

## 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 Type: SOT-115J

## 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 RFC 1G18H4- 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	+60	°C

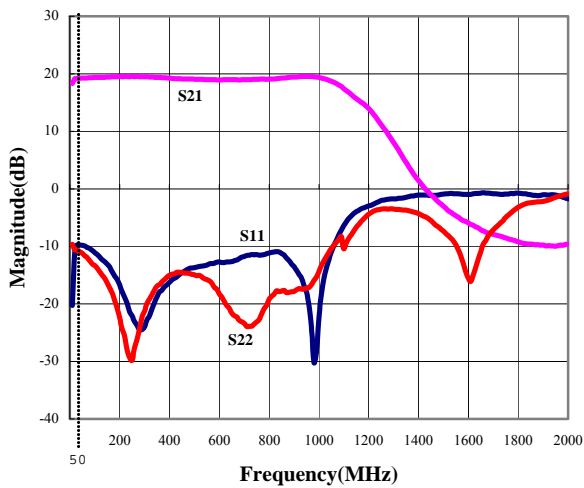
### Electrical Specifications (TA = +25°C, VDD = 24V)

PARAMETER	RFC1G18H4-24-S		
	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	46.0	48.0	-
Supply Current (mA)	500	550	600

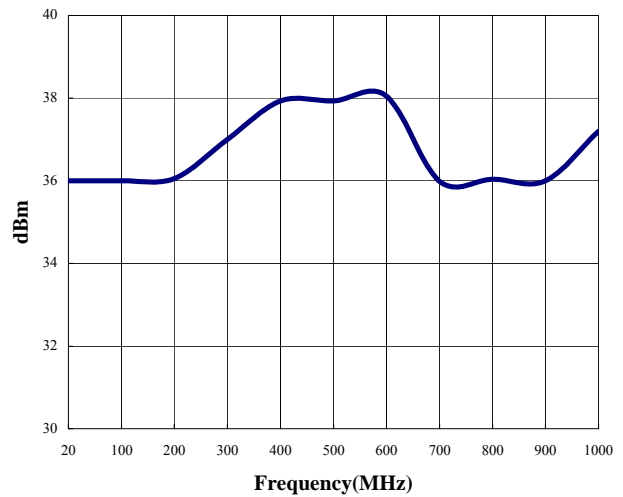
## Typical RF Performance at 25°C

Parameter	Units	Typical		
		20	500	1000
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	35
OIP3	dBm	45	45	44
Supply Voltage	V	24		
Current	mA	550		

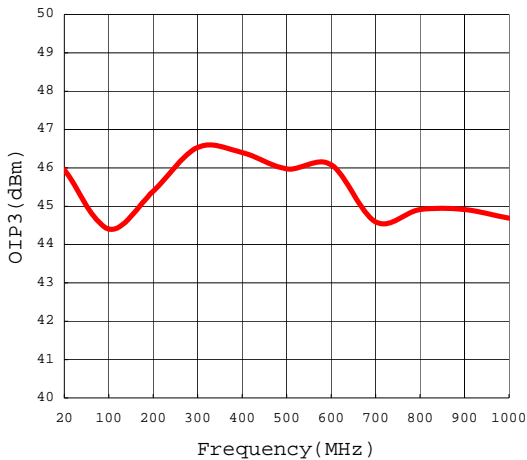
### S-Parameters



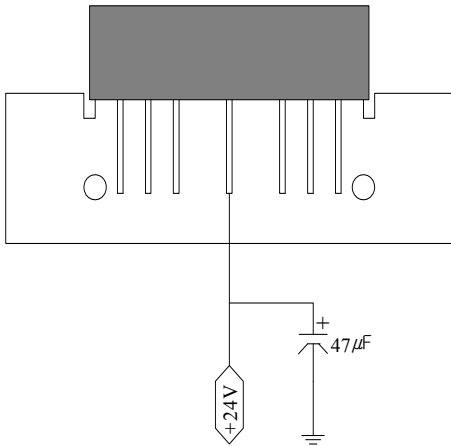
### Power Output 3dB Compression



### OIP 3

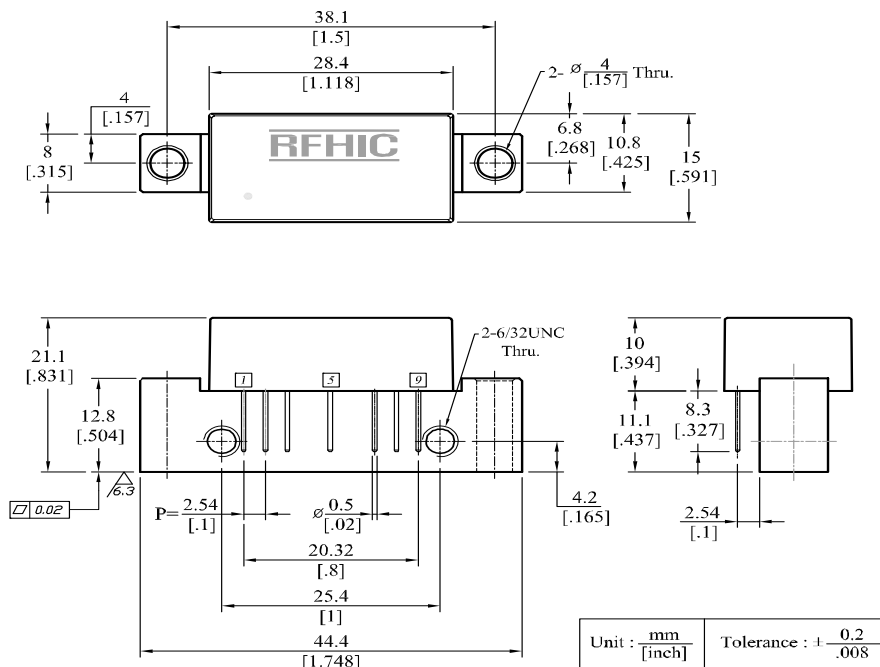


## APPLICATIONS



- On the power input port (Pin#5), use 47µF/35V capacitor GND is recommends
- Heat sink should be placed as tight as possible to the metal case.
- Suitable for safely 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.
- One must put the power off, before adjusting the in/output matching of the system.
- Pay close attention to the input voltage not to over power the hybrid.
- The space between bottom of socket and the tip of the lead is recommended to have space of 2mm+ to protect the pin.
- Do not open the Plastic cover to change the matching inside the hybrid. Once opened, RFHIC will not be responsible for the hybrid.

## Package Dimensions (Type: SOT-115J)



Pin No.	Function
1	RF Input
2,3,7,8	Ground
5	Vcc
9	RF Output

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