P/N:DBLNA205002000A

QOTANA TECHNOLOGIES

Low Noise Amplifier 5GHz~20GHz

Features

- Gain: 13dB Typical
- Noise Figure: 2.0dB Typical
- P1dB Output Power: +15dBm Typical
- Supply Voltage: +5V @ 30mA
- 50 Ohm Matched Input / Output
- Size: 0.63” x 0.59” x 0.39”



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	5		12	12		20	GHz
Gain	12	13		10	12		dB
Gain Flatness		±0.5	±1.0		±1.0	±1.5	dB
Gain Variation Over Temperature(-45 to +85)		±1.0			±1.0		dB
Noise Figure		2.0	3.0		2.0	3.0	dB
Input VSWR		3.5			3.0		: 1
Output VSWR		1.6	2.2		1.6	2.2	: 1
Output 1dB Compression Point (P1dB)	13	15		13	15		dBm
Saturated Output Power (Psat)		17			17		dBm
Output Third Order Intercept (IP3)		26			26		dBm
Supply Current (Idd) (Vdd=+5V)		30	50		30	50	mA
Isolation S12		-23			-23		dB

Weight	0.35ounces	Impedance	50ohms
Input /Output Connector	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 Seal (Option with extra charge)

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Absolute Maximum Ratings

Operating Voltage	+5.5V
RF Input Power (RFIN)	+15dBm

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.

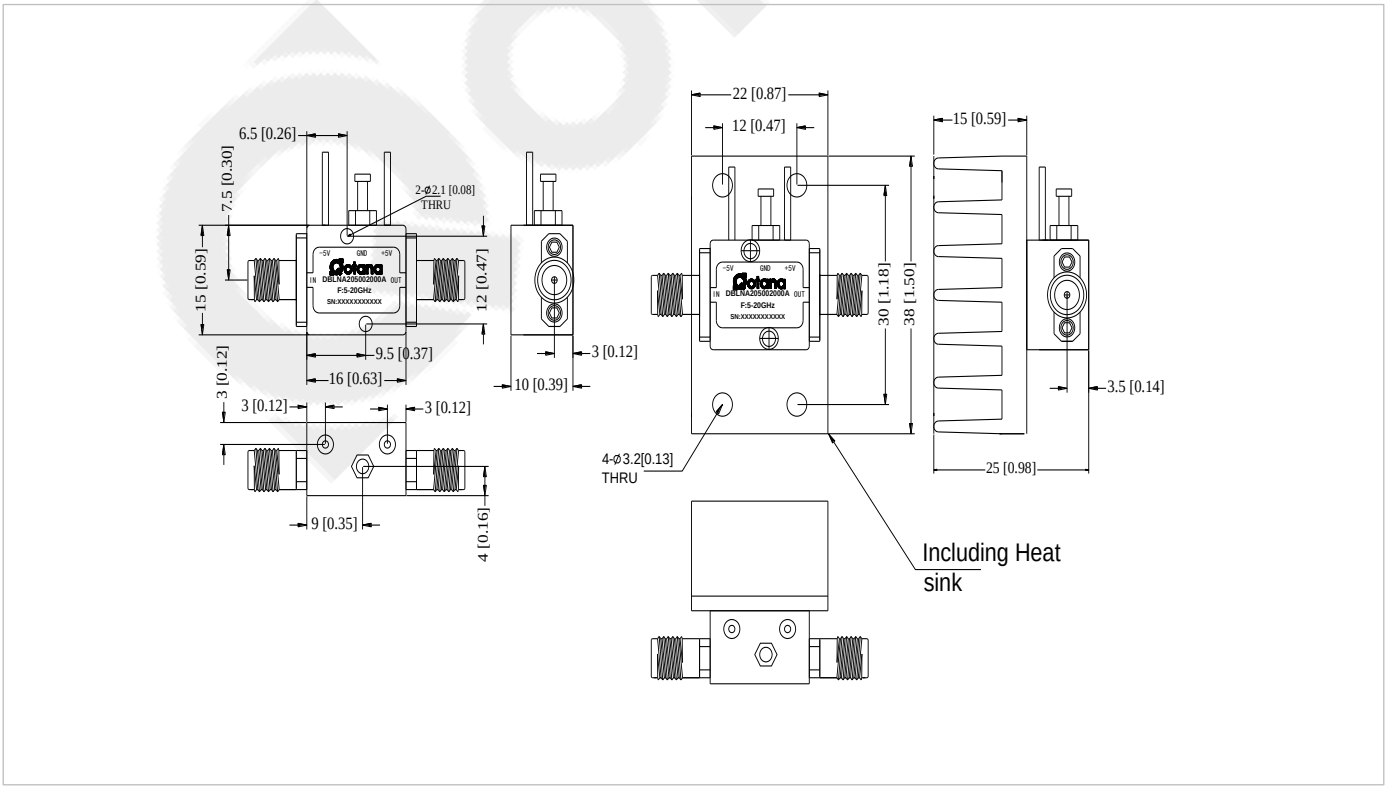
Environmental Specifications

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)

