

GMM0211 0.8-12GHz Low Noise Amplifier

Features

- ⊙ Frequency range: 0.8 - 12GHz
- ⊙ Gain: 16dB
- ⊙ Noise figure: 1.6dB@1GHz; 1.3dB@4GHz; 1.5dB@6GHz; 2dB@12GHz
- ⊙ P₋₁: 16dBm
- ⊙ Input/output VSWR: 1.8/1.8
- ⊙ Power consumption: +5V/60mA
- ⊙ Die size: 2.70mm x 1.45mm x 0.1mm

General description

GMM0211 chip is a GaAs MMIC low noise amplifier with frequency range of 0.8 - 12GHz, gain of 16dB and typical noise figure of 1.6dB. The chip back for both DC and AC ground.

Absolute maximum ratings

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

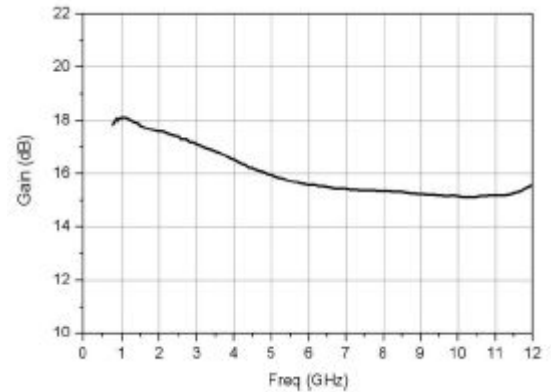
Operation in excess of any one of these conditions may result in permanent damage to the device.

Electrical specifications (T_A=+25°C, VDD=+5V, VGG=+2V, VGS=-0.3V)

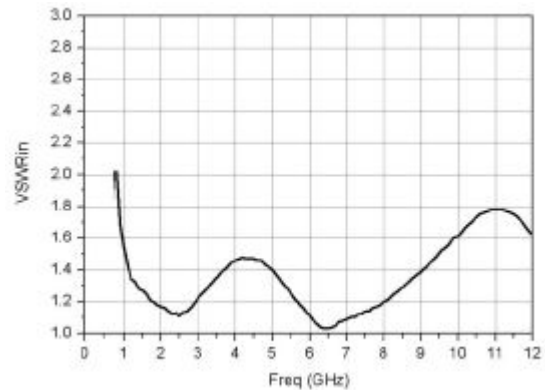
Parameter	Min.	Typ.	Max.	Unit
Frequency range	0.8-12			GHz
Gain		16		dB
Gain flatness		±1.2		dB
Noise figure		1.6		dB
P ₋₁	16			dBm
Input VSWR		1.8		-
Output VSWR		1.8		-
Supply current		60		mA

Typical curve

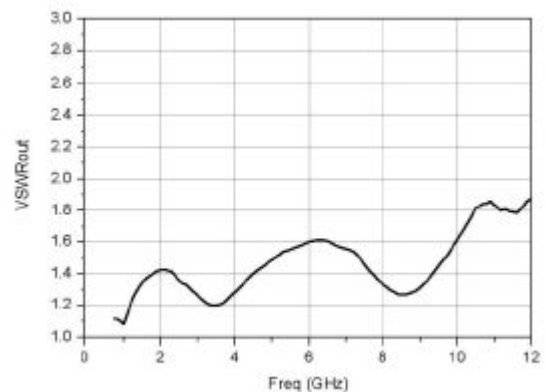
Gain



Input VSWR



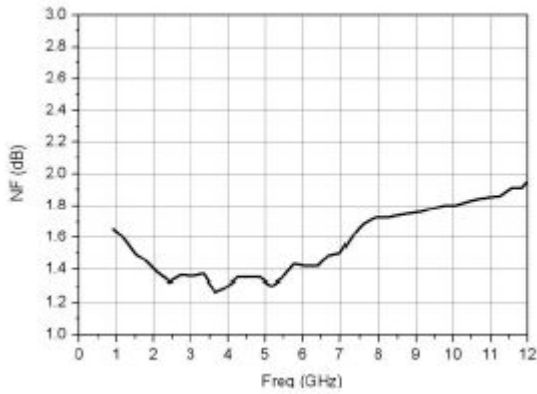
Output VSWR



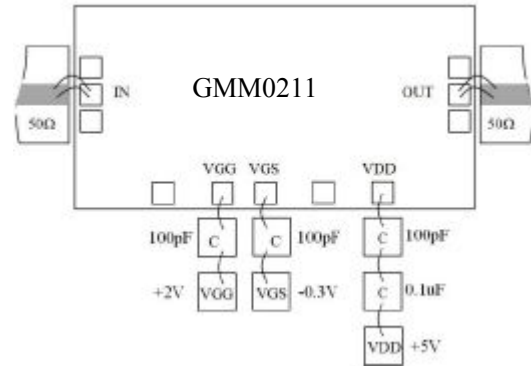


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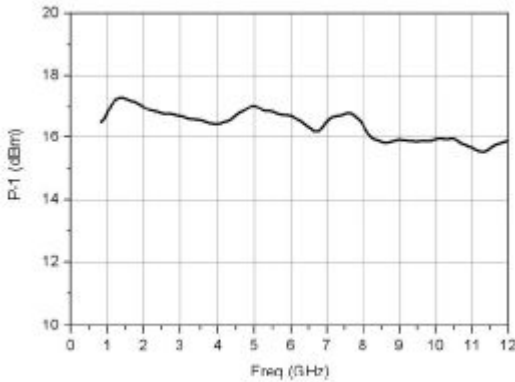
Noise figure



Typical assembly diagram



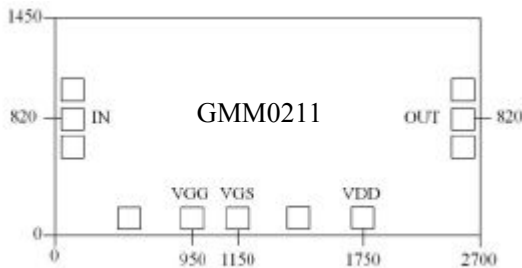
Output power P-1



Definition of bonding pad

Pad symbol	Function description
IN	RF signal input
OUT	RF signal output
VDD	+5V power supply
VGG	+2V grid voltage
VGS	-0.3V grid voltage

Outline drawing



Note: all dimensions are in micron (μm).

Size of bonding pad: $100 \times 100 \mu\text{m}^2$.

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 $25 \mu\text{m}$) 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.