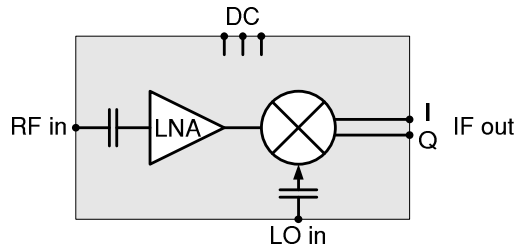


E-band frequency converter



The gRCQ0014 is a low noise converter with low noise GaAs amplifier and a broadband down conversion IQ mixer. It has low LO power requirements as well as good phase and amplitude balance. It is intended as a single chip direct low noise IQ-demodulator for the E-band.

Applications

- E-band point to point communication links.
- 77 GHz automotive radar

Performance, Ta = 25 C

Parameter	Typical specification
Conversion gain	8 dB
RF Bandwidth	71 to 86 GHz
IF Bandwidth	DC to 12 GHz
LO frequency	71-86 GHz
Input return loss	8 dB
NF	6 dB
Output return loss	10 dB
LO input power	7 dBm
OIP3	8 dBm
Image rejection	20 dB
Power consumption	60 mW

Bias settings

Pad	Bias voltage, V		
	Min	Typ, bias 1	Max
Vg mix		-0.75 V (<10 μ A)	
Vg1,2_amp		-0.3 V (<10 μ A)	
Vd_amp		2.0 V (30 mA)	

Outline drawing

Distances are in mm. Drawing is also available in dwg format upon request. RF probe pitches from 100 μ m on the output and to 150 μ m on the input for easy on-chip testing and DC probe pitch 150 μ m. Substrate thickness is 50 μ m (GaAs).

