QOTANA TECHNOLOGIES

Ultra Wide Band Low Noise Amplifier 0.5GHz~12GHz

Features

- Gain: 34dB Typical
- Noise Figure: 2.2dB Typical
- P1dB Output Power: +15dBm Typical
- Supply Voltage: +12V



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.5		12	GHz
Gain	29	34		dB
Gain Flatness		±2.0	±3.0	dB
Gain Variation Over Temperature (-45ºC ~ +85ºC)		±1.5		dB
Noise Figure		2.2	3.5	dB
Input VSWR		2.5	3.5	:1
Output VSWR		2.5	3.5	:1
Output 1dB Compression Point (P1dB)	12	15		dBm
Saturated Output Power (Psat)		16		dBm
Output Third Order Intercept (IP3)		23		dBm
Isolation S12		-55		dB
Supply Current (Vcc=+12V)		120	200	mA

Weight	0.71ounces	Impedance	50ohms
Input / Output Connectors	SMA-Female	Material	Aluminum
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	+15V
RF Input Power (RFIN)	-15dBm

Biasing Up Procedure

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +12V biasing

Power OFF Procedure

Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

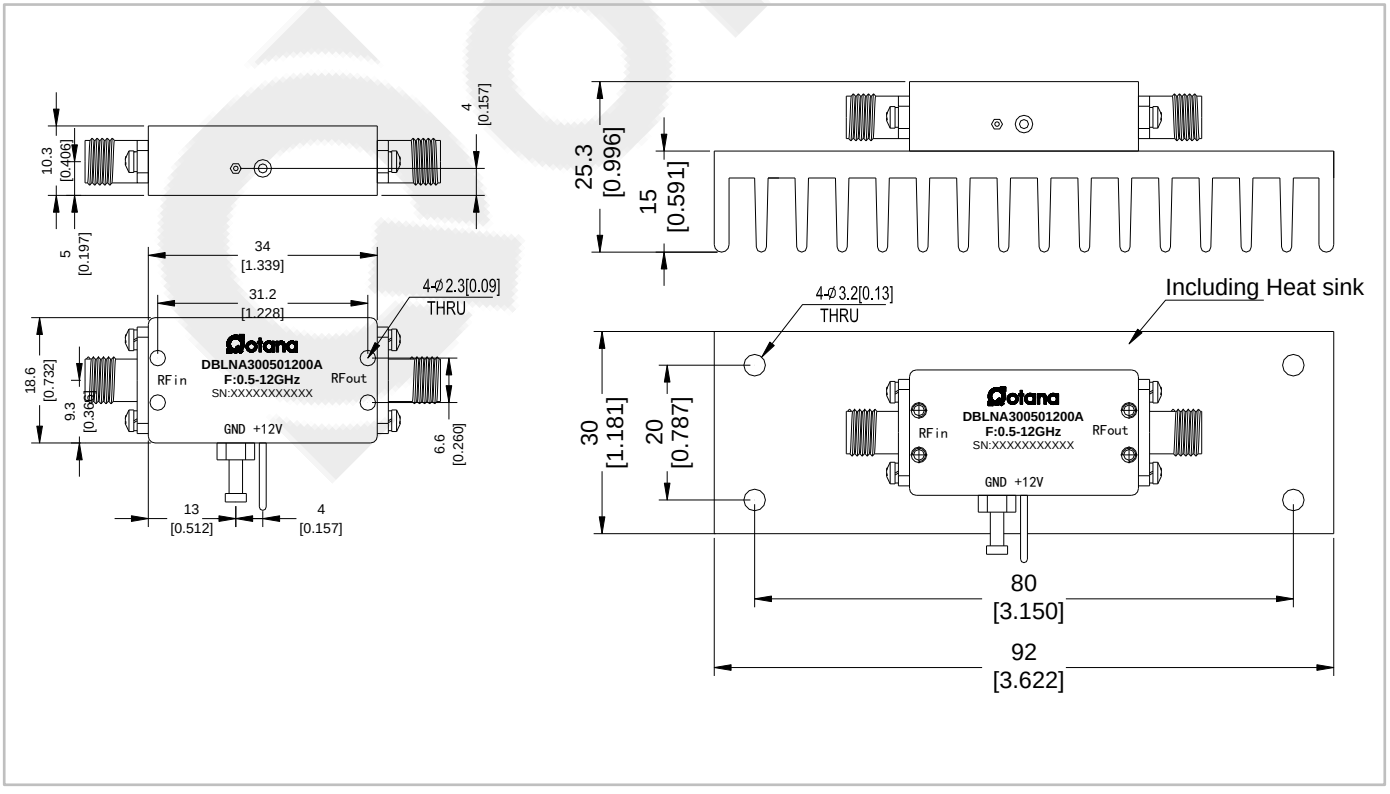
Environmental Specifications

Operational Temperature	-25ºC~+70ºC
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)

