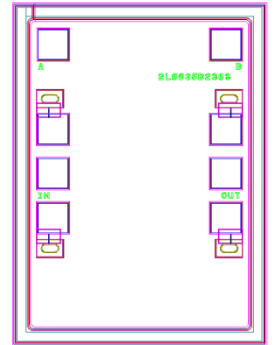


AMT1219
DC – 2GHz Low Noise Amplifier Chip

Key Features :

- Frequency range : DC – 2GHz
- Typical gain : 24dB
- Input standing wave : 1.5
- Output standing wave : 1.3
- Noise figure : 0.8dB
- P-1 : 20.3dBm @ +5V/106mA
- Chip dimensions : 0.775mm x 0.7mm x 0.1mm
- Applications : wireless communication, transceiver module, radio telecommunication etc.



Description :

AMT1219 chip is a Gallium Arsenide (GaAs) high performance Low Noise Amplifier, it covers DC – 2GHz frequency range. It uses +5V single voltage operation, noise figure is 0.8dB, and 24dB 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	

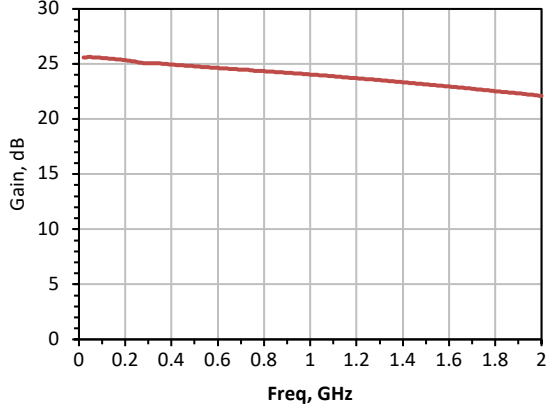
[1] Operation outside any of the Absolute Maximum Ratings may cause permanent device damage.

Electrical Characteristics (Ta = 25°C)

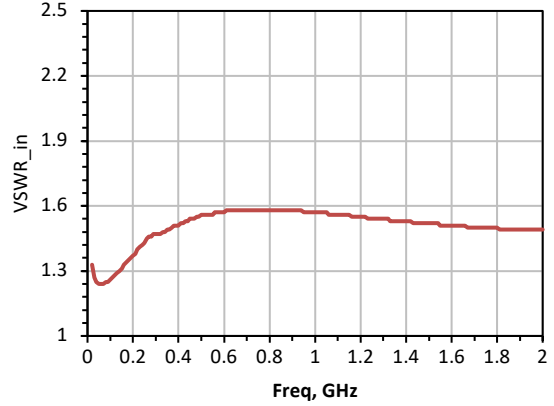
Symbol	Parameter	Test Conditions	Value			Unit
			Min	Typical	Max	
G	Gain	Vd = +5V F : DC ~ 2GHz	-	24	-	dB
NF	Noise Figure		-	0.8	-	dB
Id	Static Current		-	106	-	mA
VSWR_in	Input Standing Wave		-	1.5	1.6	-
VSWR_out	Output Standing Wave		-	1.3	1.5	-
P-1	Output Power at 1dB point		20.3	21	-	dBm

