QOTANA TECHNOLOGIES

Wide Band Low Noise Amplifier 14GHz~27GHz

Features

- Gain: 20dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +15dB m Typical
- Supply Voltage: +4V @ 90mA
- 50 Ohm Matched Input / Output
- Size: 0.63” x 0.59” x 0.41”



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Units
Frequency Range	14		27	GHz
Gain	17	20		dB
Gain Flatness		±1.5		dB
Gain Variation Over Temperature(-45 ~ +85)		±0.8	±1.0	dB
Noise Figure		2.0	2.8	dB
Input VSWR		1.5	2.0	: 1
Output VSWR		1.7	2.0	: 1
Output 1dB Compression Point (P1dB)	14	15		dBm
Saturated Output Power (Psat)		17		dBm
Output Third Order Intercept (IP3)		26		dBm
Supply Current (Vdd=+4V, Vgg=-5V)		90	150	mA
Isolation S12		-38		dB

Weight	1.06 ounces	Impedance	50ohms
Input / Output Connectors	2.92mm-Female	Material	copper
Finish	Standard: Gold 40 micron; Nickel 220 micron thickness	Package Sealing	Epoxy Sealing (Standard)
	Option: Gold 80 micron; Nickel 180 micron thickness		Hermetically Sealed (Option with extra charge)

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Absolute Maximum Ratings

Operating Voltage	+4.5V
RF Input Power(+4V)	-2dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
step 3	Connect -5V biasing
Step 4	Connect +4V biasing

Power OFF Procedure

Step 1	Turn off +4V biasing
step 2	Turn off -5V biasing
Step 3	Remove RF connection
Step 4	Remove Ground.

