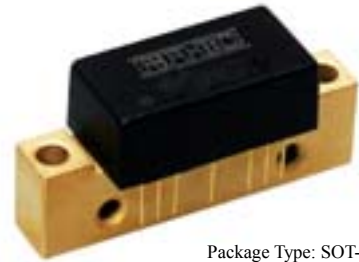


Product Features

- 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-S is equipped with over-voltage suppressor.

Absolute Maximum Ratings

No	Parameter	Min	Max	Unit
1	V_{DD} / V_{RFOUT}	22	28	VDC
2	RF_{IN} (CW 1-Tone)		30	dBm
3	Storage Temperature	-40	100	°C
4	Operating Ambient Temperature	-20	+60	°C
5	Operating Flange Temperature		+85	°C

Electrical Specifications

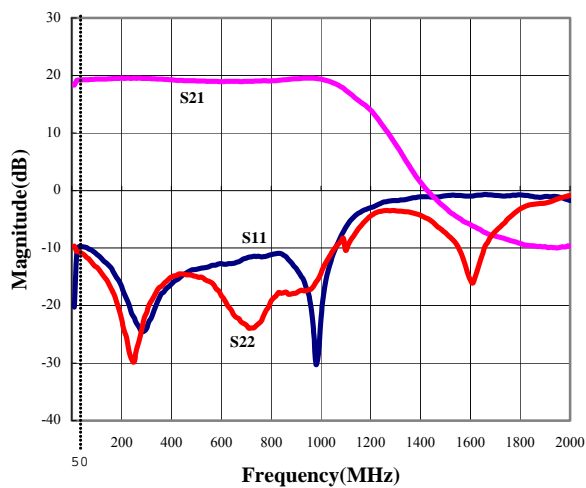
($T_A = +25^\circ\text{C}$, $V_{DD} = 24\text{V}$)

No	Parameter	Min	Typ	Max	Unit
1	Bandwidth (MHz)	20		1000	MHz
2	Gain @1000MHz	18	19		dB
3	Gain Flatness @20-1000MHz		1.5	2	dBpp
4	Input / Output VSWR		2.0 : 1	2.5 : 1	
5	OIP3 @20-1000MHz	43	44		dBm
6	Power Output 3dB Comp. @20-1000MHz (dBm)	35	36		dBm
7	IMD3 @CW 2-Tone, $P_o = 20\text{dBm}$, 1000MHz	46	48		dBc
8	Supply Current	500	550	600	mA

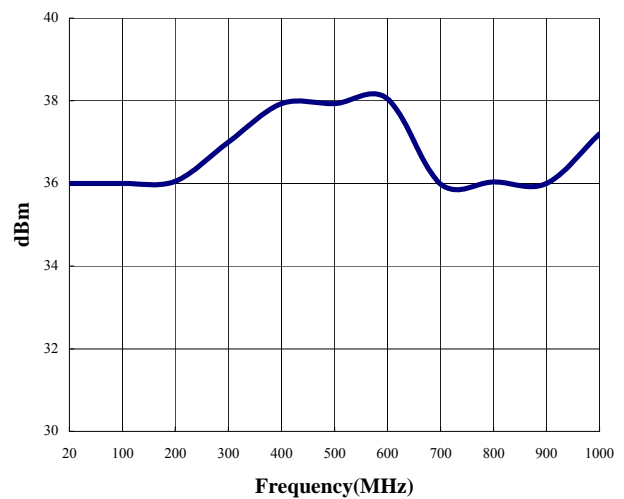
RFC1G18H4-24-S Typical Performance @ 25 °C

No	Parameter	Typical		Units	
1	Frequency	20	500	1000	MHz
2	S21 - Gain	19	19	20	dB
3	S11 - Input Return Loss	-10	-13	-20	dB
4	S22 - Output Return Loss	-12	-10	-14	dB
5	P3dB	36	37	35	dBm
6	OIP3	45	45	44	dBm
7	Supply Voltage	24		V	
8	Current	550		mA	

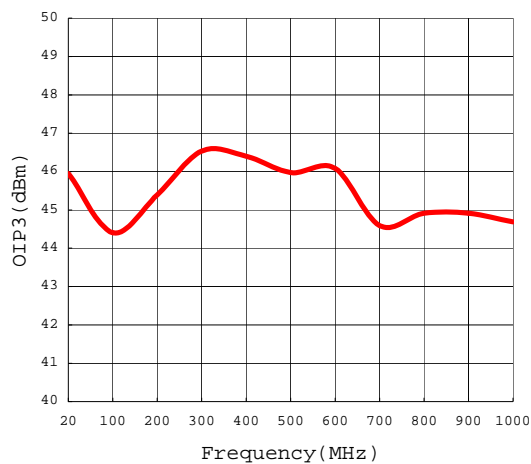
S-Parameters



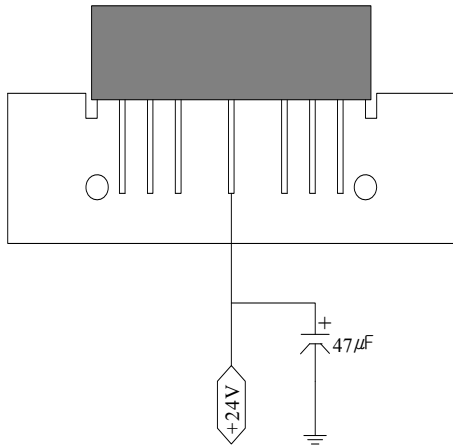
Power Output 3dB Compression



OIP3

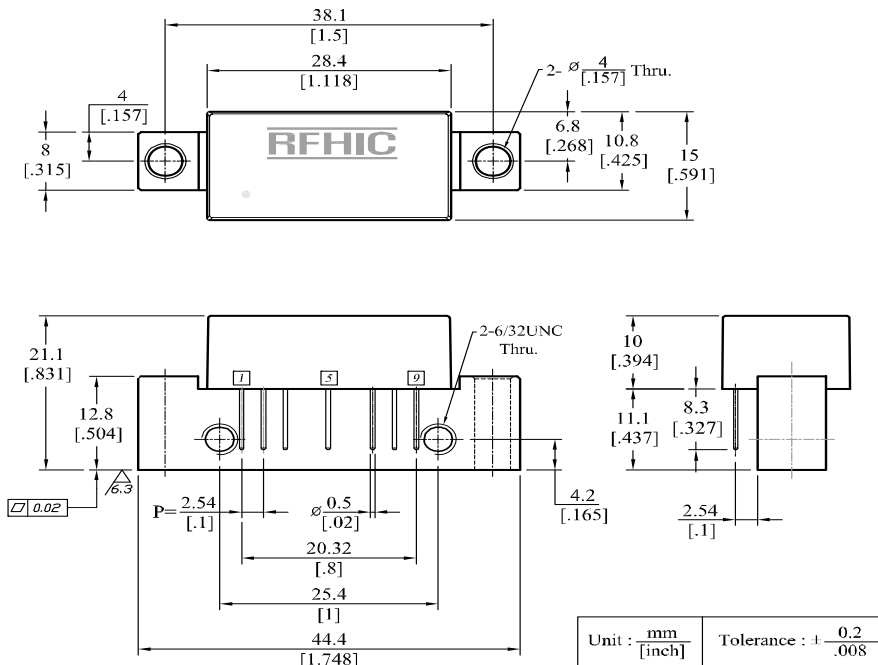


APPLICATIONS



- 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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