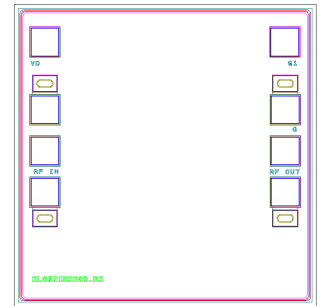


AMT1226
2 – 4GHz Low Noise Amplifier Chip

Key Features :

- Frequency range : 2 – 4GHz
- Typical gain : 22.5dB
- Input standing wave : 1.85
- Output standing wave : 1.8
- Noise figure : 0.6dB
- P-1 : 17.5dBm @ +5V/54mA
- Chip dimensions : 1.1mm x 1.1mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.



Description :

AMT1226 chip is a Gallium Arsenide (GaAs) high performance Low Noise Amplifier, it covers 2 – 4GHz frequency range. It uses +5V single voltage operation, noise figure is 0.6dB, and 22.5dB typical gain. This chip is designed with ground through metal vias on the back technology.

Absolute Maximum Ratings (Ta = 25°C)

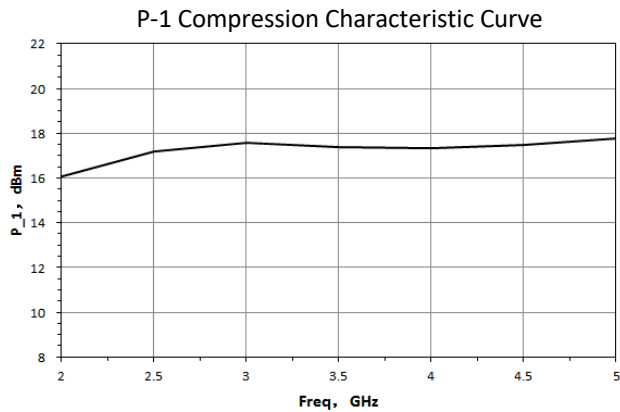
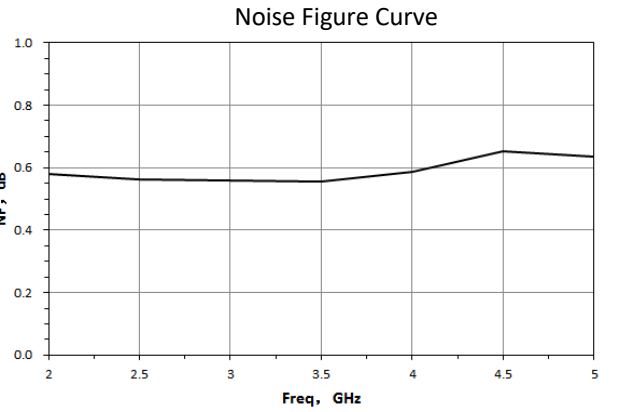
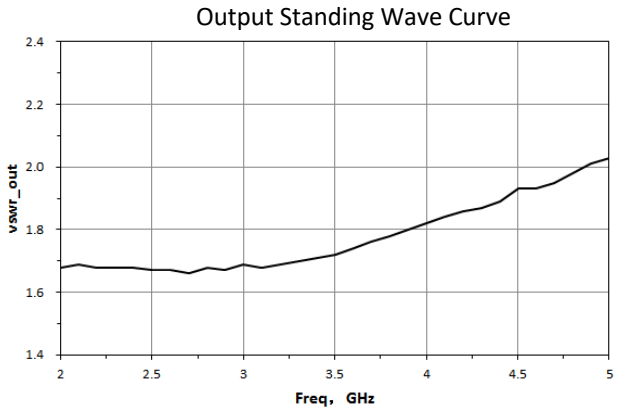
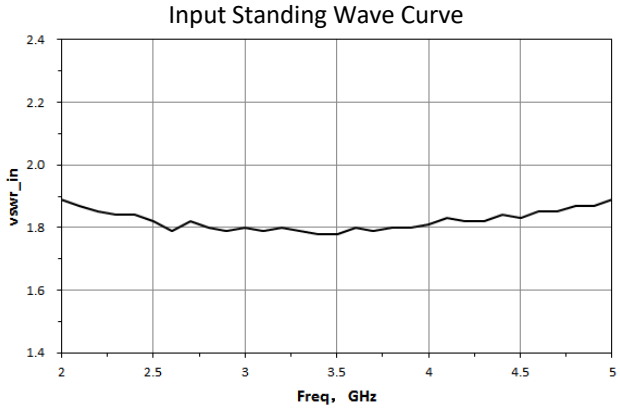
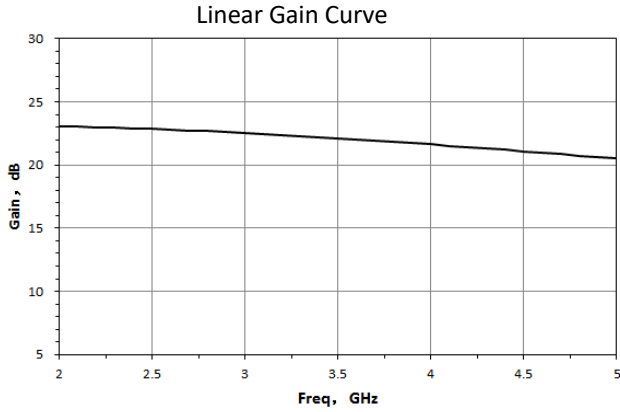
Symbol	Parameter	Value	Remark
Vd	Drain Voltage	+7V	
Pin	Input Signal Power	17dBm	
Tch	Operating Temperature	150°C	
Tm	Sintering Temperature	310°C	30s, N ₂ protection
Tstg	Storage Temperature	-65 ~ +150°C	

