P/N:DBLNA300054600A

QOTANA TECHNOLOGIES Ultra Wide Band Low Noise Amplifier 50MHz~46GHz

Features

- Gain: 29dB Typical
- Noise Figure: 3.0dB Typical
- P1dB Output Power: 21dBm Typical
- Supply Voltage: +12V @ 355mA
- 50 Ohm Matched Input / Output
- Size: 1.18” x 1.89” x0.39”



Typical Applications

- Wireless Infrastructure
- Military & Aerospace
- Fiber Optics

RF Microwave & VSAT
Test Instrument

Parameter	Min.	Typ.	Max.	Min.	Typ.	Max.	Min.	Typ.	Max.	Units
Frequency Range	0.05		6	6		40	40		46	GHz
Gain	27	29		20	25		18	23		dB
Gain Flatness		±2.0			±2.0			±2.0		dB
Gain Variation Over Temperature (-45 ~ +85)		±1.0			±1.0			±1.0		dB
Noise Figure		4.0			3.0			8.0		dB
Input VSWR		1.3	1.6		1.8			2.5		:1
Output VSWR		1.3	1.6		1.8			2.5		:1
Output Power for 1 dB Compression (P1dB)	21	23		15	18		13	15		dBm
Saturated Output Power (Psat)		25			20			18		dBm
Output Third Order Intercept (IP3)		31			28			25		dBm
Supply Current (Idd) (Vcc=+12V)		355	400		355	400		355	400	mA
Isolation S12		-60			-50			-40		dB

Weight	1.76 ounces	Impedance	50ohms
Input /Output Connectors	2.4mm-Female	Material	Copper
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	+15V
RF Input Power(RFIN)	@0.05-6GHz -8dBm @6-26.5GHz -5dBm @26.5-46GHz -2dBm

Biasing Up Procedure

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

Power OFF Procedure

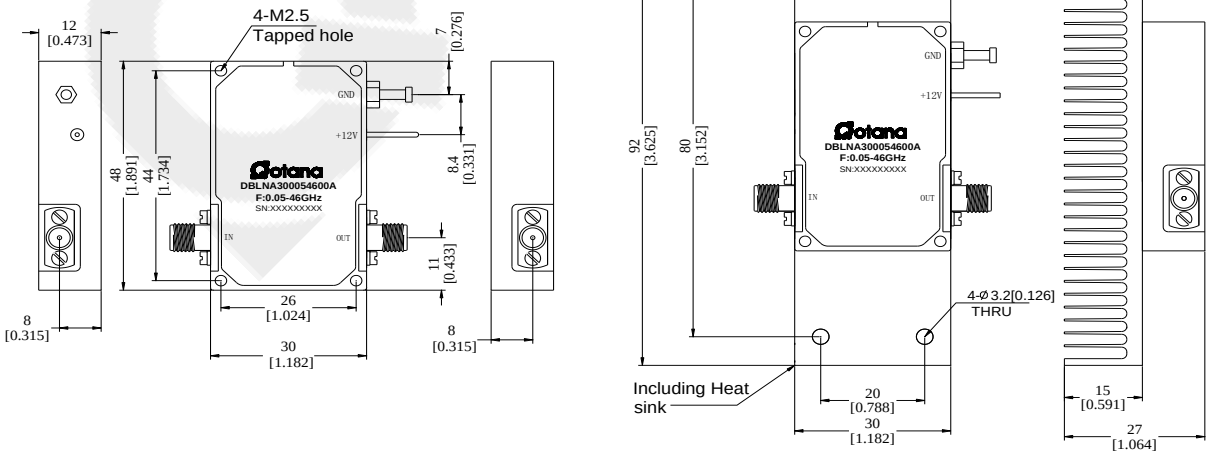
Step 1	Turn off +12V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

Environmental Specifications

Operational Temperature	-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

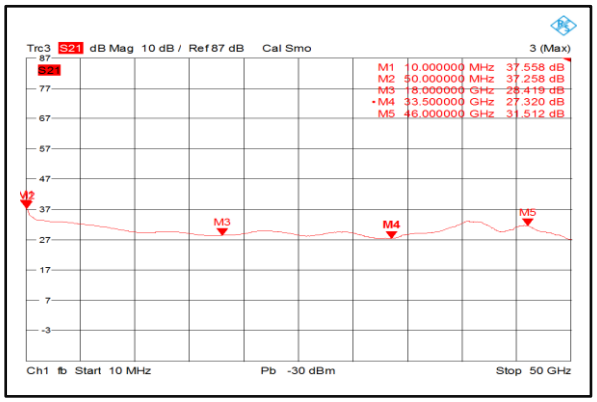
Outline Drawing:

