P/N:DBLNA201001200B

QOTANA TECHNOLOGIES Ultra Wide Band Low Noise Amplifier 1GHz~12GHz

Features

- Gain: 17dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +18dBm Typical
- Supply Voltage: +5V



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameters	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	1		6	6		12	GHz
Gain	15	17		14	16		dB
Gain Flatness		±0.8			±0.8		dB
Gain Variation Over Temperature (-45℃~+85℃)		±0.6			±0.6		dB
Noise Figure		1.6	2.2		2.0	2.5	dB
Input VSWR		1.5			1.6		: 1
Output VSWR		1.4			1.4		: 1
Output 1dB Compression Point (P1dB)	15	18		12	16		dBm
Saturated Output Power (Psat)		19			15		dBm
Output Third Order Intercept (IP3)		23			27		dBm
Supply Current (Vdd=+5V)		70	85		70	85	mA
Isolation S12		-25			-27		dB

Weight	0.35ounces	Impedance	50ohms
Input /Output Connectors	SMA-Female	Material	Aluminum
Finishing	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	+5.5V
RF Input Power (RFIN)	+12dBm

Biasing Up Procedure

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

Power OFF Procedure

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

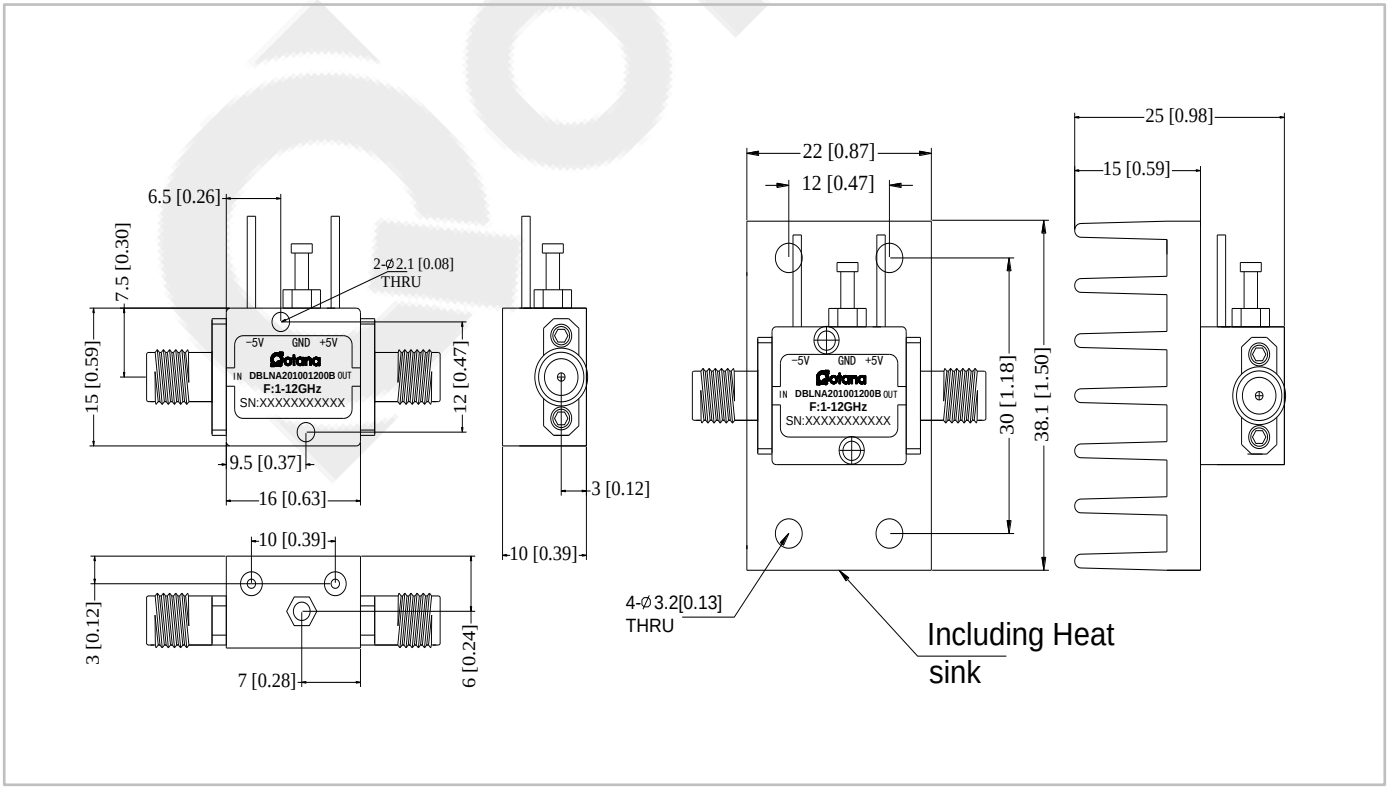
Environmental Specifications

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)

