

Features

- Frequency: 7~12GHz
- Gain: 24dB
- Output P₁dB: 17.5dBm
- Supply Voltage: +5V@68mA
- Die Size: 1.4mm×1.24mm×0.1mm

Typical Applications

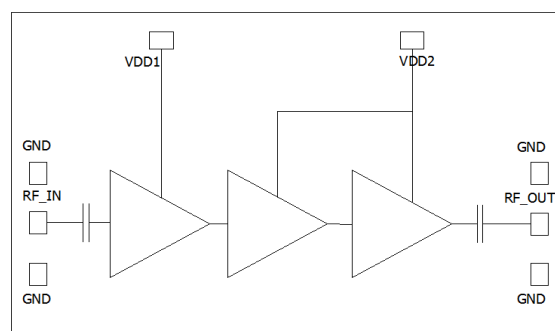
- EW
- Cellular Infrastructure
- SATCOM
- Beamforming Modules
- Test Equipment and Sensors

General Description

XT3904 is a GaAs MMIC driver amplifier which operates between 7 ~ 12GHz. The amplifier provides 24dB of gain, 17.5dBm output P₁dB power and 5.5dB noise figure while requiring 68 mA from a +8V supply voltage.

The chip offers full passivation for increased reliability and moisture protection. This amplifier is the perfect alternative to higher cost hybrid amplifiers.

Functional Diagram



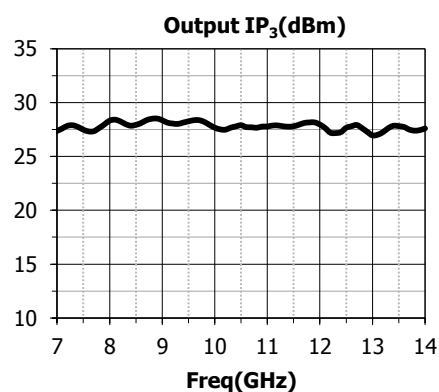
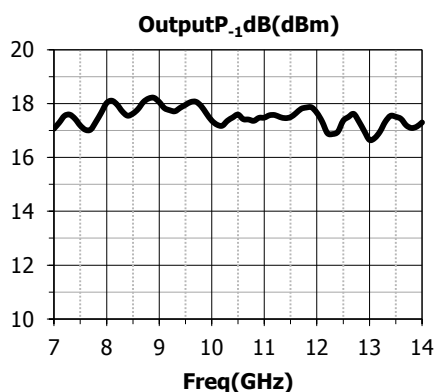
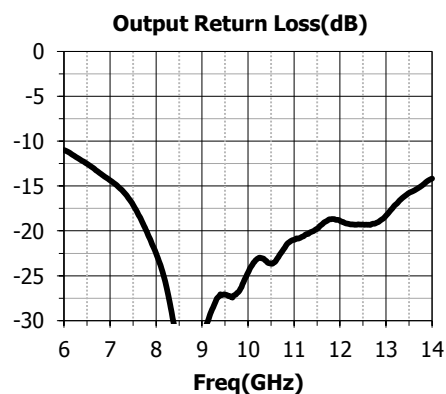
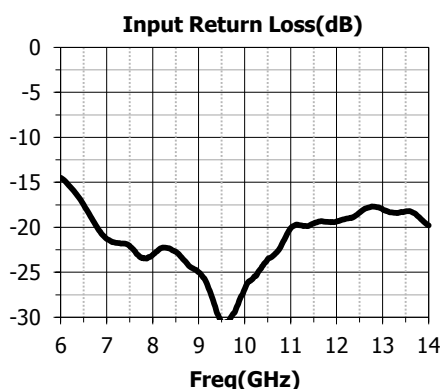
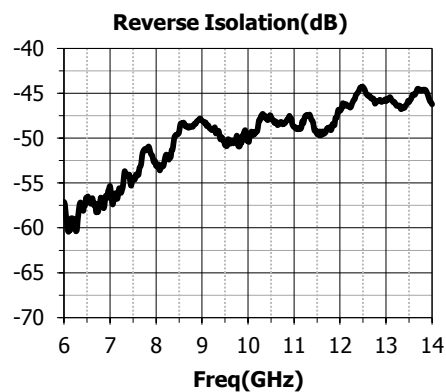
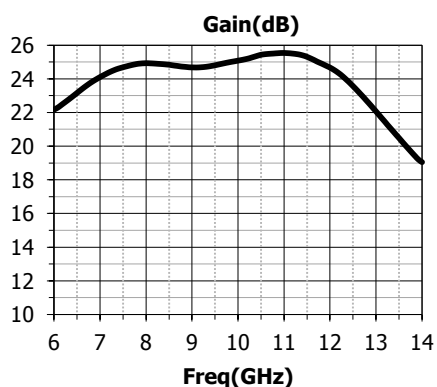
Electrical Performance (T_A=25°C, V_D=+5V, I_D=68mA, Z₀=50Ω)