Typical Performance

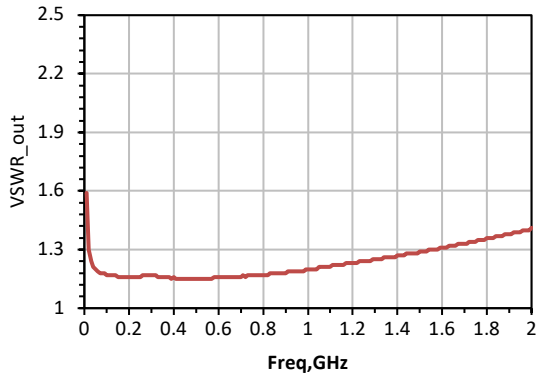
Gain Curve



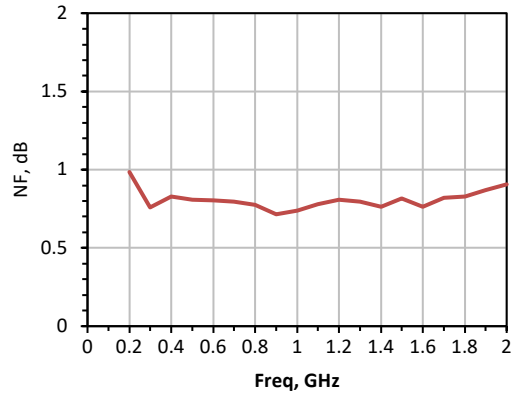
Input Standing Wave Curve



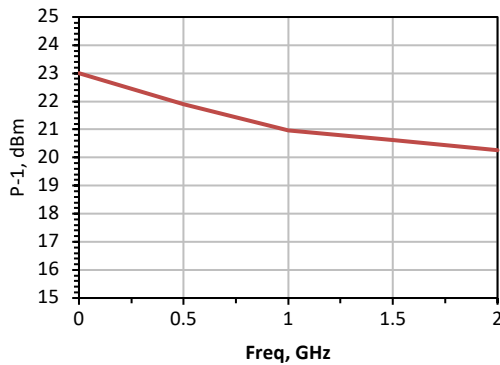
Output Standing Wave Curve



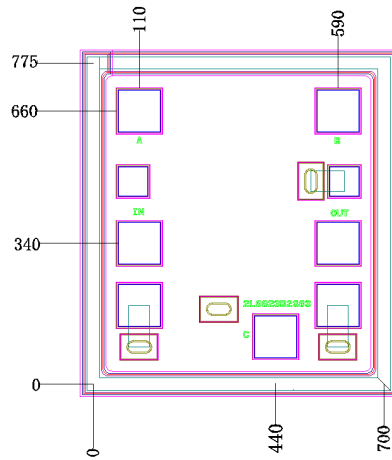
Noise Figure Curve



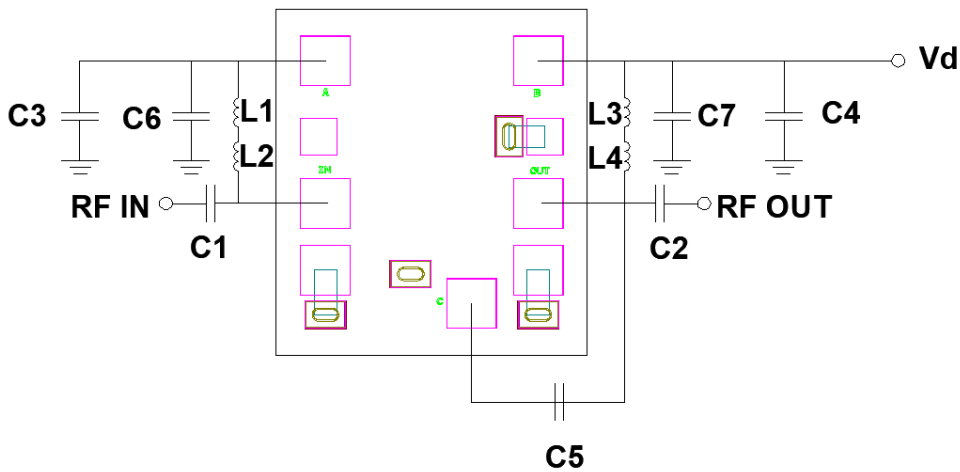
P-1 Compression Characteristic Curve



Chip Dimensions (Unit : μm)



Chip Layout Diagram



Part List

Device Name	Device Model	Device Value	Manufacturer	Package Type
C3	GRM155R61A225K	2.2 μF	Murata	0402
C5	GRM1555C1H472J	4700pF	Murata	0402
C6, C7		300pF	--	SLC
C1, C2, C4	GRM15R71H103K	0.01 μF	Murata	0402
L1 – L4	MMZ1005A222	--	TDK	--

Please see Appendix A for details.