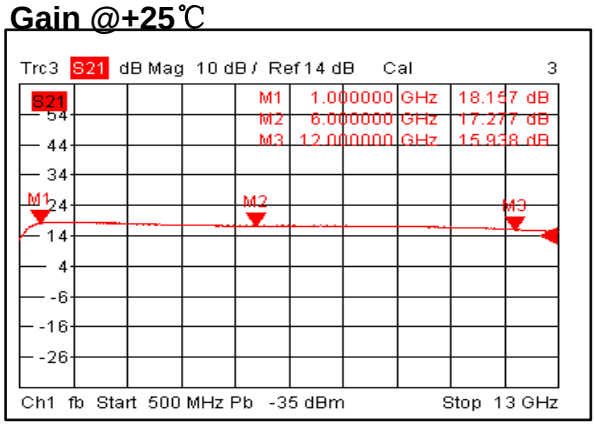
Heat Sink required during operation(Sold Seperately)



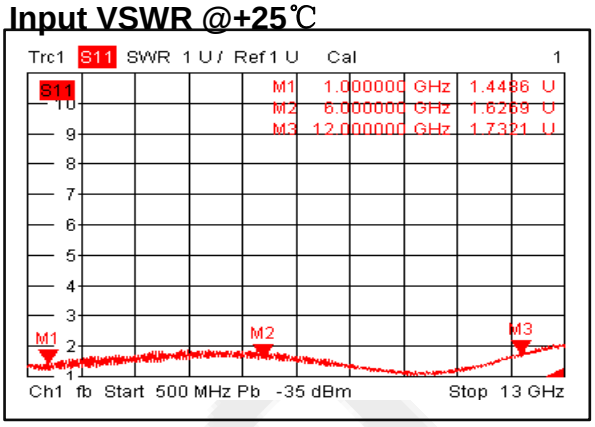
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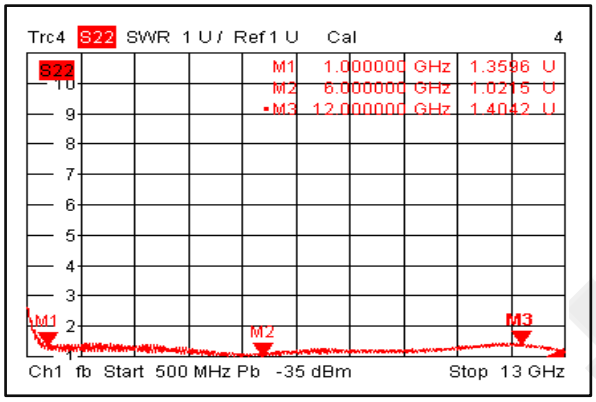
Gain @+25℃



