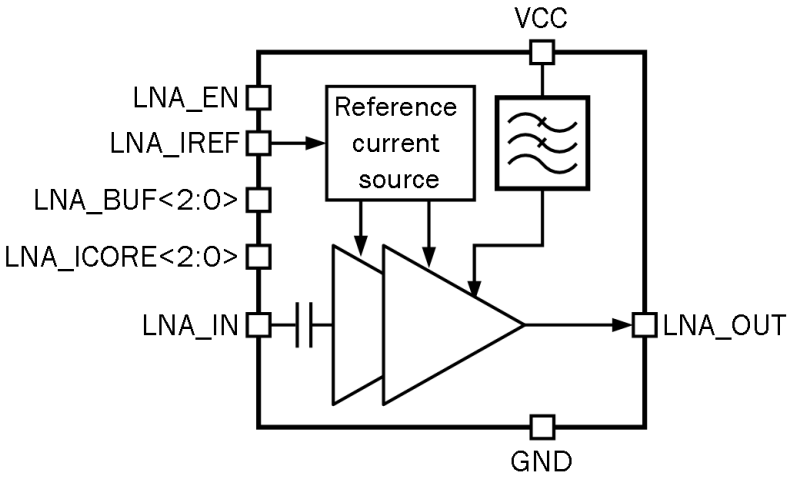
3 to 5 GHz LNA with 2.8dB NF and 20dB gain

OVERVIEW

130iHP_LNA_04 consists of two bipolar amplifier stages. The block is used correction circuit for frequency range extension. Amplifier output based on common collector circuit for low output impedance. Built-in bias circuit has temperature compensation and bias level control for optimal stages functioning. Internal amplifier supply filter provides supply noise suppression.

IP technology: iHP SiGe BiCMOS 130 nm.
IP status: silicon proven.
Area: 0.05mm^2.



ELECTRICAL CHARACTERISTICS

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V_{CC}	-	2.7	3.0	3.6	V
Operating temperature range	T_j	-	-45	+27	+85	°C
Input reference current	I_{REF}	-	-	5	-	uA
Current consumption	I_{CC}	-	4.5	5.0	5.6	mA
Stand-by current	I_{STB}	-	-	0.326	3.2	nA
Frequency input range	F_{IN}	-	3	-	5	GHz
Gain	G	F_{IN} = 3GHz	-	20.9	-	dB
		F_{IN} = 5GHz	-	19.8	-	
Noise figure	NF	F_{IN} = 3GHz	-	2.8	-	dB
		F_{IN} = 5GHz	-	2.9	-	
Input VSWR	$VSWR_{IN}$	F_{IN} = 3GHz	-	1.8	-	-
		F_{IN} = 5GHz	-	2.2	-	
Output VSWR	$VSWR_{OUT}$	F_{IN} = 3GHz	-	1.5	-	-
		F_{IN} = 5GHz	-	1.3	-	
Output resistance	R_{OUT}	-	-	50	-	Ohm
Input 1dB compression point	P_{1dB}	-	-	-18.2	-	dBm
Input logic-level high	V_{IH}	For digital inputs	0.7V_{CC}	-	V_{CC}+0.25	V
Input logic-level low	V_{IL}		-0.25	-	0.3	V