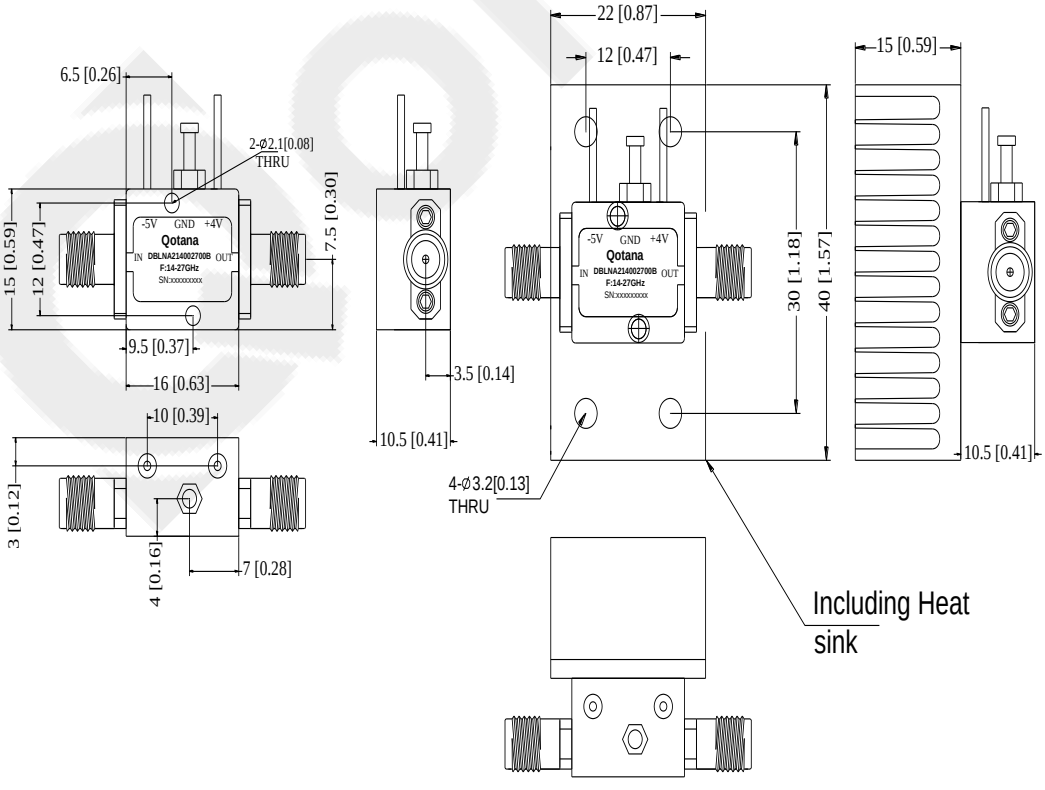
Environmental Specifications

Operational Temperature	-45ºC~+85ºC
Storage Temperature	-55ºC~+125ºC
Altitude	30,000 ft. (Epoxy Sealed Controlled environment)
	60,000 ft. 1.0psi min (Hermetically Sealed Un-controlled environment) (Optional)
Vibration	25g RMS (15 degrees 2KHz) endurance, 1 hour per axis
Humidity	100% RH at 35c, 95%RH at 40ºc
Shock	20G for 11msec half sine wave,3 axis both directions

Outline Drawing:

All Dimensions in mm (inches)

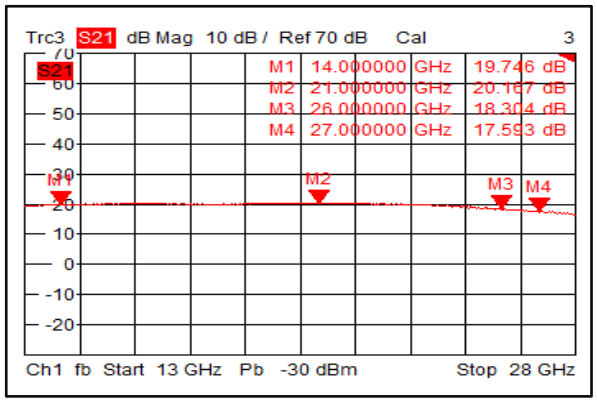
Heat Sink required during operation(Sold Seperately)



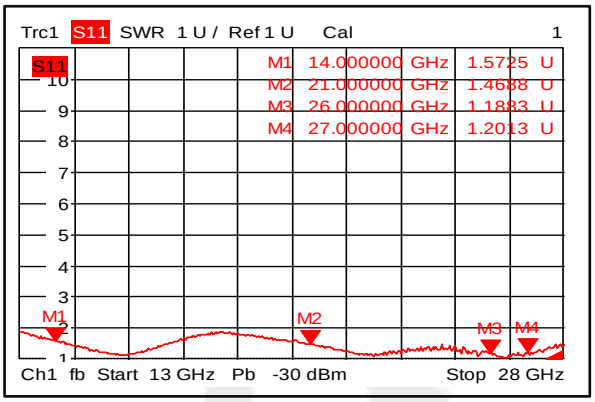
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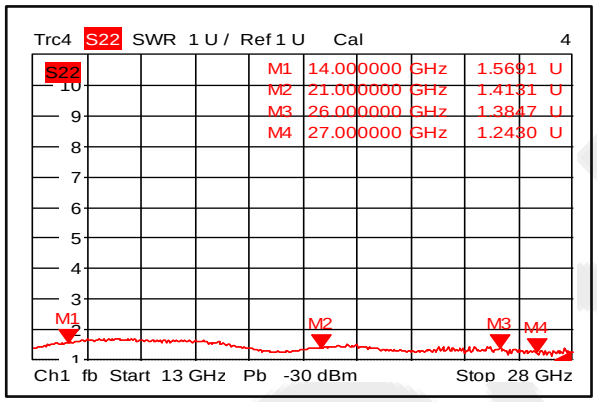
Gain @ +25℃