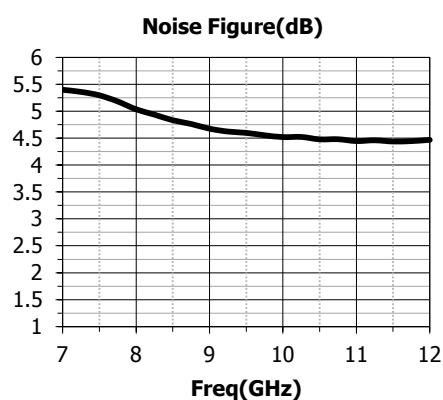
Parameter	Min.	Typ.	Max.	Units
Frequency Range	7~12			GHz
Gain	—	24	—	dB
Gain Flatness	—	1.5	—	dB
Reverse Isolation	—	-47	—	dB
Input/Output VSWR	—	1.4	—	:1
Noise Figure	—	5.5	—	dB
Output Power for 1 dB Compression (OP ₁ dB)	—	17.5	—	dBm
Output Third Order Intercept (OIP ₃)	—	27	—	dBm
Supply Current(I _D)	—	68	—	mA

Absolute Maximum Ratings

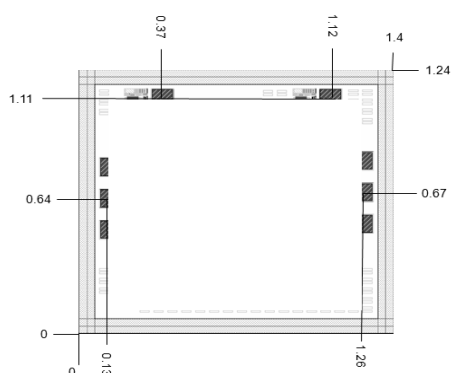
Maximum Input Power	+18dBm	Operating Temperature	-55°C ~ +85°C
Channel temperature	150°C	Storage Temperature	-65°C ~ +150°C

Typical Performance Curve

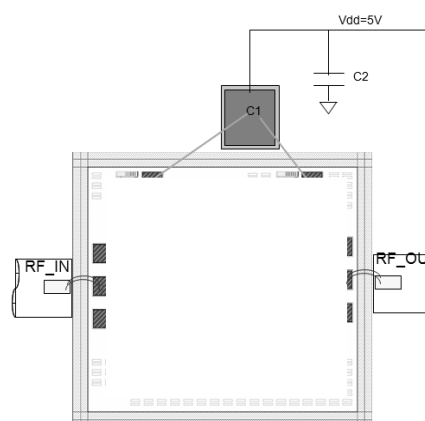




Die Outline
(all dimensions in mm)



Assembly Diagram



Component list

Reference Des.	Value	Part Number	Manuf.	Size
C1	100pF	—	ANY	SLC
C2	10nF	GRM155R71H103KA88D	MURATA	0402

Attention:

GaAs MMIC devices are susceptible to damage from electrostatic discharge. Proper precautions should be observed during handling, assembly and test.