

Product Features

- GaN MMIC
- Very Low Distortion
- Guaranteed Broadband Power Gain
- Heat Sink 99.9% Copper, Ag or Gold Plate
- Excellent Thermal Conductivity
- Single Supply Voltage @ 24V
- No External Circuit needed

Application

- Drive Amplifier



Package : DP-27

Description

The RFC1G18H4- 24 is specifically designed for up to 1GHz in frequency as amplifiers. This hybrid dynamic range amplifier module operates with a single voltage supply of 24V(DC). The RFC1G18H4- 24 is equipped with over-voltage suppressor.

Specifications

Absolute Maximum Ratings

PARAMETER	MIN	MAX	UNITS
V_{DD} / V_{RFOUT}	0	28	VDC
RF_{IN} (Single Tone)	-	+30	dBm
Storage Temperature	-40	+100	°C
Operating Temperature	-20	+100	°C

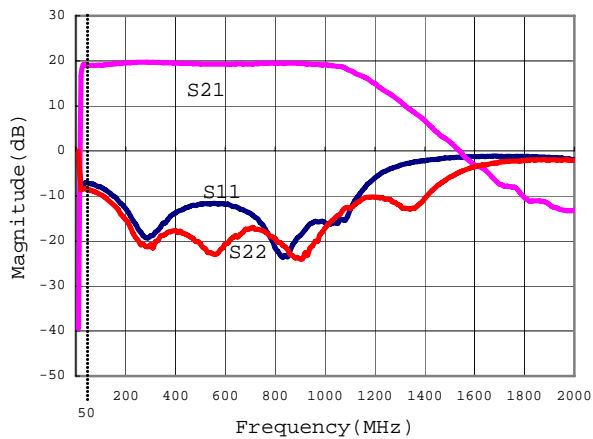
Electrical Specifications (TA = +25°C, VDD = 24V)

PARAMETER	RFC1G18H4-24		
	MIN	TYP	MAX
Bandwidth (MHz)	20	-	1000
Gain @1000MHz (dB)	18.0	19.0	-
Gain Flatness @20-1000MHz (dB)	-	1.5	2.0
Input / Output VSWR	2.5 : 1	2.0 : 1	
IP3 (dBm)@20-1000MHz	43.0	44.0	-
Power Output 3dB Comp. @20-1000MHz (dBm)	35.0	36.0	
IMD3 (dBc) Two Tone 20dBm Output @20-1000MHz	46	48.0	-
Noise Figure (dB) @ 20-1000MHz	-	3.0	7.0
Supply Current (mA)	500	550	600

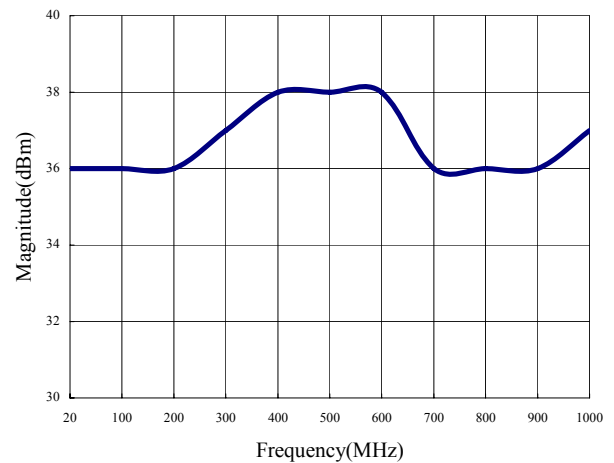
Typical RF Performance at 25°C

Parameter	Units	Typical		
Frequency	MHz	20	500	1000
S21 - Gain	dB	19	19	20
S11 – Input Return Loss	dB	-10	-13	-20
S22 – Output Return Loss	dB	-12	-10	-14
P3dB	dBm	36	37	36
OIP3	dBm	45	45	44
Noise Figure	dB	7.0	2.5	4.5
Supply Voltage	V	24		
Current	mA	550		