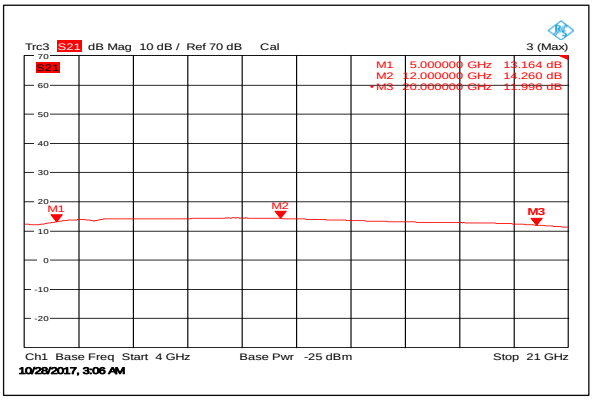
Heat Sink required during operation(Sold Seperately)



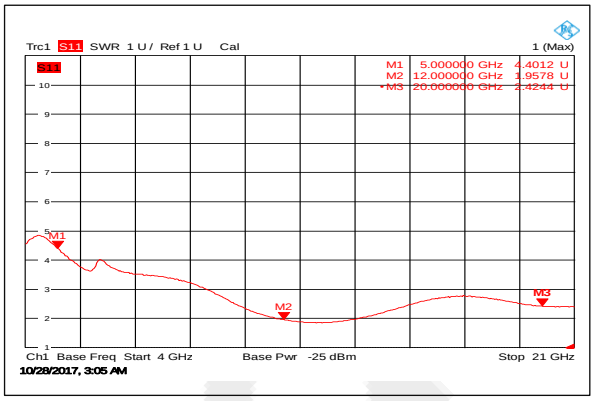
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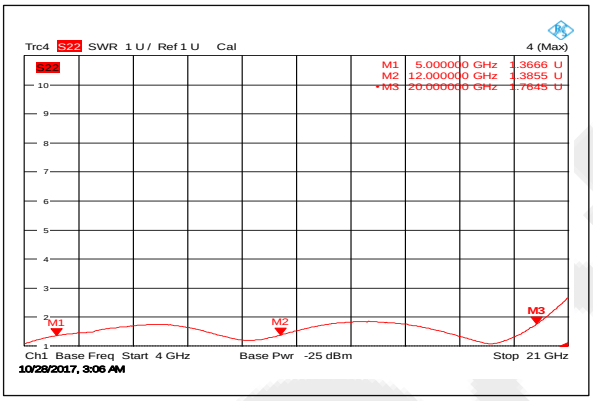
Gain



