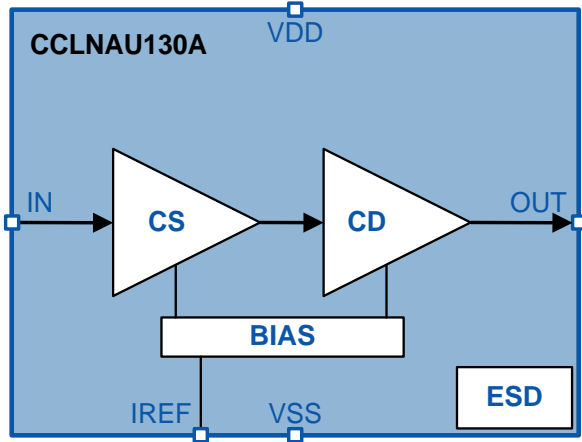


CCLNAU130A - GNSS L1/E1 & L5/E5 CMOS Low Noise Amplifier (UMC 130nm)

Symbol



Pinlist

Pin	Description	Type
IN	50 Ω LNA input	RF
OUT	50 Ω LNA output	RF
IREF	Reference current 90 μ A	Analog
VDD	Positive supply	Supply
VSS	Negative supply	Supply

S-Parameter/NF & DC performances

Parameter	Unit	L1/E1	L5/E5
G	[dB]	29	28
S ₁₂	[dB]	-47	-49
S ₁₁	[dB]	-33	-36
S ₂₂	[dB]	-27	-45
NF	[dB]	1.93	1.87
I _{RMS}	[mA]	3.3	3.4

Product Overview

The cell is a silicon proven 2 stages LNA circuit with high gain of typically 28 dB and a noise figure of typically 1.9 dB. The in/out matching is 50 Ω with VSWR <1.1 over L1/E1 or L5/E5 GPS and Galileo band. RF I/O bonding pads ring with EDS protection against 2 kV HBM is integrated on cell layout.

Key Features

- Foundry, Node: UMC 130 nm LL/FSG
- Small Area: 0.37 mm²
- Supply Voltage: 1.2 \pm 10%
- Operational Temp. Range: -40°C \div 125°C
- No external matching components
- Silicon proven, easy portable for other process

Applications

- Low Power Handled GNSS Portable Device
- Dual-frequency satellite navigation receivers
- Multi-constellation satellite navigation receivers
- Precise, high-sensitivity RF Front-Ends

Deliverables

- Datasheet/Integration Guide
- GDSII database/LVS & SPICE netlist
- HDL Model/Footprint (.LEF)
IP implement. support, 6 months maintenance (delivery of the IP and documentation up-dates)