AMT1210A
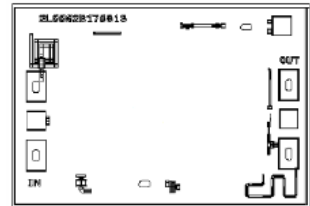**7 – 13GHz Low Noise Amplifier Chip**

Key Features :

- Frequency range : 7 – 13GHz
- Typical gain : 19dB
- Input standing wave : 1.7
- Output standing wave : 1.4
- Noise figure : 1dB
- P-1 : 5dBm @ +4.1V/15mA
- Chip dimensions : 1.55mm x 1.05mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.

Description :

AMT1210A chip is a Gallium Arsenide (GaAs) high performance Low Noise Amplifier, it covers 7 – 13GHz frequency range. It uses +4.1V single voltage operation, noise figure is 1dB, and 19dB typical gain. This chip is designed with ground through metal vias on the back technology. All chip products p are 100% RF tested.
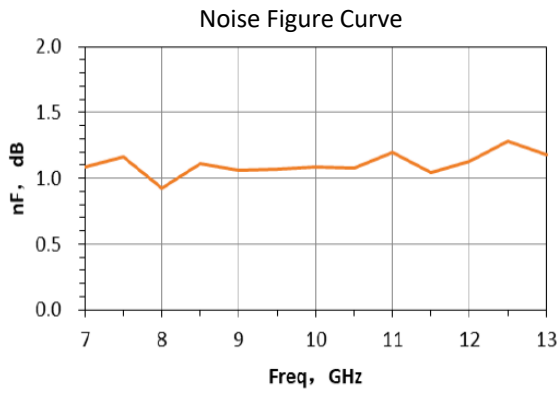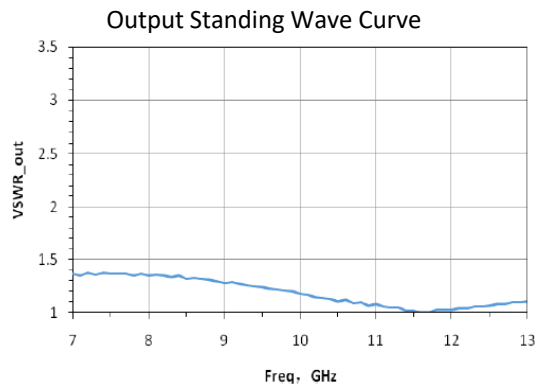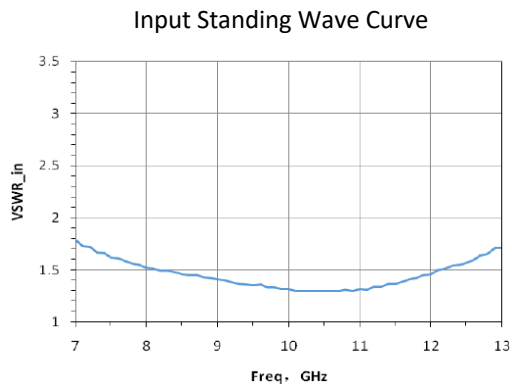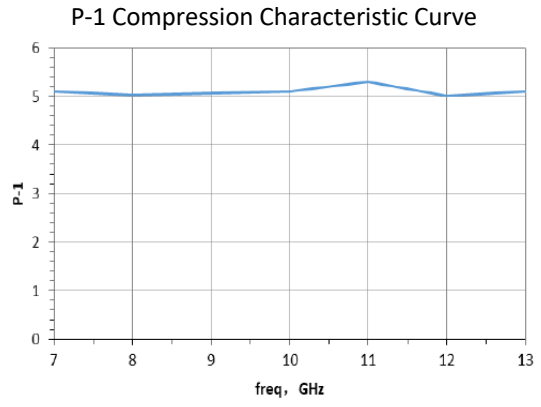
Absolute Maximum Ratings (Ta = 25°C)

Symbol	Parameter	Value	Remark
Vd	Drain Voltage	7V	
Pin	Input Signal Power	17dBm	
Tch	Operating Temperature	150°C	
Tm	Sintering Temperature	310°C	30s, N_2 protection
Tstg	Storage Temperature	-65 ~ +150°C	

