a highly integrated Low Noise Amplifier for 3G low, mid, and high bands. Designed using a proprietary Silicon Germanium Carbon process, the BGA734L16 delivers outstanding RF performance while optimizing cost, battery life, and size.

High Level of Integration

In order to reduce front-end design complexity and minimize cost, the BGA734L16 monolithically integrates three amplifiers for cellular bands 800 MHz, 1900 MHz, and 2100 MHz on one die. Additional functions, including temperature stabilizing block, 1kV HBM ESD protection, and output matching network are also integrated on chip.

Battery Life Optimized

The BGA734L16 offers gain control capability for improving the dynamic range and system performance in presence of high levels of interferers. Controlling the gain of the LNA has also the advantage of extending battery life.

Small Form Factor

The BGA734L16 comes in a low profile, Tiny and Small Leadless Package code-named TSLP-16. The package measures 2.3 x 2.3 x 0.39 mm^3 making this device ideal for low profile multi-media phones and highly integrated front end modules.

Applications

- Handset
- Data-Card
- Module

Features

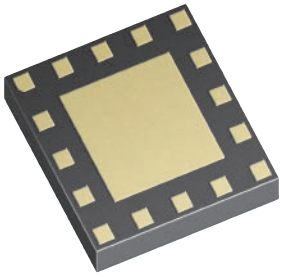
- Internally matched output to 50 Ω
- SiGe:C process
- Shut down mode
- Temperature stabilization
- Two gain modes
- Low external part count

Benefits

- High level of integration
- High linearity
- Ultra-low noise figure
- Small form factor
- Low cost

TSLP-16 Package

2.3 x 2.3 x 0.39 mm^3



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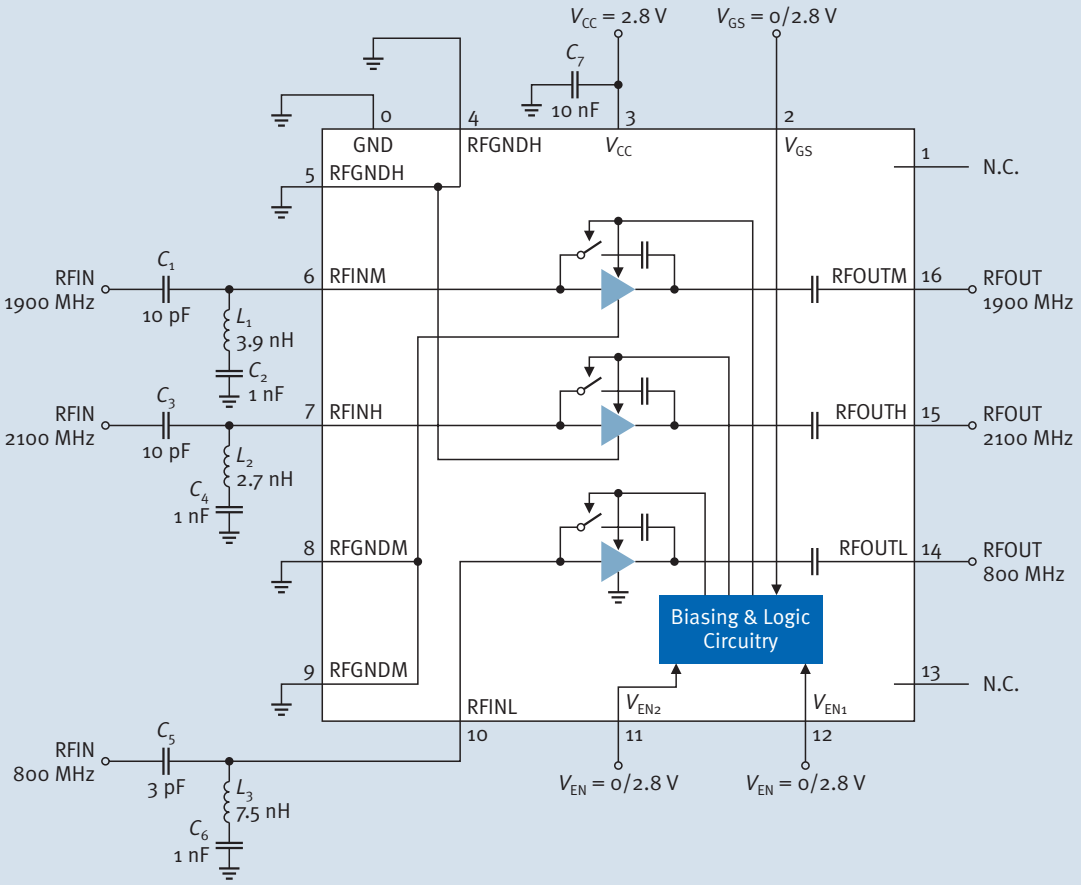
Small Signal Discretes

Never stop thinking

Application Circuit



High Gain Mode Performance

Supply Voltage: 2.8 V, Supply Current: 3.5 mA

Band [MHz]	Gain [dB]	Noise Figure [dB]	IP1dB [dB]	IIP3 in Band [dB]
800	14.5	1.3	-15	+1
1900	15	1.2	-14	-1
2100	15	1.2	-14	-1

Low Gain Mode Performance

Supply Voltage: 2.8 V, Supply Current: 0.5 mA

Band [MHz]	Gain [dB]	Noise Figure [dB]	IP1dB [dB]	IIP3 in Band [dB]
800	-8	9	-7	+1
1900	-8	8.5	-7	+4
2100	-8	9	-7	-1

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