

GMM1213 6-18GHZ Low Noise Amplifier

Features

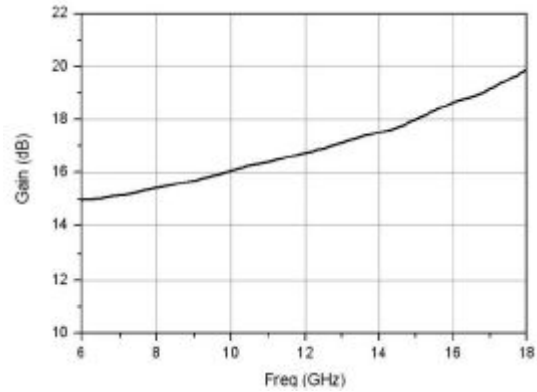
- ⊙ Frequency range: 6- 18GHz
- ⊙ Gain: 17dB, 4dB positive slope
- ⊙ Noise figure: 1.8dB
- ⊙ P₋₁: 11dBm
- ⊙ Input/output VSWR: 1.8/1.5
- ⊙ Power consumption: +5V/43mA
- ⊙ Die size: 2.0mm X 1.0mm X 0.1mm

General description

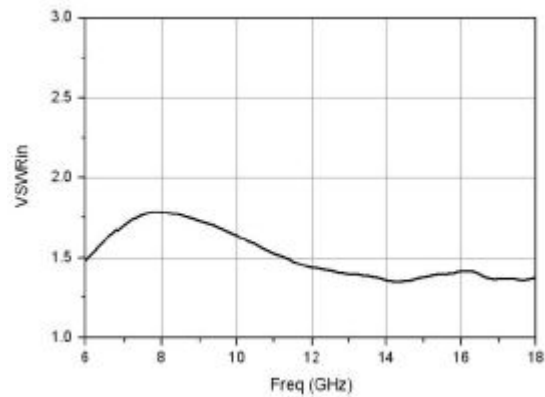
GMM1213 chip is a GaAs MMIC low noise amplifier with frequency range of 6 - 18GHz, gain of 17dB and typical noise figure of 1.8dB. The chip back for both DC and AC ground.

Typical curve

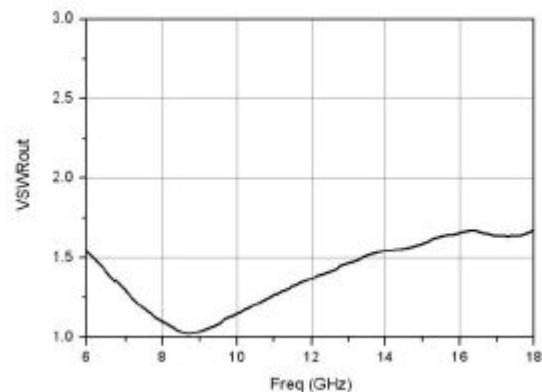
Gain



Input VSWR



Output VSWR



Absolute maximum ratings

Parameter	Symbol	Value
Max. drain voltage	VDD	+7V
Max. input power	P _{in}	+18dBm
Storage temperature	T _{STG}	-65°C - 150 °C
Operating temperature	T	-55°C - 125 °C

Operation in excess of any one of these conditions may result in permanent damage to the device.

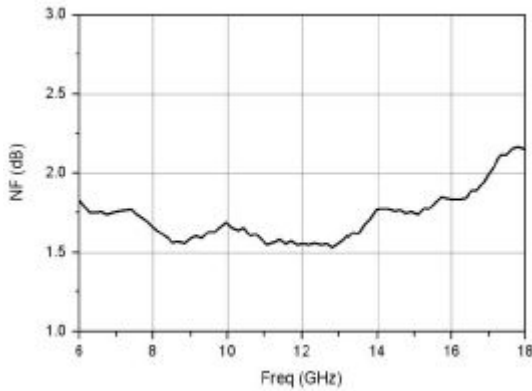
Electrical specifications (T_A=+25°C, VDD=+5V)

Parameter	Min.	Typ.	Max.	Unit
Frequency range	6-18			GHz
Gain		17		dB
Noise figure		1.8		dB
P ₋₁	11			dBm
Input VSWR		1.8		-
Output VSWR		1.5		-
Supply current		43		mA

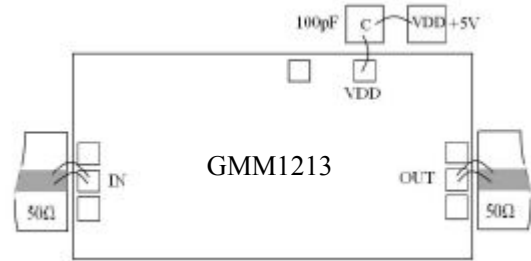


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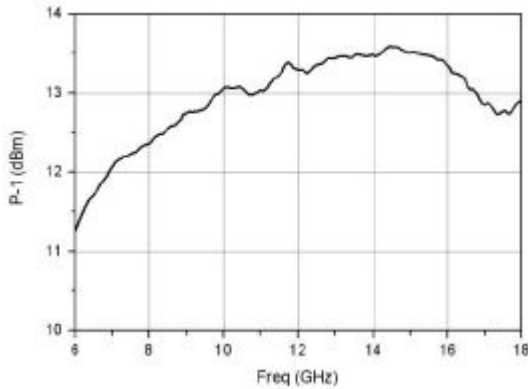
Noise figure



Typical assembly diagram



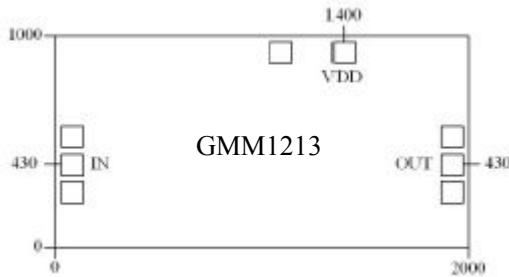
Output power P-1



Definition of bonding pad

Pad symbol	Function description
IN	RF signal input
OUT	RF signal output
VDD	+5V power supply

Outline drawing



Note: all dimensions are in micron (μm).

Size of bonding pad: 100×100μm².

Notes:

- 1) Use in clean environment.
- 2) GaAs material is very brittle, use with care to prevent surface damage.
- 3) Input/output bonding wires (diameter 25μm) shall be as short as possible.
- 4) RF input/output has blocking capacitor.
- 5) 80/20 gold-tin soldering shall be conducted below 300°C in a short time not exceeding 30 seconds.
- 6) The product is electrostatic sensitive. Anti-static measures shall be taken during storage and use.
- 7) Store in dry nitrogen environment.