General Description

MWL002 is a high dynamic range low noise amplifier designed and manufactured by GaAs MMIC process with self-biased single power supply. This low noise amplifier only needs +2.5V voltage supply, normal working current 82 mA, operating frequency can cover 30 GHz to 38 GHz, provide 25 dB small signal gain, noise coefficient 2 dB, output third-order intermodulation +24 dBm, output 1 dB compression point to +13 dBm.

Features

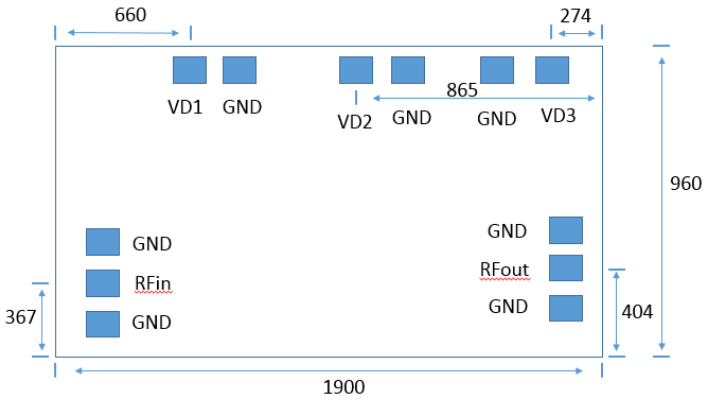
Noise Figure：2 dB

Gain：25 dB

Output P1dB：+10dBm

Supply Current：+2.5V@82mA

Functional Diagram(Typical bond：100x100， Unit：um)



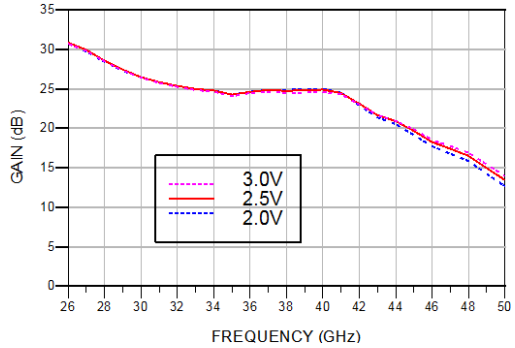
(Die Thickness: 100 um)

Electrical Specification， $T_A = +25℃$，Vdd = +2.5V

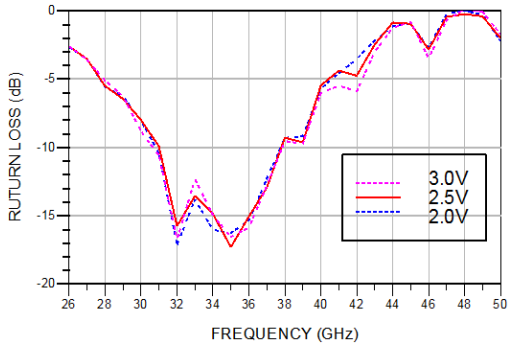
Parameter	Min	Typ	Max	Units
Bandwidth	30		38	GHz
Gain		25		dB
Gain Variation	-0.5		+0.5	dB
Noise Figure		2		dB
Input Return Loss		12		dB
Output Return Loss		12		dB
Output Power for 1dB Compression		+10		dBm
Output Third Order Intercept		+20		dBm
Supply Current（@Vdd=2.5V）		82		mA

Test Results with Die

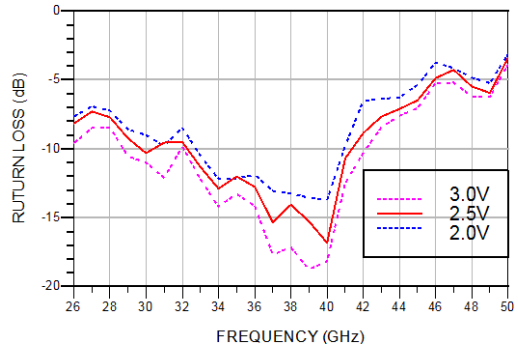
Gain



Input Return Loss

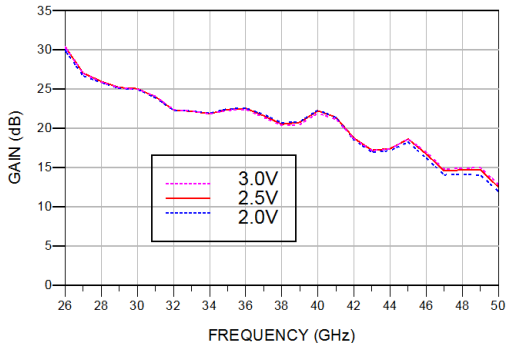


Output Return Loss

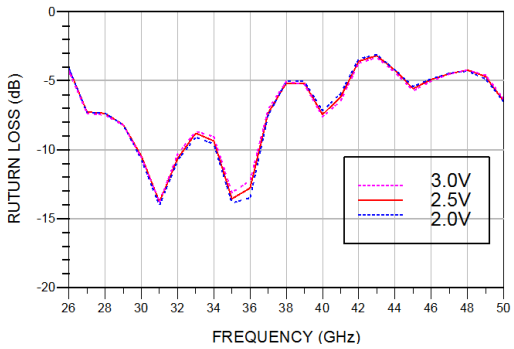


Test Results after assembly

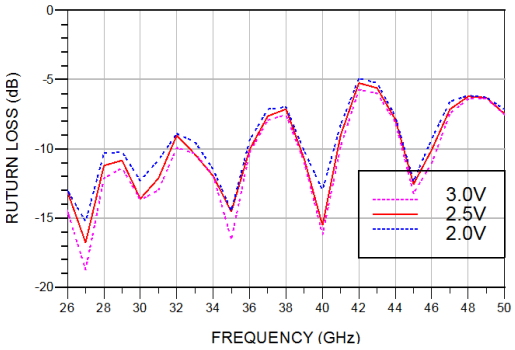
Gain



Input Return Loss



Output Return Loss



Assembly Diagram