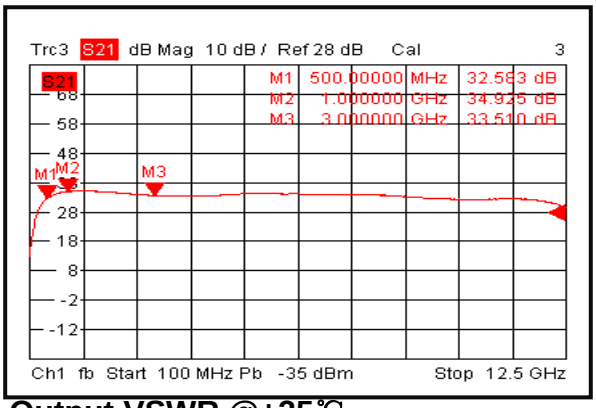


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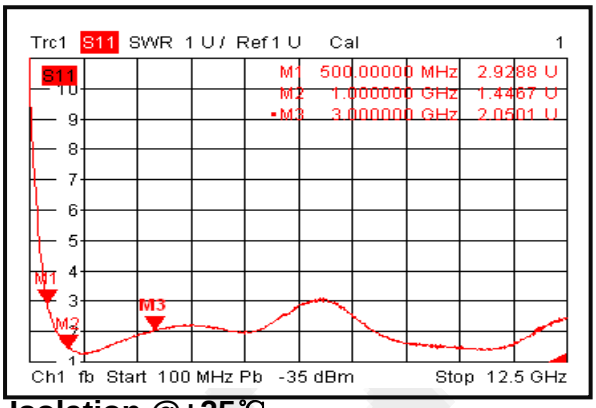
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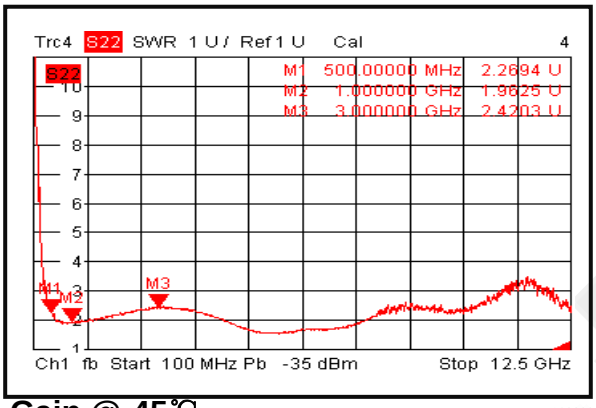
Gain @+25℃



