

General Description

MWL104 is a low-noise amplifier designed and manufactured by GaAs pHEMT process. This amplifier can cover 77-90 GHz operating frequency band, using +3V voltage Vdd power supply, normal operating current 45 mA, providing 21 dB small signal gain, output power up to 12 dBm, noise coefficient 5 dB.

Features

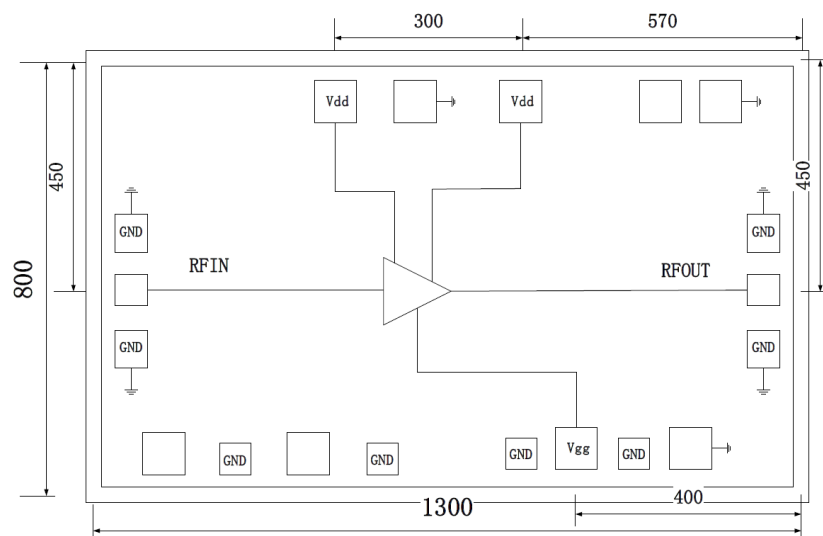
NF: 5 dB

Gain: 21 dB

Output P1dB: +12 dBm

Supply Current: +3.0V@ 45 mA

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



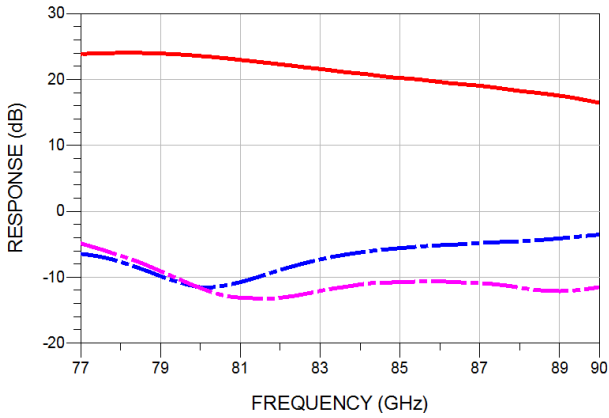
(Die Thickness: 50 um)

Electrical Specifications, $T_A = +25^\circ\text{C}$, Vdd = +3V, Vgg = -0.5 V

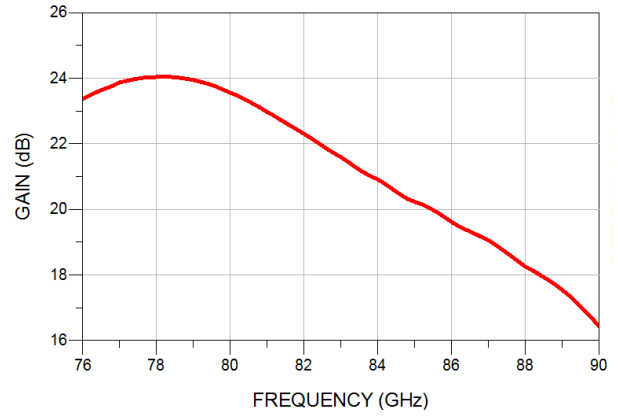
Parameter	Min	Typ	Max	Units
Bandwidth	77		90	GHz
Gain	18	21		dB
Noise Figure		5		dB
Input Return Loss	5	8		dB
Output Return Loss	5	12		dB
Output Power for 1dB Compression		+12		dBm
Supply Current (@Vdd=+3.0V)		45		mA

Test Results

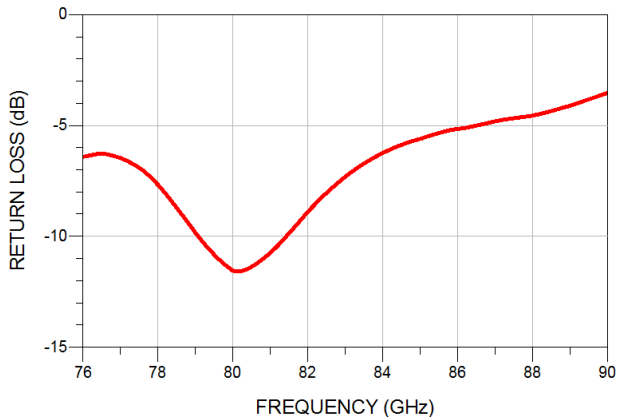
S_Parameter



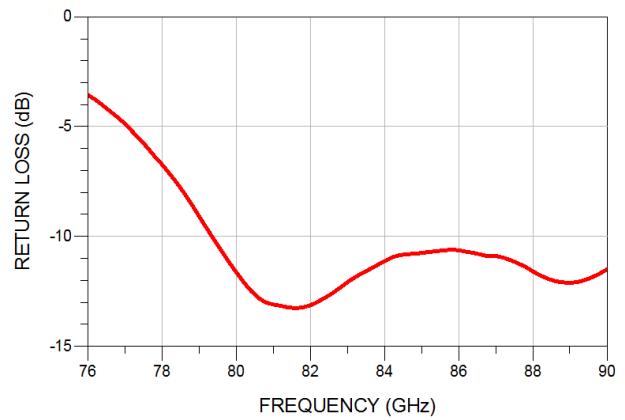
Gain



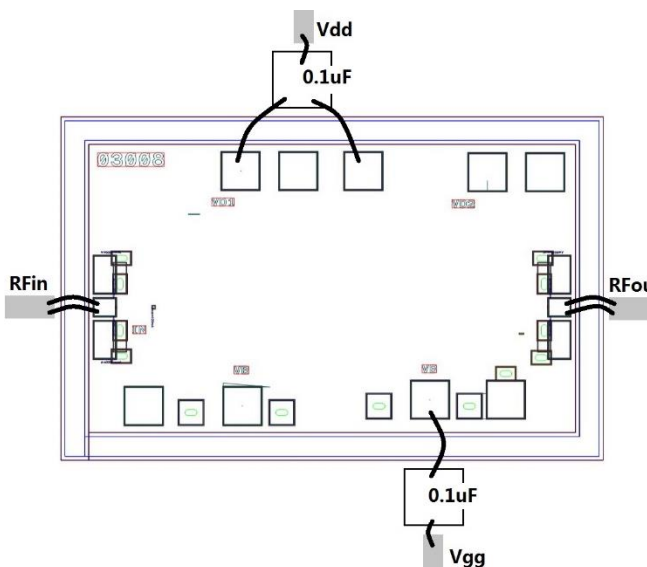
Input Return Loss



Output Return Loss



Assembly Diagram



Output P1dB

