

General Description

MWL017 is a high dynamic range low noise amplifier designed and manufactured using GaAs pHEMT process, self-biased single-supply power supply. This low noise amplifier only needs +5V voltage supply (two power supply options on both sides of the chip). The normal operating current is 39mA. The operating frequency can cover 18GHz to 40GHz. It provides 8dB small signal gain. The noise coefficient is 3.8dB. The output 1dB compression point reaches +13dBm.

Features

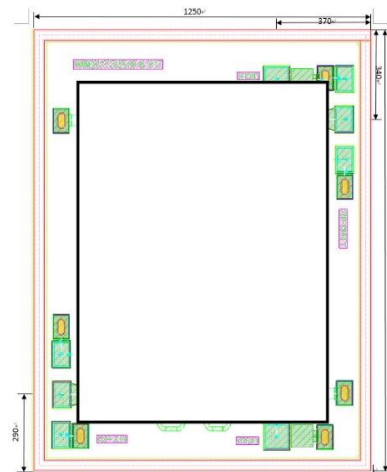
Noise Figure: 3.8 dB

Gain: 8 dB;

Output P1dB: +13dBm

Supply Current: +5V@39mA

Functional Diagram(Typical bond: 100x120, unit: um)



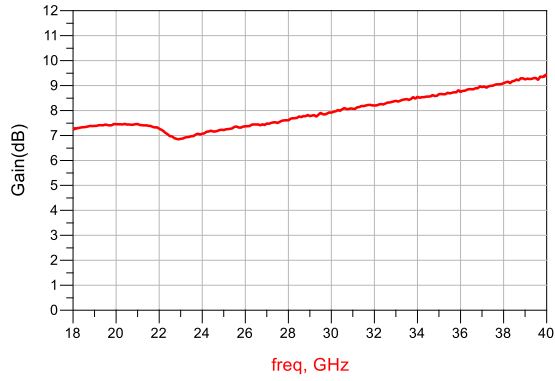
(Die Thickness: 100 um)

Electrical Specifications, $T_A = +25^\circ\text{C}$, $V_{dd} = +5\text{V}$

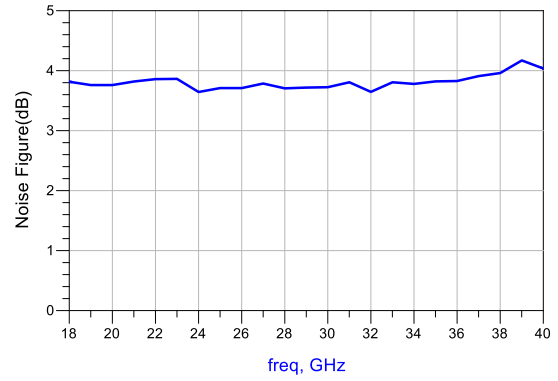
Parameter	Min	Typ	Max	Units
Bandwidth	18		40	GHz
Gain	7	8	9.5	dB
Noise Figure		3.8		dB
Input Return Loss	8	10		dB
Output Return Loss		25		dB
Output Power for 1dB Compression		13		dBm
Supply Current (@Vdd=5 V)		39		mA

Test Results

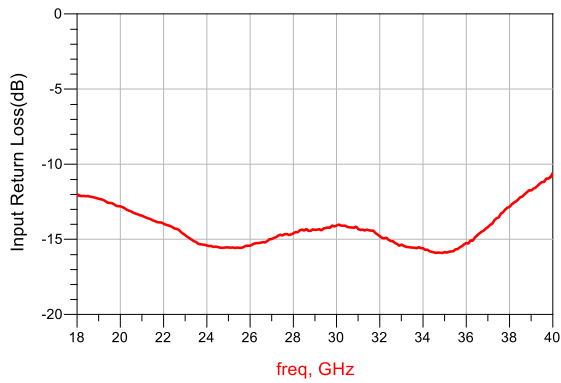
Gain



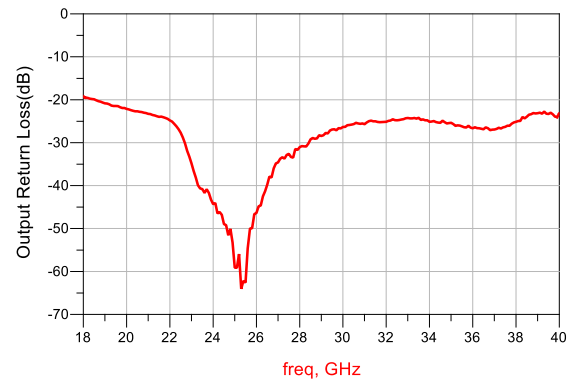
Noise Figure



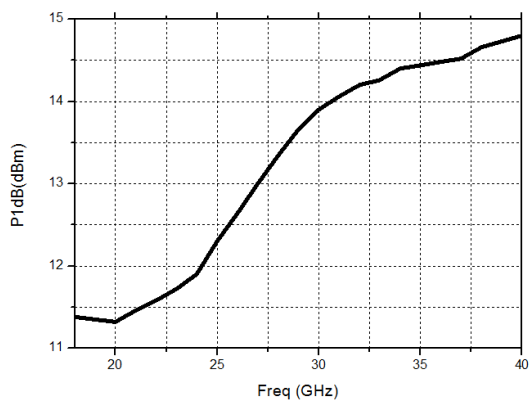
Input Return Loss



Output Return Loss



Output P1dB



Assembly Diagram