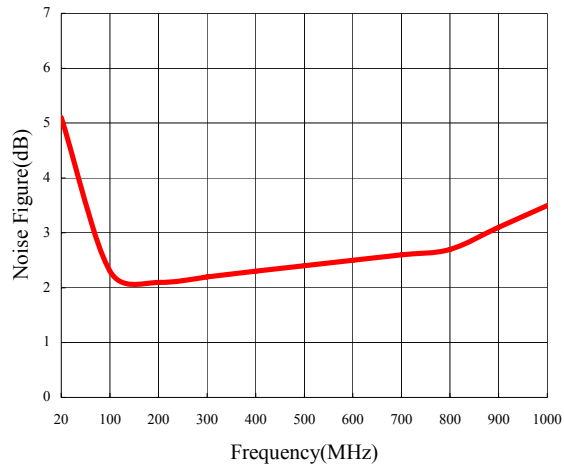
S-Parameters



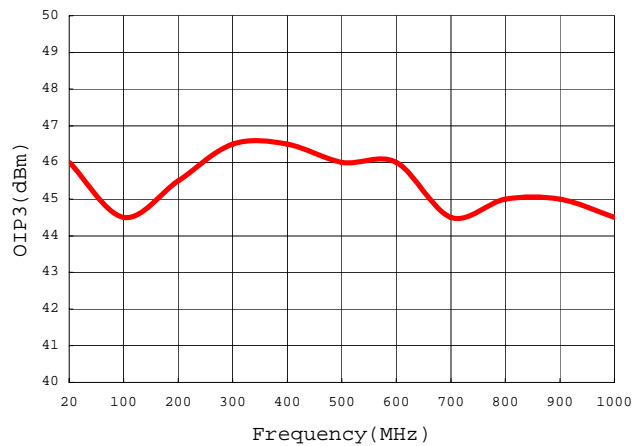
Power Output 3dB Compression



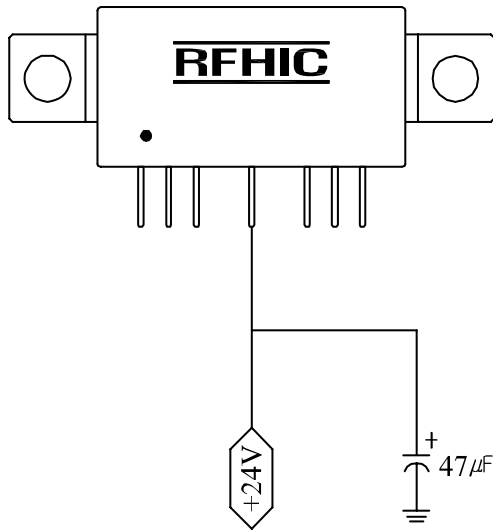
Noise Figure



OIP 3

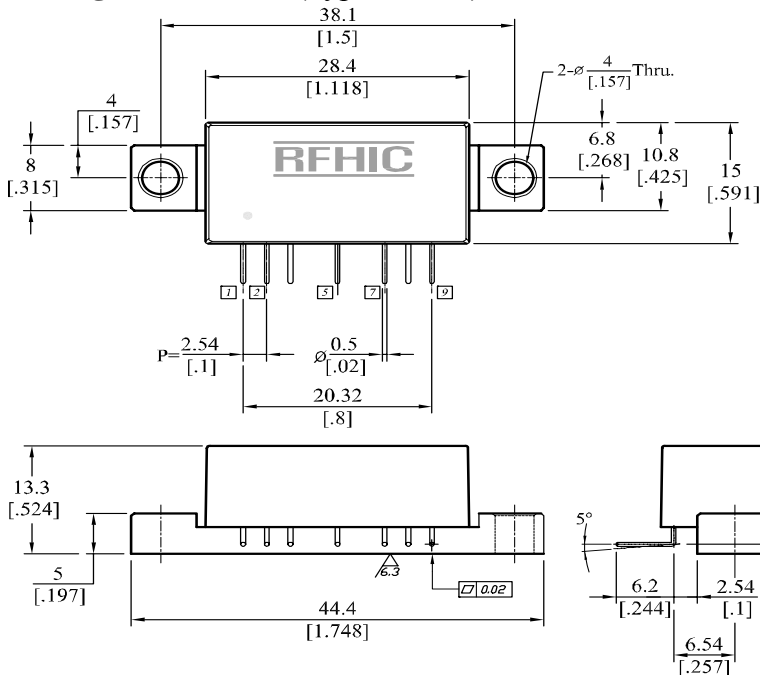


Applications



1. On the power input port (Pin#5), 47µF/35V capacitor GND is recommended.
2. Heat sink should be placed as tight as possible to the metal case.
3. Pay attention when handling electrostatic-sensitive devices.
 - Person at a workbench should be earthed via a wrist strap and a resistor.
 - All mains-powered equipment should be connected to the mains via an earth-leakage switch.
 - Equipment cases should be grounded.
 - Relative humidity should be maintained between 40% and 50%.
 - An ionizer is recommended.
 - Keep static materials, such as plastic envelopes and plastic trays etc., away from the workbench.
4. One must put the power off, before adjusting the in/output matching of the system.
5. Pay close attention to the input voltage not to over power the hybrid.
6. Do not open the Plastic cover to change the matching inside the hybrid.

Package Dimensions (Type: DP-27)



Unit : mm [inch]	Tolerance : ± 0.2 .008
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Pin No.	Function
1	RF Input
2,3,7,8	Ground
5	Vcc
9	RF Output

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