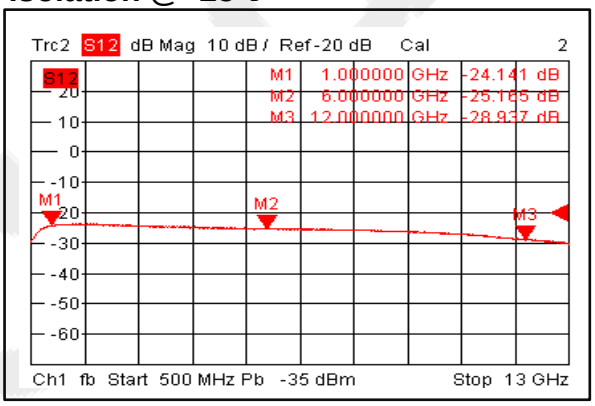
Input VSWR @+25℃



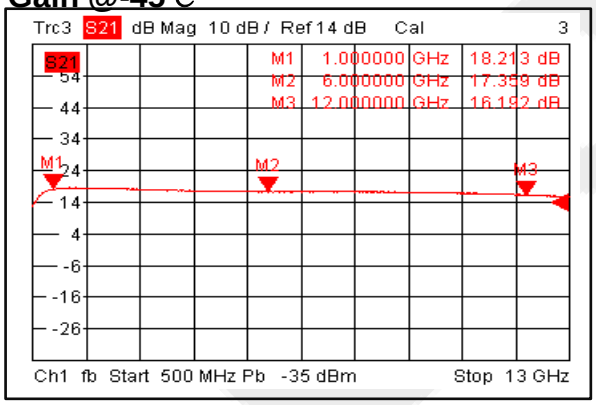
Output VSWR @+25℃



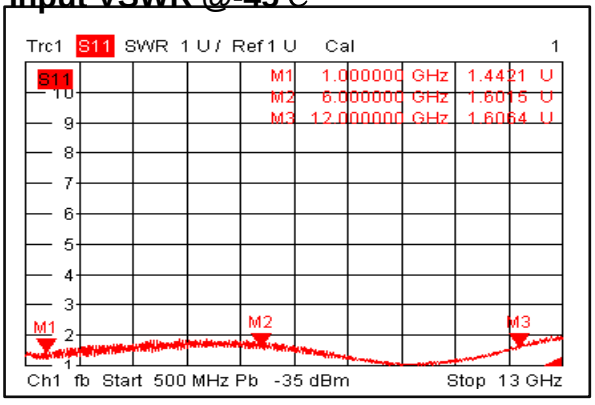
Isolation @+25℃



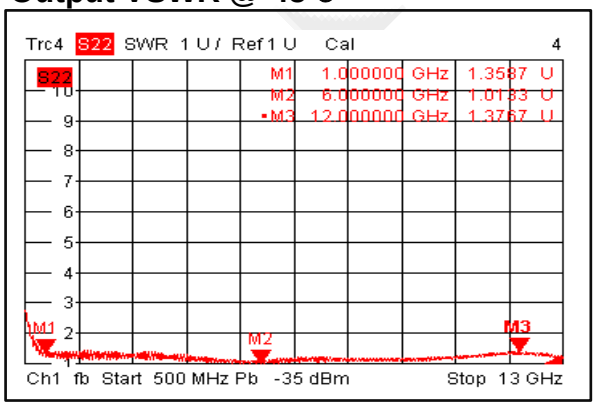
Gain @-45℃



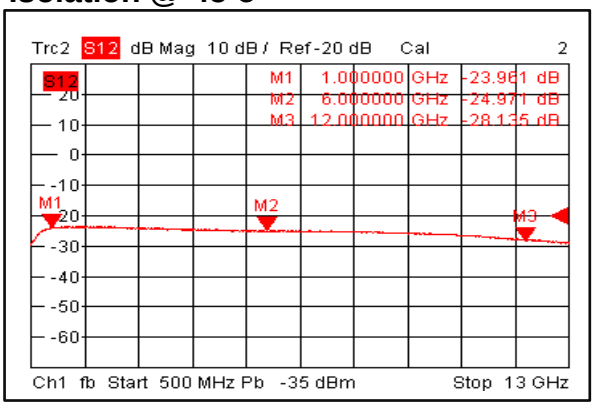
Input VSWR @-45℃



Output VSWR @-45℃



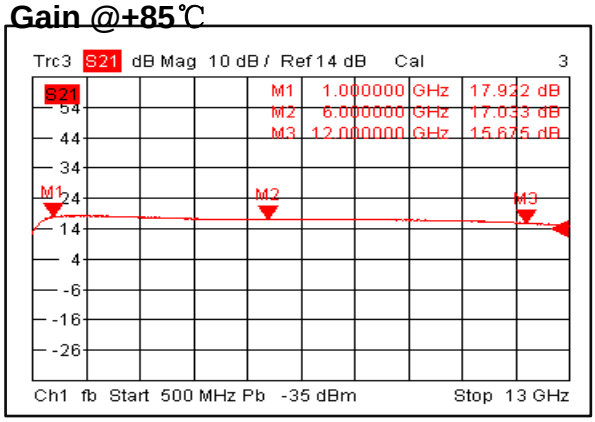
Isolation @-45℃



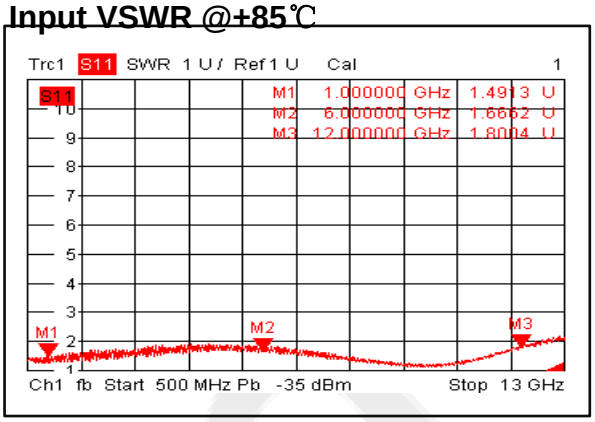
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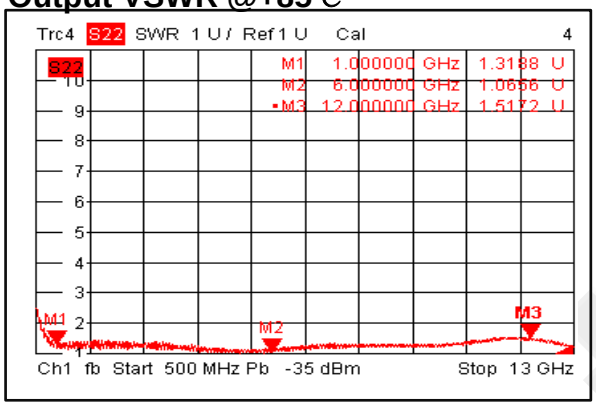
Gain @+85℃



