Q/V/W Band RF Amplifier
71GHz ~ 76GHz

Note: The photo is for illustration purposes only.
Please refer to the outline drawing.

Features

- Gain: 35dB Typical
- Noise Figure: 7dB Typical
- P1dB Output Power: +25dBm Typical
- Supply Voltage: +5V

Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Test and Measurement

Electrical Specifications, TA = +25℃, Vcc = +5V

Parameter	Min.	Typ.	Max.	Units
Frequency Range	71		76	GHz
Gain	32	35		dB
Gain Flatness		±1.5		dB
Gain Variation Over Temperature (-40℃~+85℃)		±2.5		dB
Noise Figure		7		dB
Input VSWR		2.0		:1
Output VSWR		2.0		:1
Output 1dB Compression Point (P1dB)	22	25		dBm
Saturated Output Power (Psat)		26		dBm
Output Third Order Intercept (OIP3)		30		dBm
Supply Current (Vcc=+5V)		600	800	mA
Isolation S12		-60		dB
Weight	/			Ounces
Impedance	50			Ohms
Input / Output Connectors	WR12			
Finish	Gold Plated			
Material	Aluminum			
Package Sealing	Epoxy Sealed (Standard)			
	Hermetically Sealed (Optional)			

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Absolute Maximum Ratings

Operating Voltage	+6V
RF Input Power	-5dBm

Biasing Up Procedure

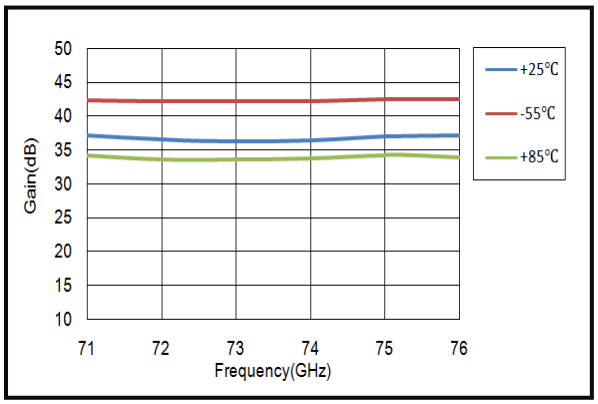
Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +5V biasing
Power OFF Procedure	
Step 1	Turn off +5V biasing
Step 2	Remove RF connection
Step 3	Remove Ground.

Environmental Specifications and Test Standards

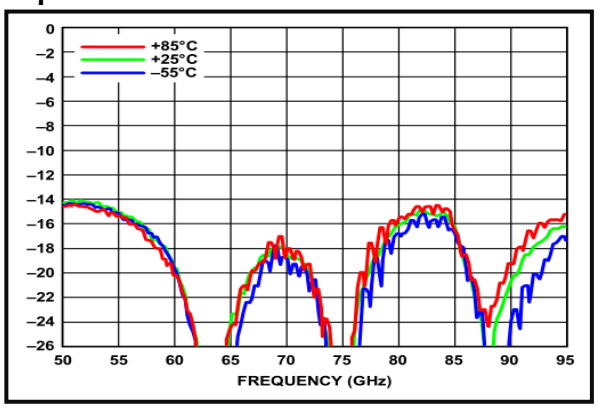
Parameter	Description
Operational Temperature	-40℃~+85℃ (Case Temperature)
Storage Temperature	-50℃~+105℃
Thermal Shock	-40℃ → +85℃ (5 Cycles / 10 hours)
Random Vibration	MIL-STD-202G Table 214-I, Test Condition Letter C 1.5 Hours Per Axis
High Temperature Burn In	Temperature +85℃ for 72 Hours
Shock	1. Weight >20g, 50g half sine wave for 11ms, Speed variation 3.44m/s 2. Weight <=20g, 100g Half sine wave for 6ms, Speed variation 3.75m/s 3. Total 18 times (6 directions, 3 repetitions per direction).
Altitude	Standard: 30,000 Ft (Epoxy Sealed Controlled Environment) Optional: Hermetically Sealed (60,000 ft. 1.0 PSI min)
Hermetically Sealed (Optional)	MIL-STD-883 (For Hermetically Sealed Units)