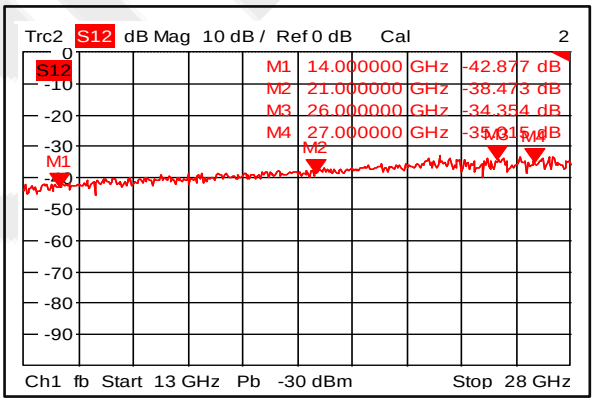
Input VSWR @ +25℃



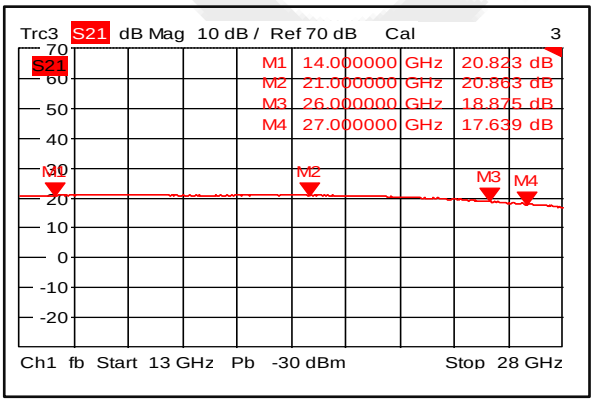
Output VSWR @ +25℃



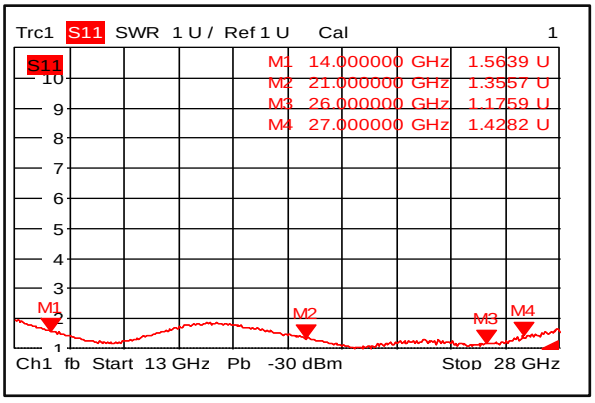
Isolation @ +25℃



Gain @ -45℃



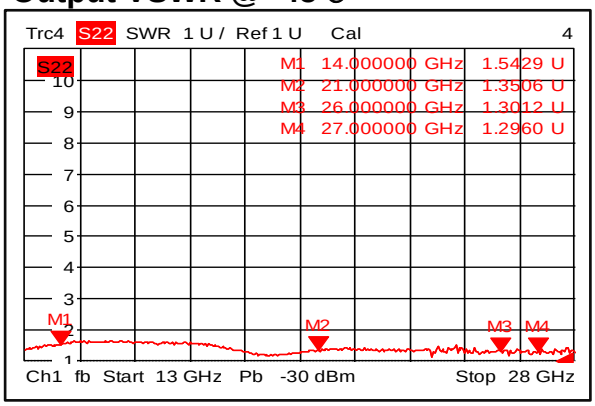
Input VSWR @ -45℃



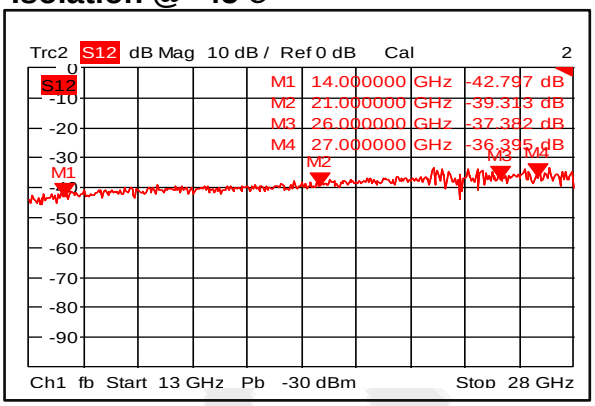
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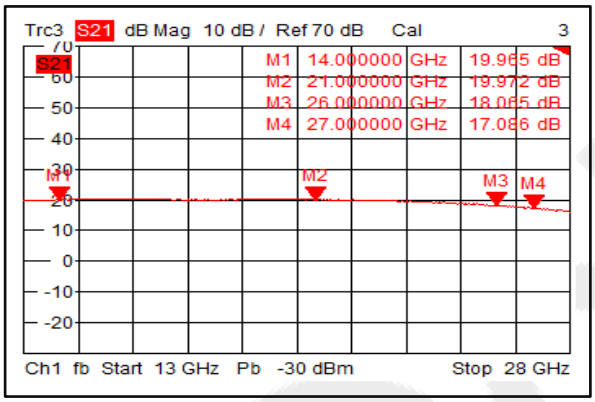
Output VSWR @ -45℃