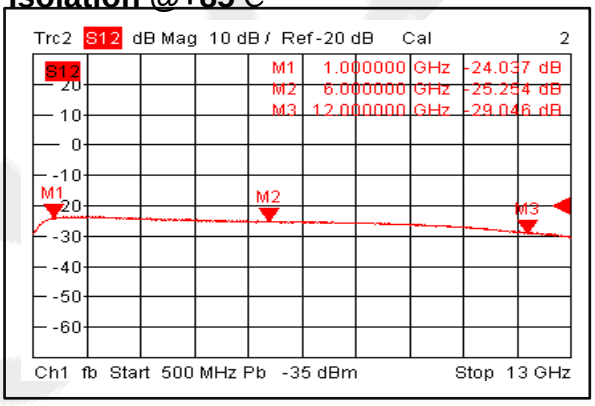
Input VSWR @+85℃



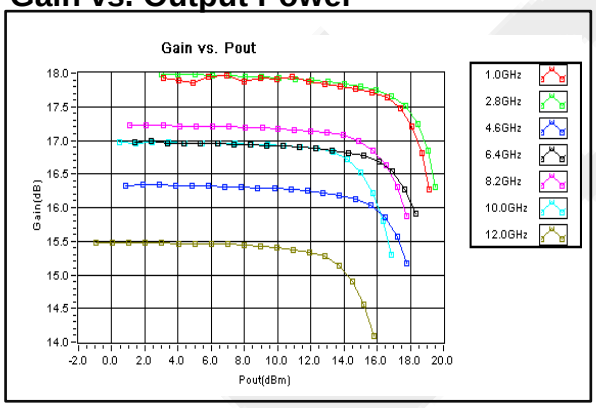
Output VSWR @+85℃



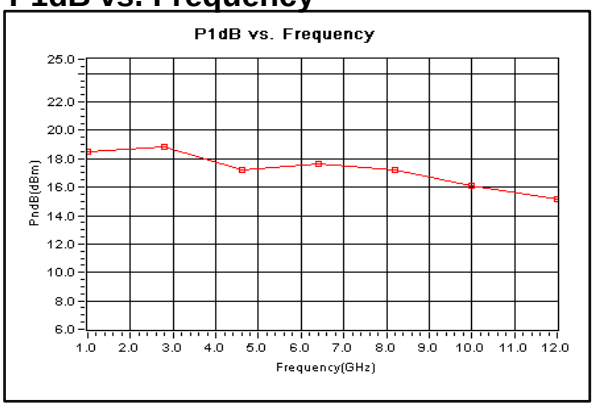
Isolation @+85℃



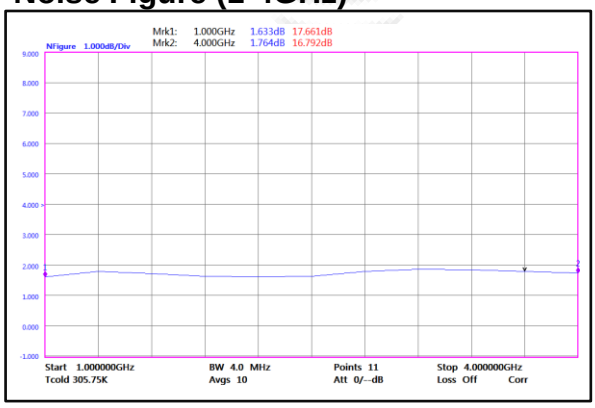
Gain vs. Output Power



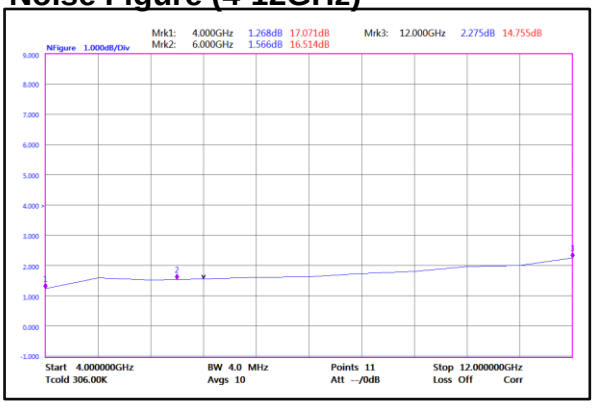
P1dB vs. Frequency



Noise Figure (1-4GHz)

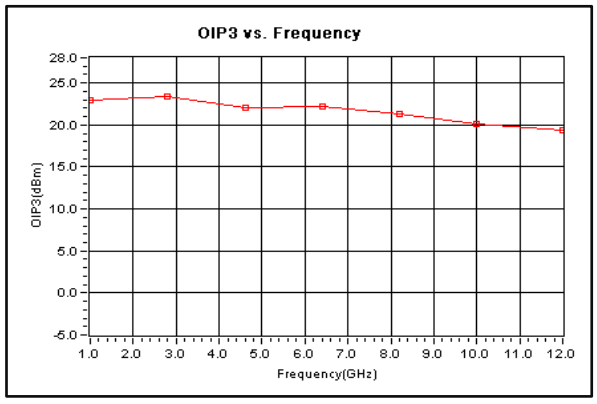