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

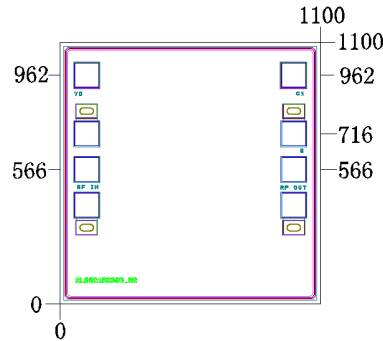
Electrical Characteristics (Ta = 25°C)

Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G	Gain	Vd = +5V F : 2 ~ 4GHz	-	22.5	-	dB
NF	Noise Figure		-	0.6	-	dB
Id	Static Current		-	54	-	mA
VSWR_in	Input Standing Wave		-	1.85	-	-
VSWR_out	Output Standing Wave		-	1.8	-	-
P-1	Output Power at 1dB point		-	17.5	-	dBm

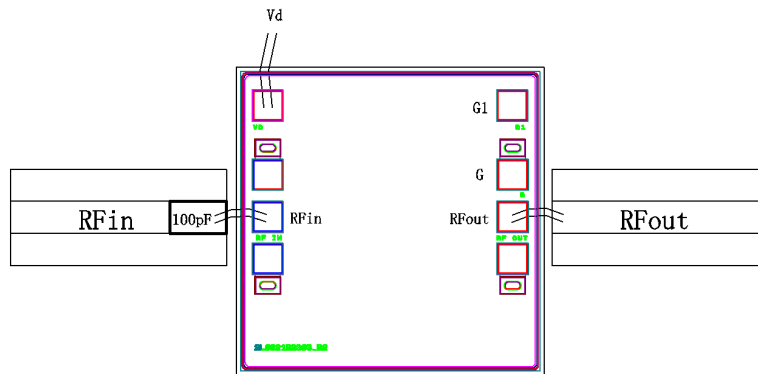
Typical Performance



Chip Dimensions (Unit : μm)



Chip Layout Diagram



Pad Definition

Symbol	Function Description	Demensions	Equivalent Circuit
RFin	RF signal input port, connecting to external 50Ω system, need to add DC blocking capacitor.	100 μm *100 μm	
RFout	RF signal output port, connecting to external 50Ω system, need to add DC blocking capacitor.	100 μm *100 μm	
Vd	Amplifier bias, need to connect 100pF external capacitor	100 μm *100 μm	

Please see Appendix A for details.