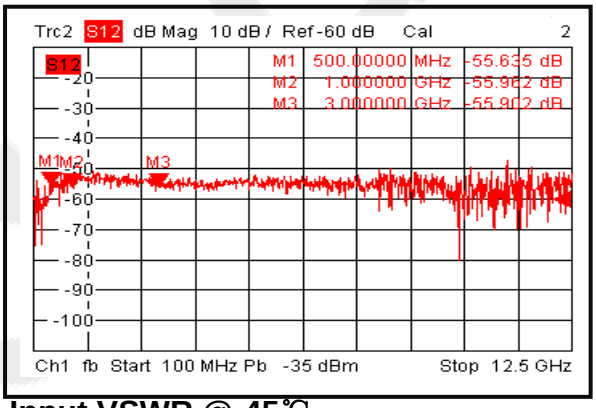
Input VSWR @+25℃



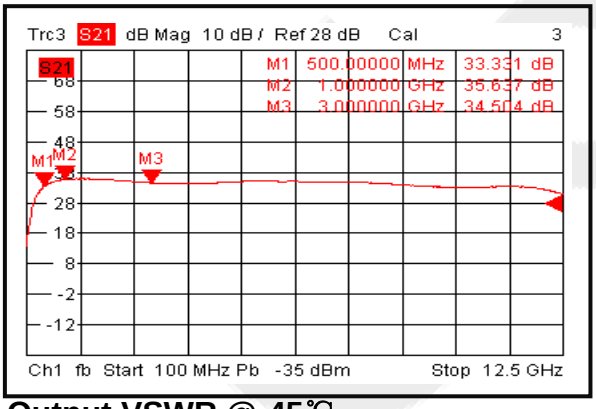
Output VSWR @+25℃



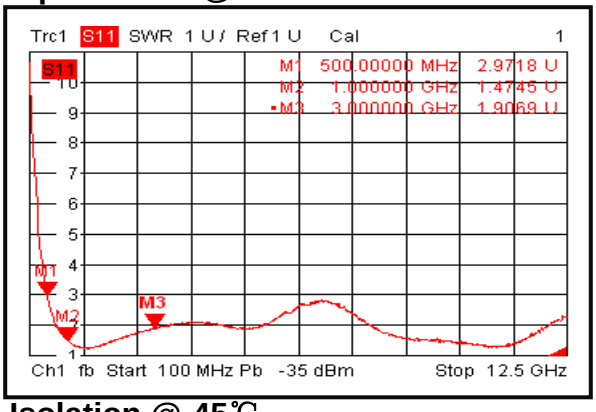
Isolation @+25℃



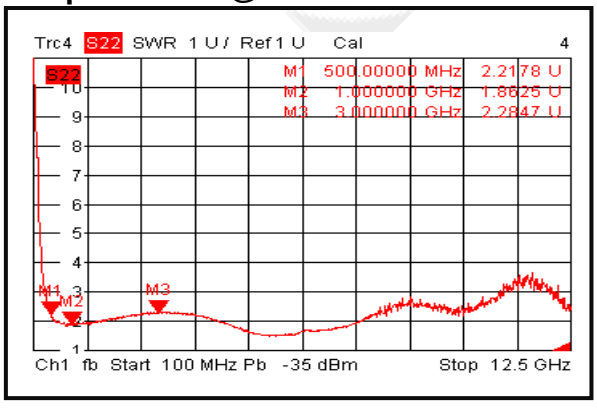
Gain @-45℃



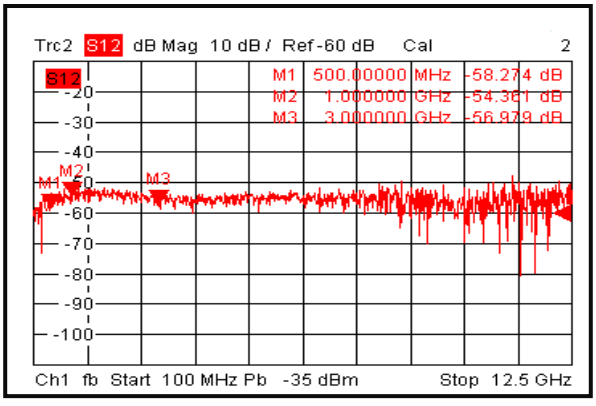
Input VSWR @-45℃



Output VSWR @-45℃



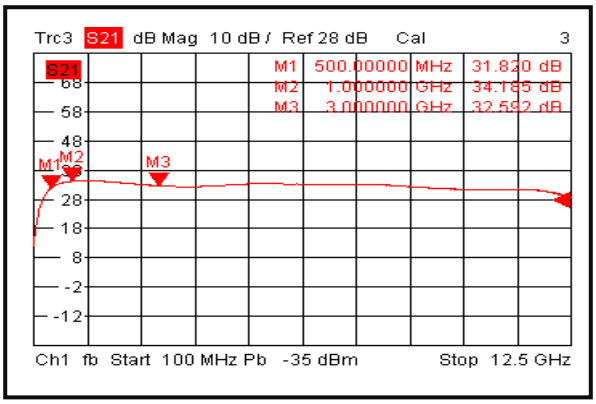
Isolation @-45℃



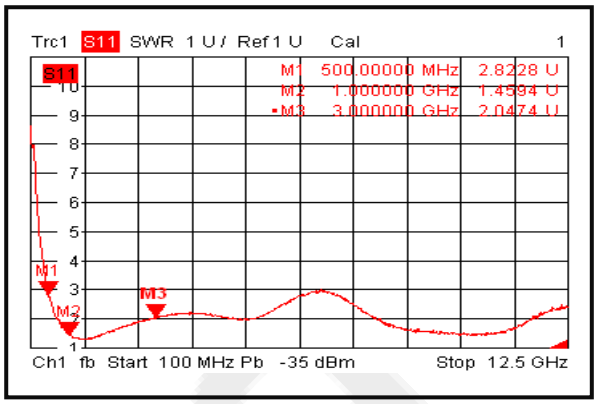
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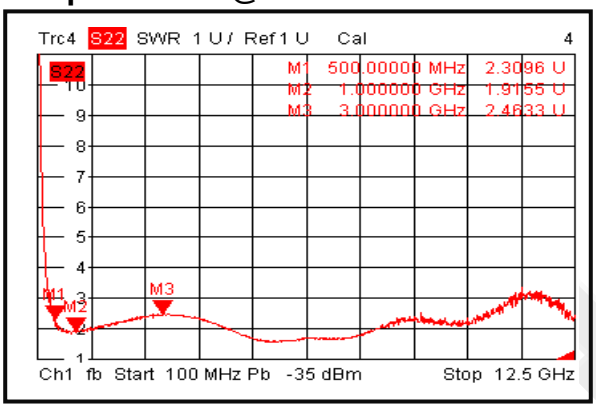
Gain @+85℃