[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.
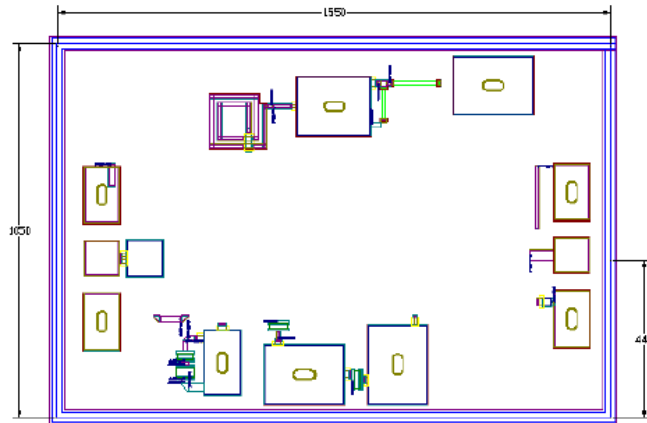
Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G	Gain	Vd = +4.1V F : 7 ~ 13GHz	-	19	-	dB
NF	Noise Figure		-	1	1.2	dB
Id	Static Current		-	15	-	mA
VSWR_in	Input Standing Wave		-	1.7	-	
VSWR_out	Output Standing Wave		-	1.4	-	
P-1	Output Power at 1dB point		-	5	-	dBm

Typical Performance

Gain Curve

P-1 Compression Characteristic Curve

Input Standing Wave Curve

Output Standing Wave Curve

Noise Figure Curve
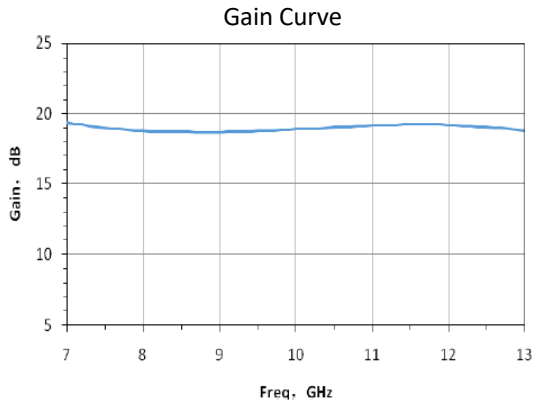
Chip Dimensions (Unit : μm)

Chip Layout Diagram
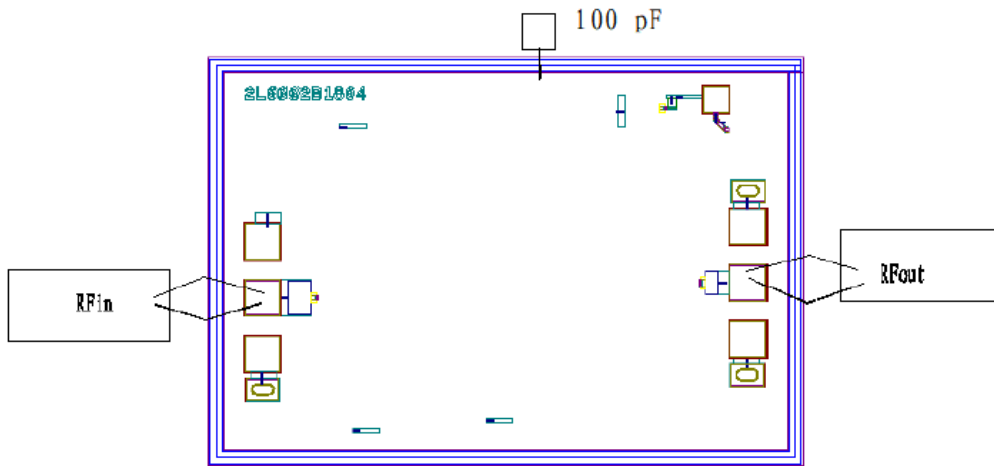
Pad Definition

Symbol	Function	Dimension	Equivalent Circuit
RF_in	RF signal input port, connecting to external 50Ω system. no need to add DC blocking capacitor.	100*100μm²	
RF_out	RF signal output port, connecting to external 50Ω system, no need to add DC blocking capacitor.	100*100μm²	
Vd	Amplifier bias, need to connect external 100pF capacitor.	100*100μm²	

Please see Appendix A for details.