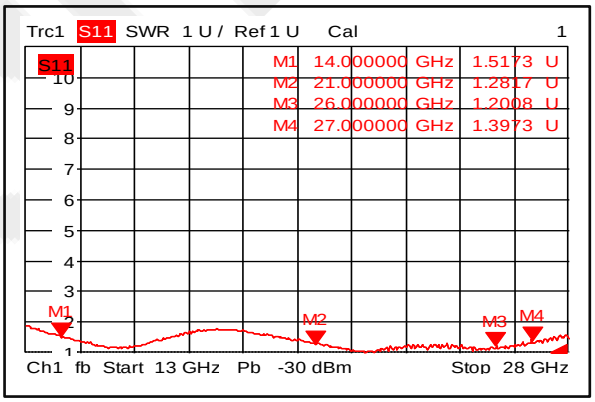
Isolation @ -45℃



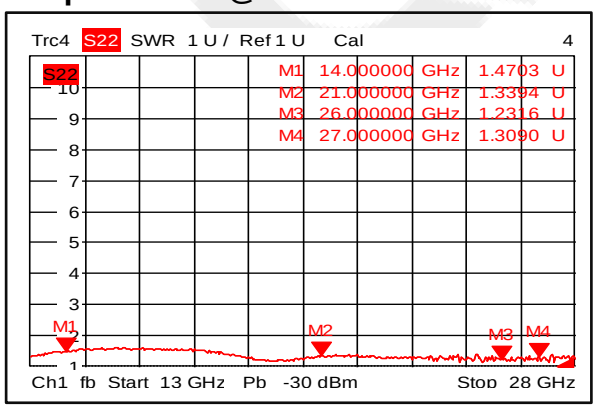
Gain @ +85℃



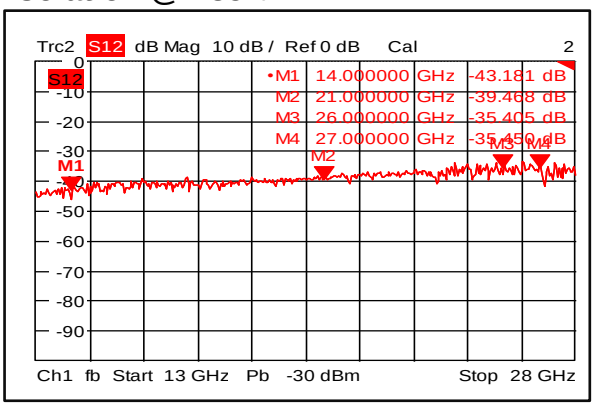
Input VSWR @ +85℃



Output VSWR @ +85℃

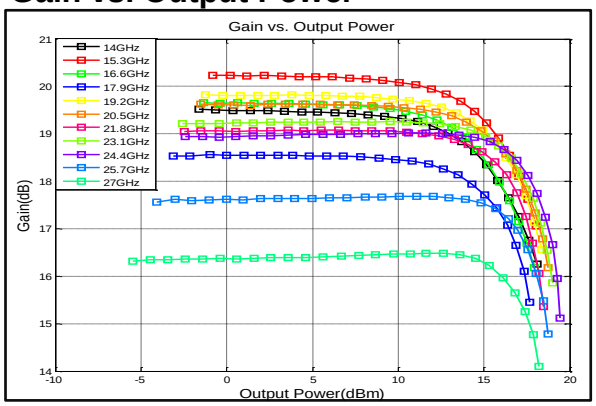


Isolation @ +85℃

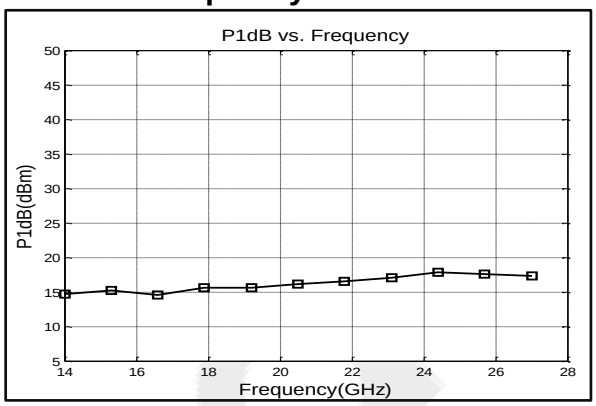