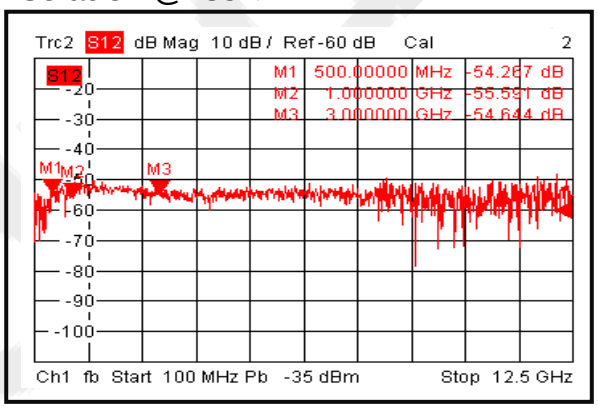
Input VSWR @+85℃



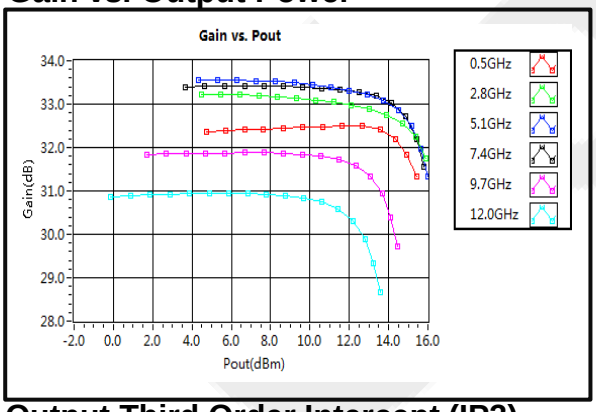
Output VSWR @+85℃



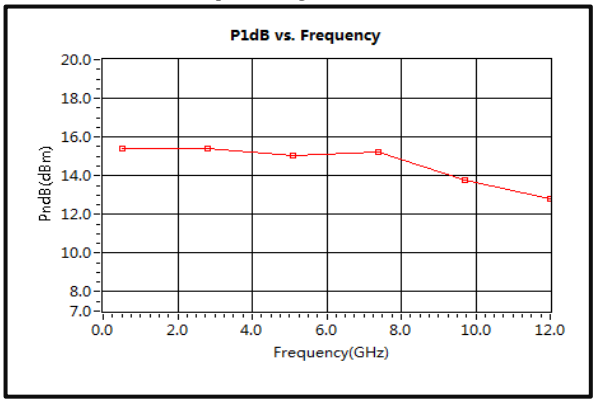
Isolation @+85℃



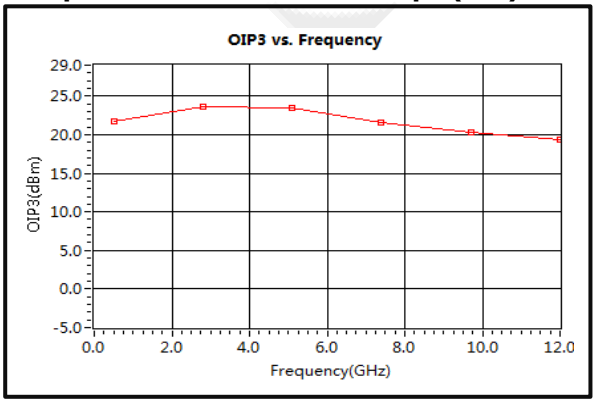
Gain vs. Output Power



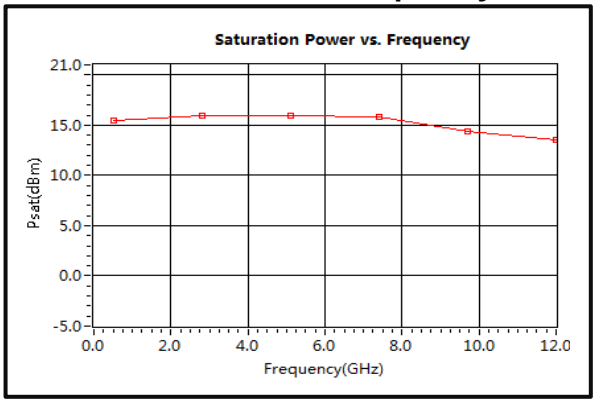
P1dB vs. Frequency



Output Third Order Intercept (IP3)