Typical Performance Plots

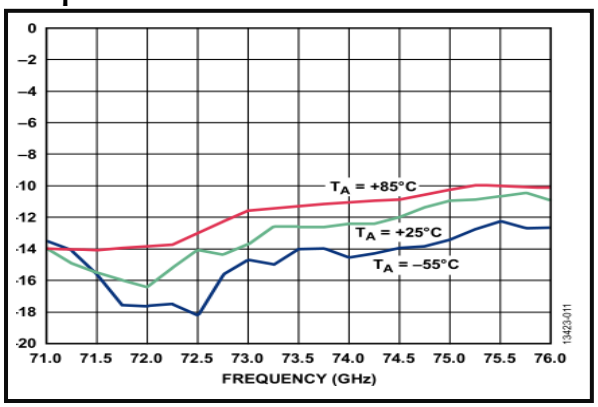
Gain



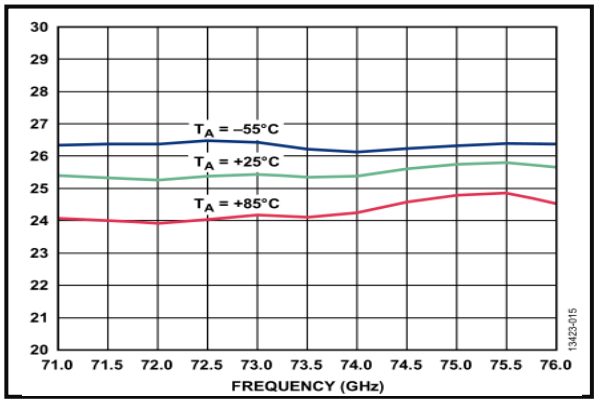
Input Return loss



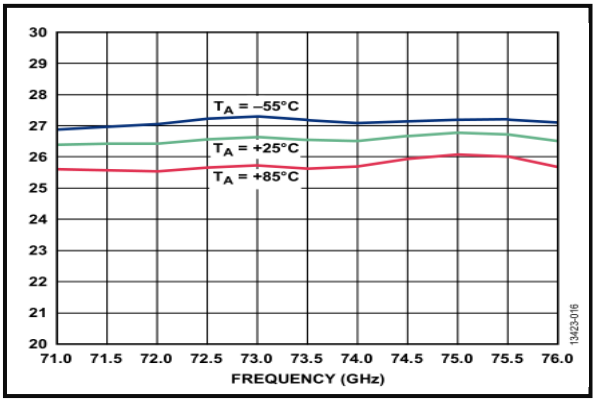
Output Return loss



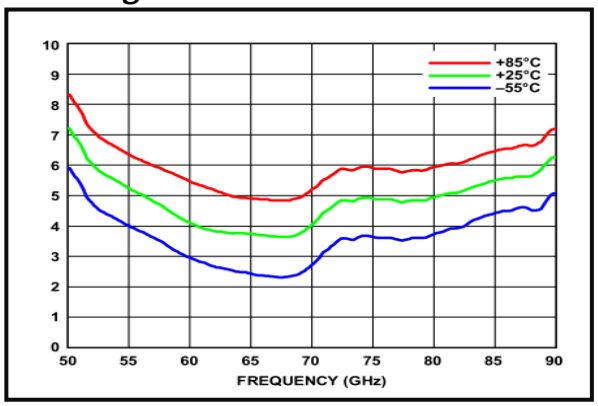
P1dB vs. Frequency



Psat



Noise Figure



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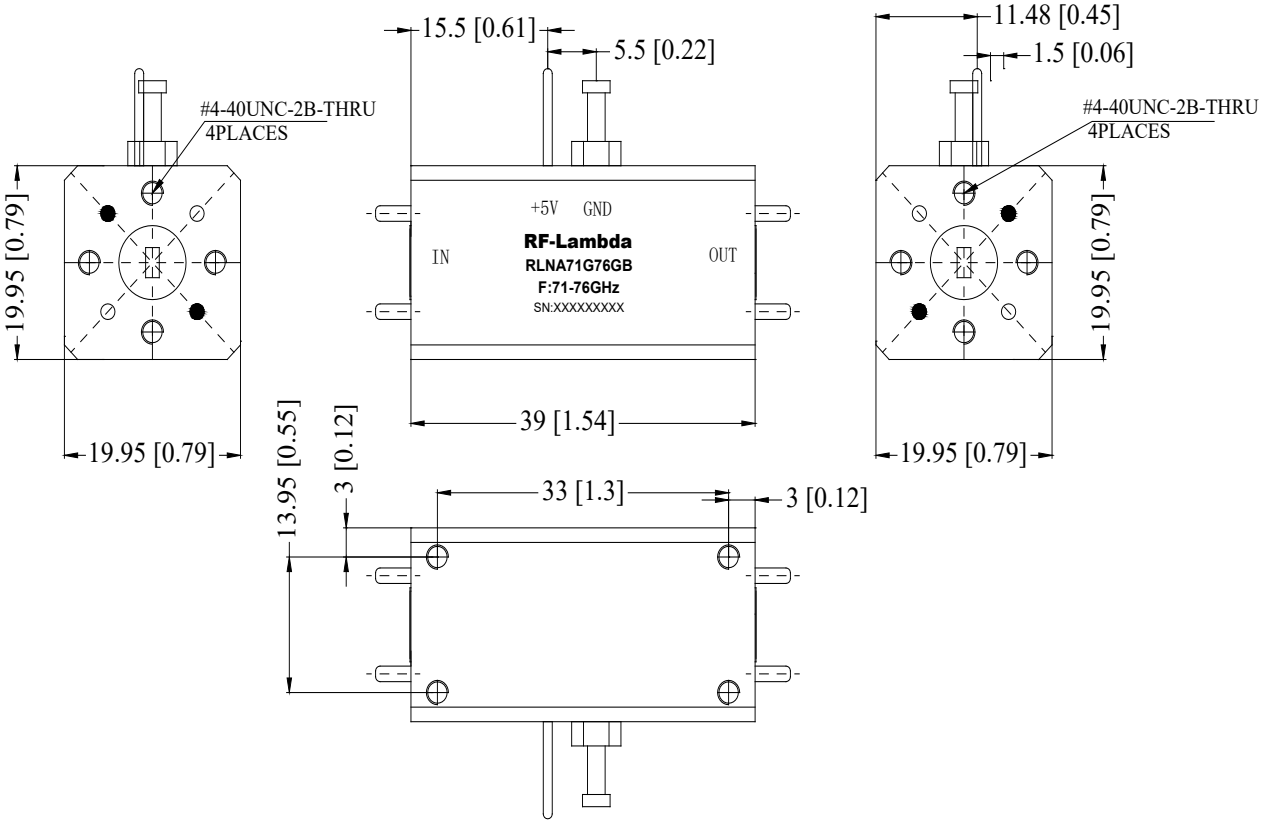
Outline Drawing:

All Dimensions in mm [inches]
Housing Tolerances ± 0.1 [0.004]



Preliminary Package Design

Heat Sink required during operation (Sold Separately)

Ordering Information

Part No.	Description
RLNA71G76GB	71 ~ 76GHz Q/V/W Band RF Amplifier

Important Notice

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