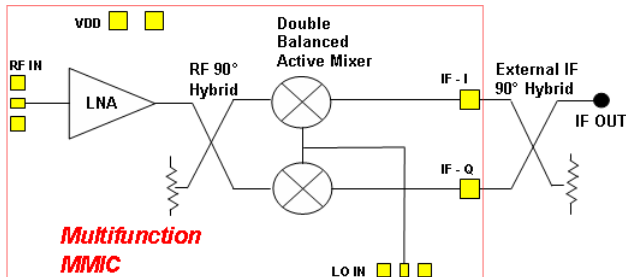


GaAs Multifunction MMIC Single Chip Receiver, 2 GHz

Functional Diagram



Features

- Single Chip Receiver: RF 2 GHz, IF 140 MHz
- Integrated LNA
- Integrated Double Balanced Mixers
- Gain: 28 dB
- LO power: 10 dBm
- Single positive Biasing +5V
- Extremely reduced size: 5mm X 4mm

General Description

The designed receiver perform direct conversion to very low IF: 140 MHz. Due to this very low frequency, the MMIC have been conceived to be used with an external 90° IF coupler that will complete the image rejection outside the chip. The MMIC has two separate outputs for IF-I and IF-Q signals respectively. The chips utilize the Raytheon 0.15 um PHEMT process and the whole receiver offers 28 dB gain, 0 dBm Output Power for 1dB Comp. Point and 4 dB NF. The whole chip is biased with a +5V voltage applied to a single pad, thus decreasing dramatically the interconnections respect to an hybrid receiver.

Electrical Specifications

Parameter	Typ.	Unit
RF Frequency Range	2.4	GHz
IF Frequency Range	140	MHz
Gain	28	dB
Output Power for 1dB Comp. Point	0	dBm
RF Return Loss	-13	dB
IF Return Loss	-10	dB
Noise Figure	4	dB
LO input Power	10	dBm