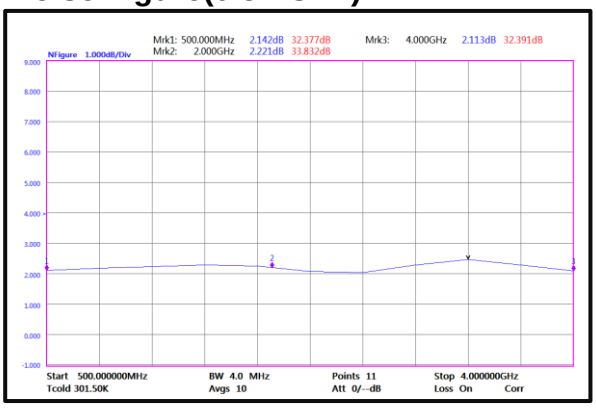
Saturation Power vs. Frequency



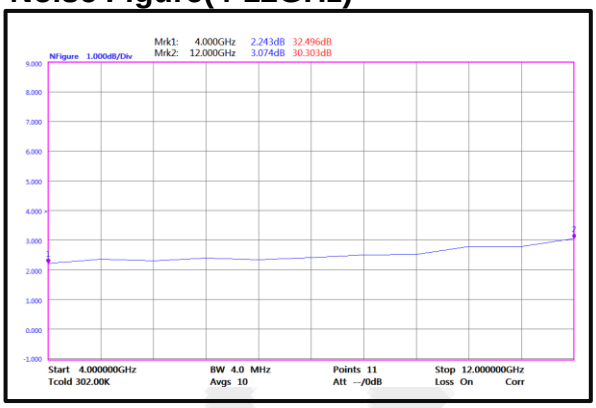
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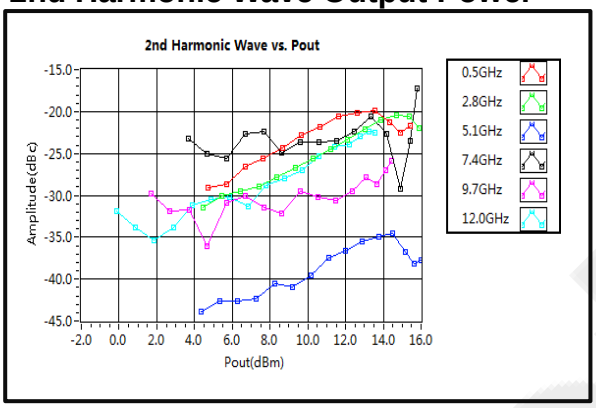
Noise Figure(0.5-4GHz)



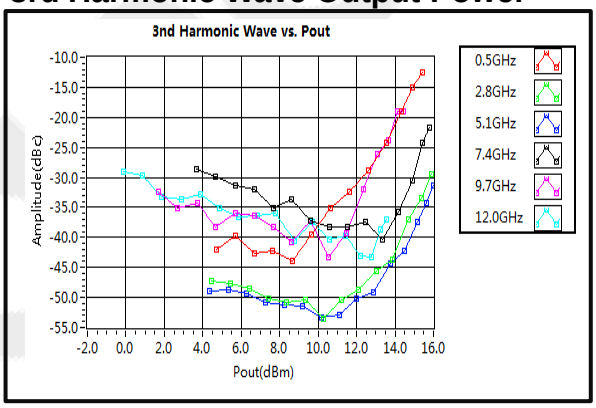
Noise Figure(4-12GHz)



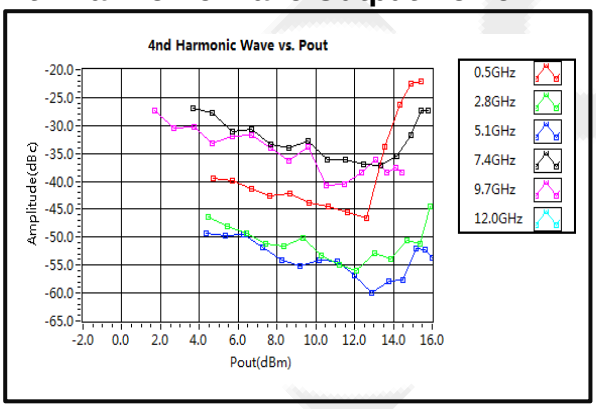
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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