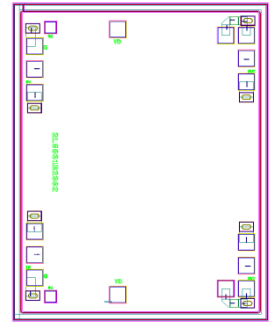


AMT1232
7 – 13GHz Balanced Type Low Noise Amplifier Chip

Key Features :

- Frequency range : 7 – 13GHz
- Typical gain : 21.5dB
- Input/Output standing wave : 1.5/1.2
- Noise figure : 0.8dB
- P-1 : 13dBm @ +5V/25mA
- Chip dimensions : 1.6mm x 2mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.



Description :

AMT1232 chip is a Gallium Arsenide (GaAs) high performance Low Noise Amplifier, it covers 7 – 13GHz frequency range. It uses +5V single voltage operation, noise figure is 0.8dB, and 21.5dB typical gain. This chip is designed with ground through metal vias on the back technology. All chip products 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	

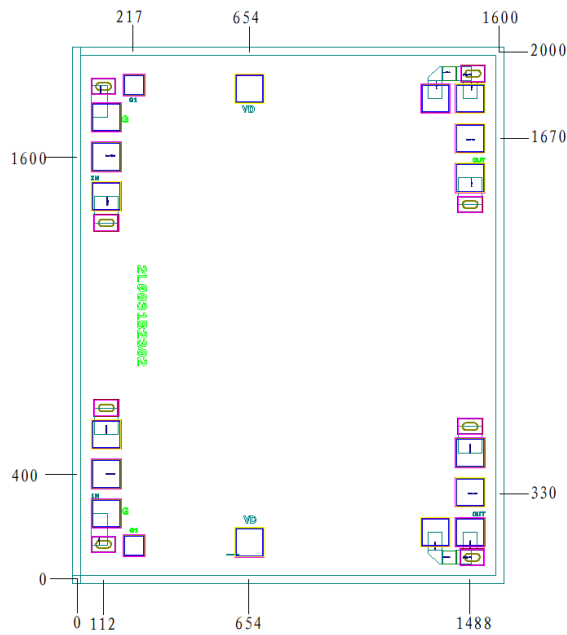
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

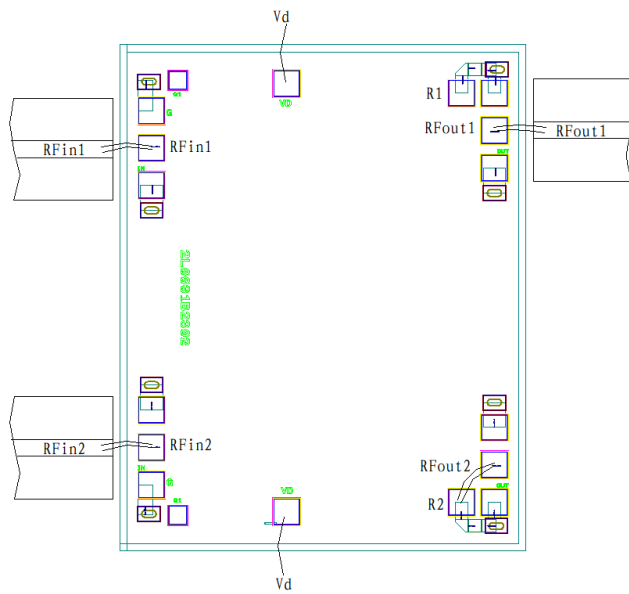
Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G	Gain	Vd = +5V F : 7 ~ 13GHz	21	21.5	-	dB
NF	Noise Figure		-	0.8	-	dB
Id	Static Current		-	25	-	mA
VSWR_in	Input Standing Wave		-	1.5	-	-
VSWR_out	Output Standing Wave		-	1.2	1.25	-
P-1	Output Power at 1dB point		-	13	-	dBm

7 – 13GHz Balanced Type Low Noise Amplifier Chip

Chip Dimensions (Unit : μm)



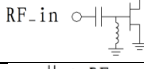
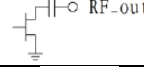


Chip Layout Diagram



Note : R1, R2 are built-in 50Ω load resistors, this chip can be mirror used.

7 – 13GHz Balanced Type Low Noise Amplifier Chip

Pad Definition

Symbol	Function Description	Dimensions	Equivalent Circuit
RFin	RF signal input port, connecting to external 50Ω system, no need to add DC blocking capacitor.	100μm*100μm	
RFout	RF signal output port, connecting to external 50Ω system, no need to add DC blocking capacitor.	100μm*100μm	
Vd	Amplifier bias, need to connect 100pF external capacitor	100μm*100μm	
R	Built in 50Ω load resistance, connect to respective RFout pad.	100μm*100μm	

Please see Appendix A for details.