Noise Figure (4-12GHz)

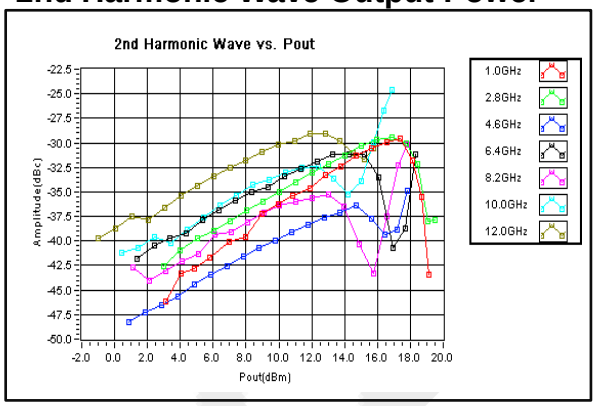


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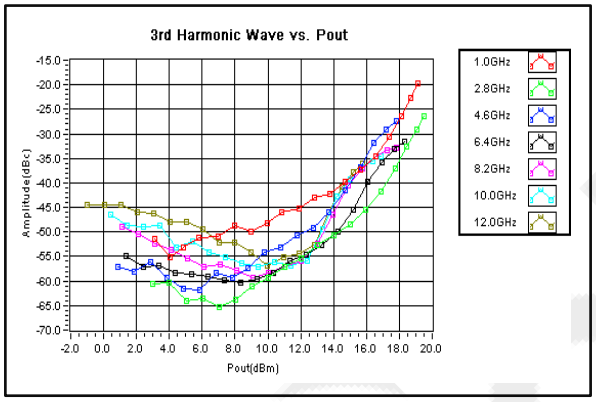
Output Third Order Intercept (IP3)



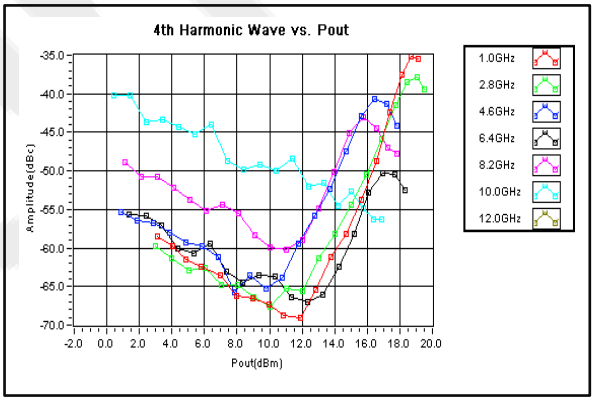
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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