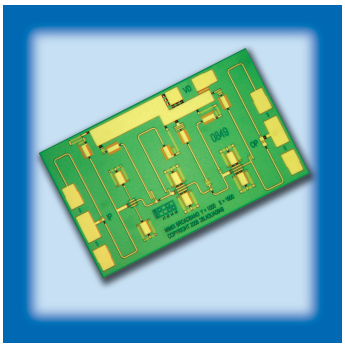
20.0-38.0 GHz GaAs MMIC Low Noise Amplifier

May 2008 - Rev 02-May-08

LI010-BD
RoHS

Features

- 17.0 dB Small Signal Gain
- 3.0 dB Noise Figure
- Single, Positive Bias Supply
- 100% On-Wafer RF Testing



General Description

Mimix Broadband's three stage 20.0-38.0 GHz GaAs MMIC low noise amplifier has a small signal gain of 17.0 dB with a noise figure of 3.0 dB. The device uses Mimix Broadband's GaAs PHEMT device model technology, and is based upon electron beam lithography to ensure high repeatability and uniformity. The device is well suited to multiple receiver applications which require broadband performance with simple bias requirements.

Absolute Maximum Ratings

Supply Voltage (Vd)	+7.0 VDC
Supply Current (Id1,2,3)	70 mA
Input Power (Pin)	+12.0 dBm
Storage Temperature (Tstg)	-65 to +165 °C
Operating Temperature (Ta)	-55 to MTTF Graph[1]
Channel Temperature (Tch)	MTTF Graph[1]

(1) Channel temperature affects a device's MTTF. It is recommended to keep channel temperature as low as possible for maximum life.

Electrical Characteristics (Ambient Temperature T = 25 °C)

Parameter	Units	Min.	Typ.	Max.
Frequency Range (f)	GHz	20.0	-	38.0
Input Return Loss (S11)	dB	-	12.0	-
Output Return Loss (S22)	dB	-	15.0	-
Small Signal Gain (S21)	dB	-	17.0	-
Gain Flatness (ΔS21)	dB	-	+/-2.0	-
Reverse Isolation (S12)	dB	-	45.0	-
Noise Figure (NF)	dB	-	3.0	-
Output Power for 1dB Compression (P1dB)	dBm	-	TBD	-
Drain Bias Voltage (Vd)	VDC	3.0	4.0	5.0
Supply Current (Id)	mA	-	45	60

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