

General Description

MWL101 is a GaAs pHEMT Process design and manufacture of low noise amplifier products. This low noise amplifier can cover 50-64 GHz operating frequency band, using + 3V voltage Vdd power supply, normal operating current 120 mA, providing 20 dB small signal gain, output power up to 12 dBm, noise coefficient 4.5 dB.

Features

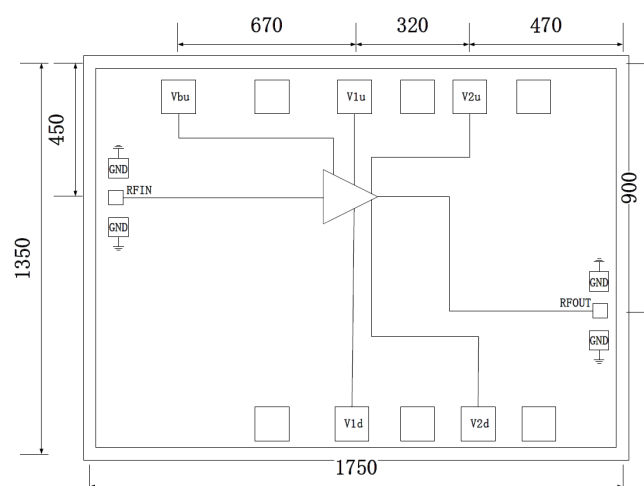
NF: 4.5 dB

Gain: 20 dB

Output P1dB: +12dBm

Supply Current: +3.0V@ 120 mA

Functional Diagram(Typical bond 50x50, unit 1 um)



(Die Thickness: 50 um)

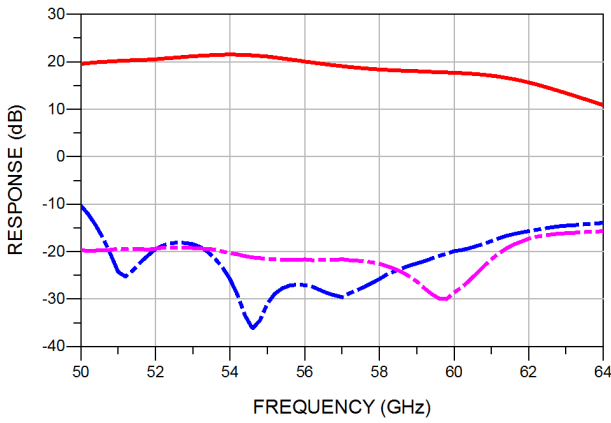
Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +3\text{V}$, $V_{gg} = -0.5\text{V}$

Parameter	Min	Typ	Max	Units
Bandwidth	50		64	GHz
Gain	12	20		dB
Noise Figure		4.5		dB
Input Return Loss	10	20		dB
Output Return Loss	15	20		dB
Output Power for 1dB Compression		+12		dBm
Supply Current (@Vdd=+3.0V)		120		mA

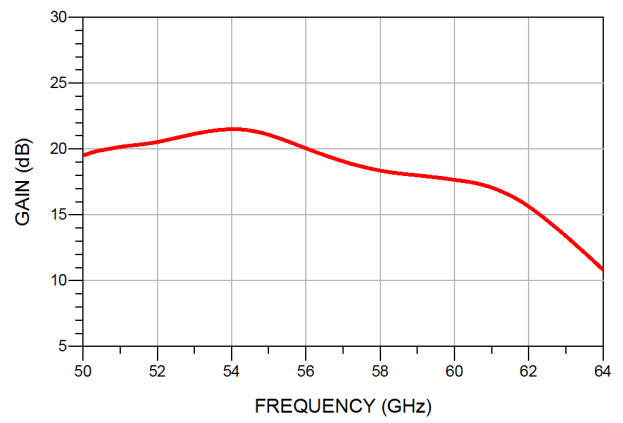


Test Results

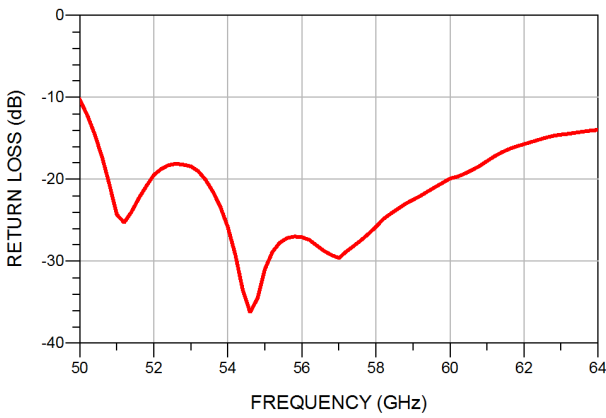
S_Parameter



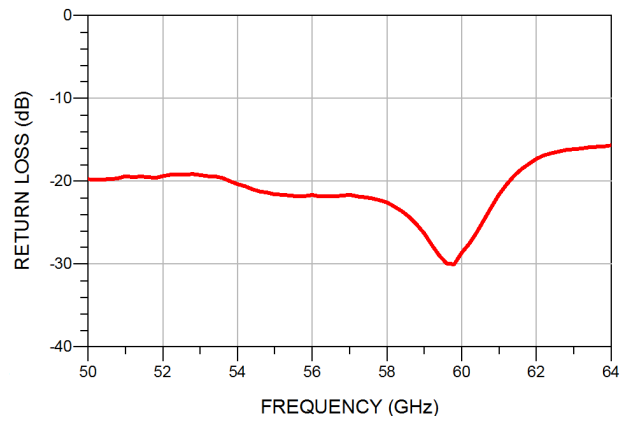
Gain



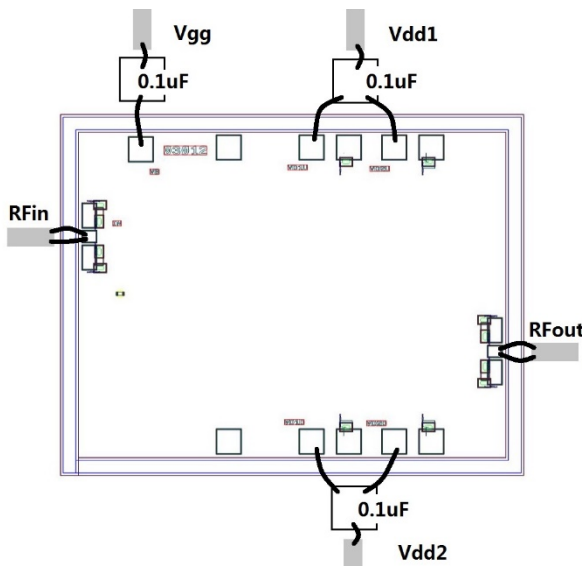
Input Return Loss



Output Return Loss



Assembly Diagram



Output P1dB