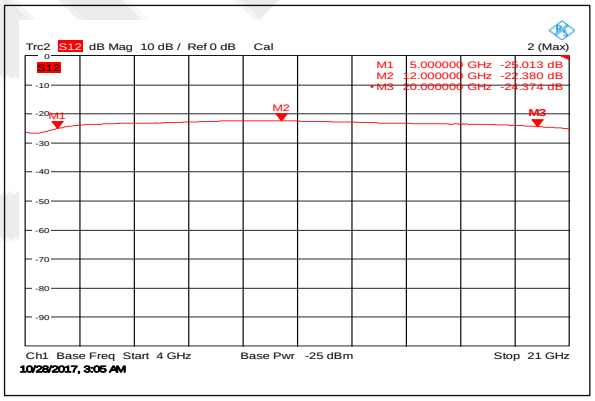
Input VSWR



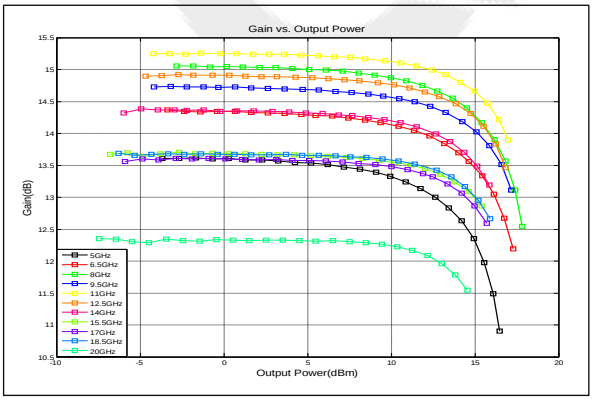
Output VSWR



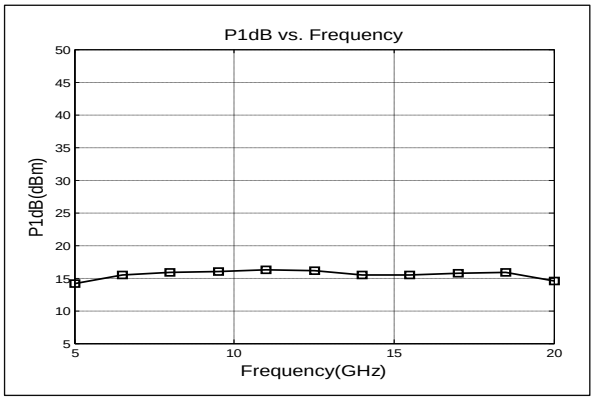
Isolation



Gain vs. Output Power



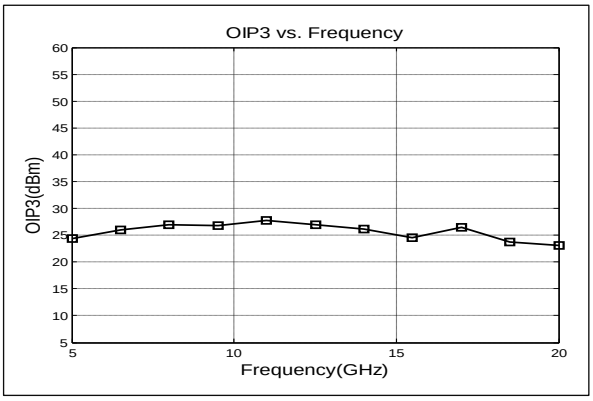
P1dB vs. Frequency



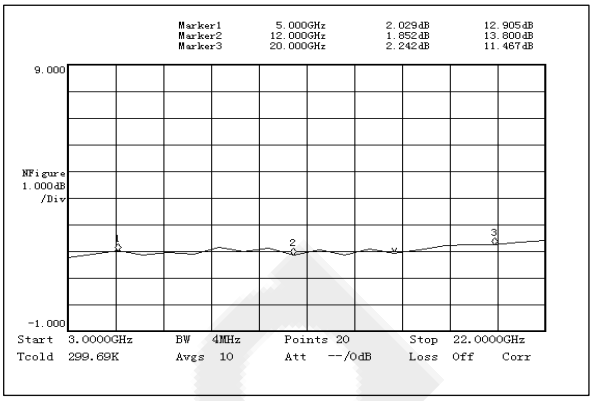
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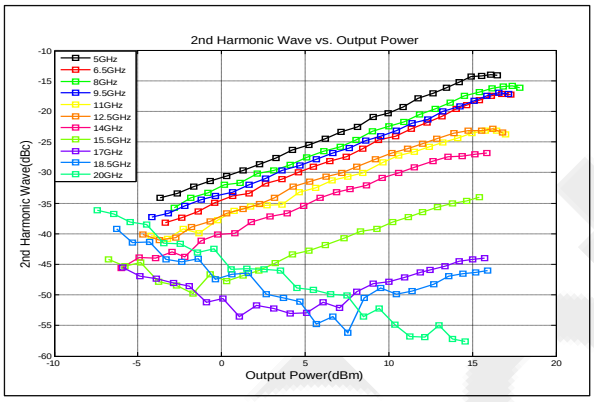
Output Third Order Intercept (IP3)



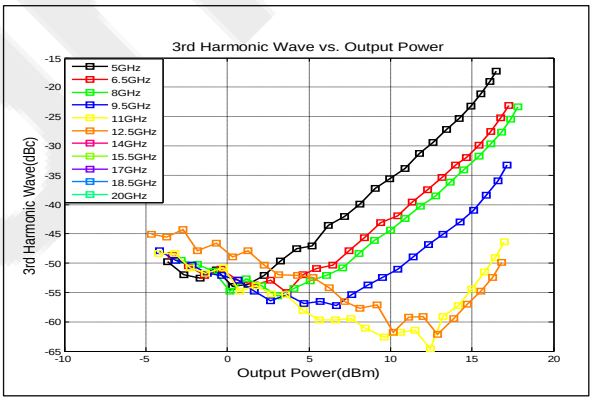
Noise Figure



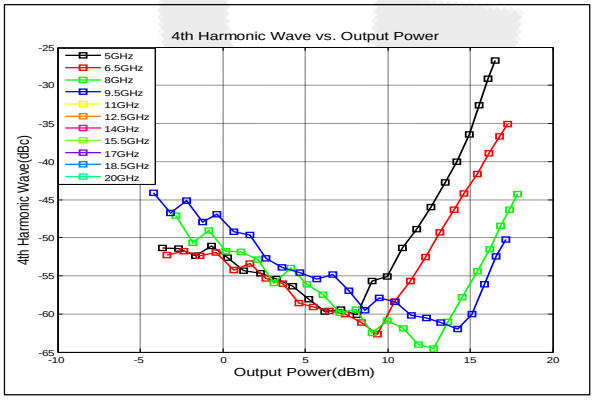
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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