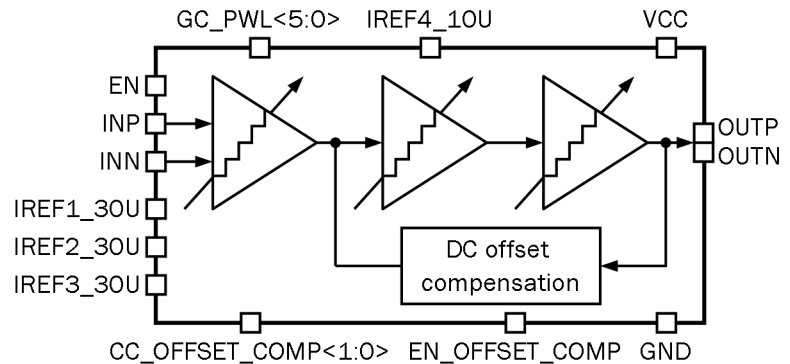


**0.1 to 150 MHz LNA with 5 dB NF and 57 dB gain**
**OVERVIEW**

065TSMC\_LNA\_09 is used to amplify signal from the radio receiver input in band up to 150MHz. LNA has a low noise figure, high linearity and wide gain tuning range. LNA consists of three stages. Each stage is a linear differential amplifier. Input impedance of amplifier with transformer 1:3 is 50Ohm. LNA has an offset compensation block.



IP technology: TSMC CMOS 65nm.

IP status: silicon proven.

Area: 0.429mm<sup>2</sup>.

**ELECTRICAL CHARACTERISTICS**

Parameter	Symbol	Conditions	Value			Units
			min	typ.	max	
Supply voltage	V <sub>CC</sub>	-	2.375	2.5	2.625	V
Operating temperature range	T <sub>j</sub>	-	-40	+85	+125	°C
Current consumption	I <sub>CC</sub>	-	110	120	130	mA
Stand-by current	I <sub>STB</sub>	-	-	-	3	uA
Frequency range	F <sub>C</sub>	-	0.1	-	150	MHz
Gain	G	-	-22.3	-	+35.0	dB
Third order intermodulation	IM3	G=+35.0dB, P <sub>out</sub> = -20dBm	-	-61.1	-55.3	dB
Noise figure	NF	G=+35.0dB	-	-	5	dB
Input logic-level high	V <sub>IH</sub>	For digital inputs	0.8V <sub>CC</sub>	-	V <sub>CC</sub>	V
Input logic-level low	V <sub>IL</sub>		0	-	0.2V <sub>CC</sub>	V