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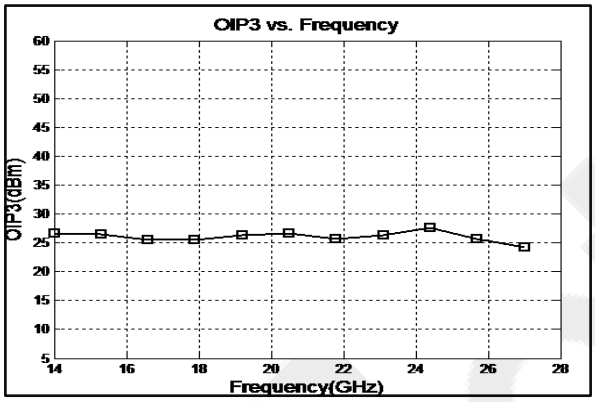
Gain vs. Output Power



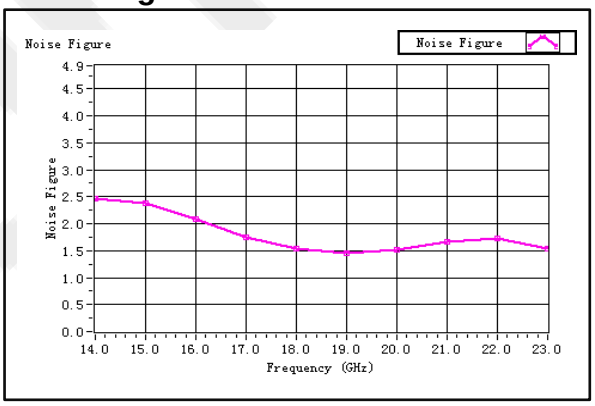
P1dB vs. Frequency



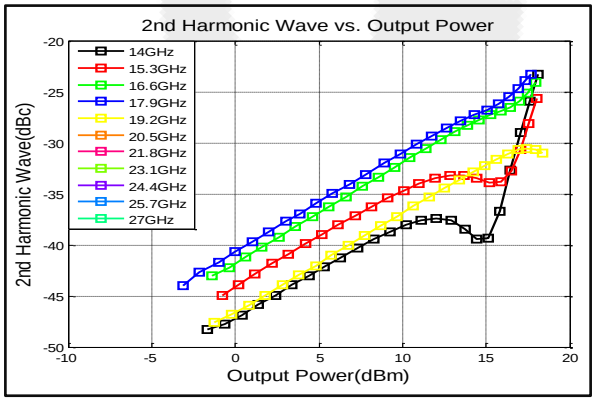
Output Third Order Intercept (IP3)



Noise Figure



2nd Harmonic Wave Output Power



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