All Dimensions in mm (inches) Heat Sink required during operation(Sold Seperately)

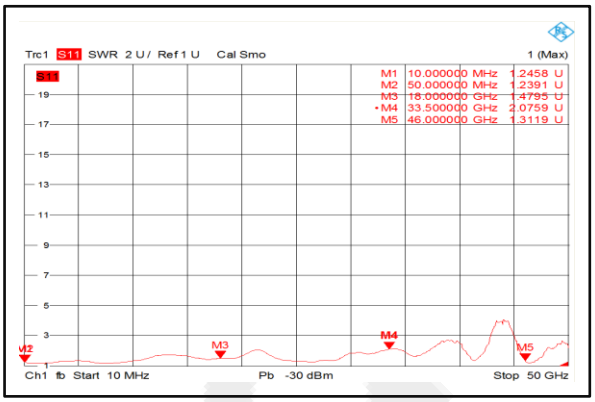


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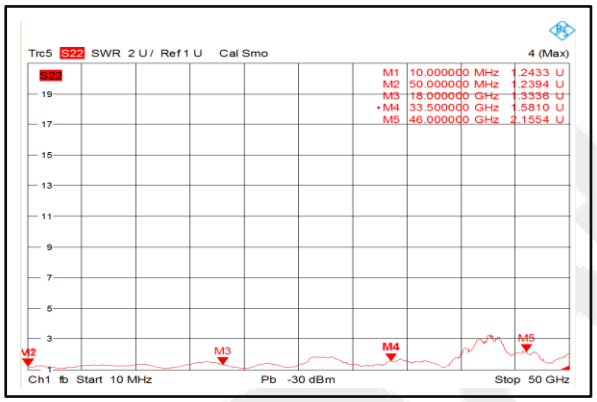
Gain



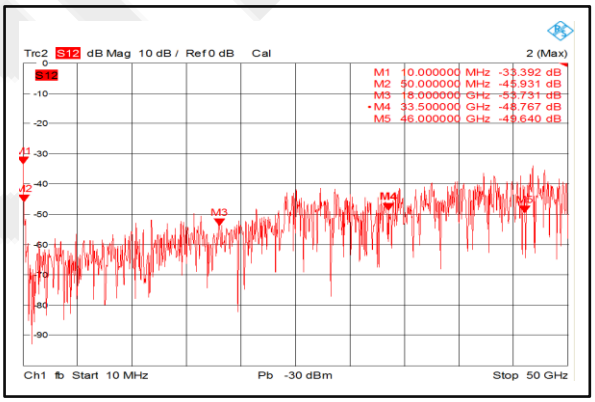
Input VSWR



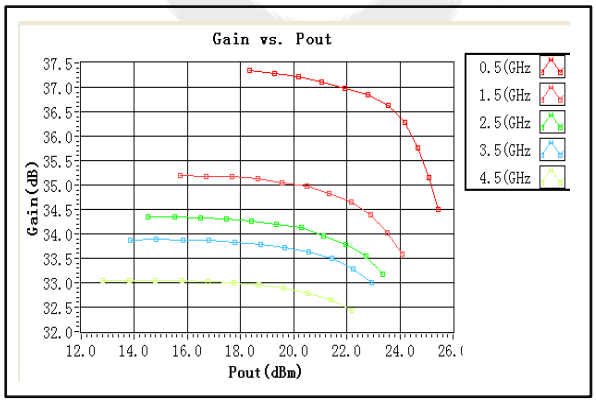
Output VSWR



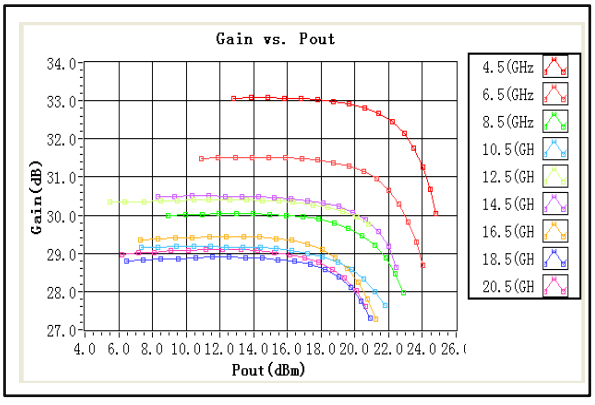
Isolation



Gain vs. Output Power

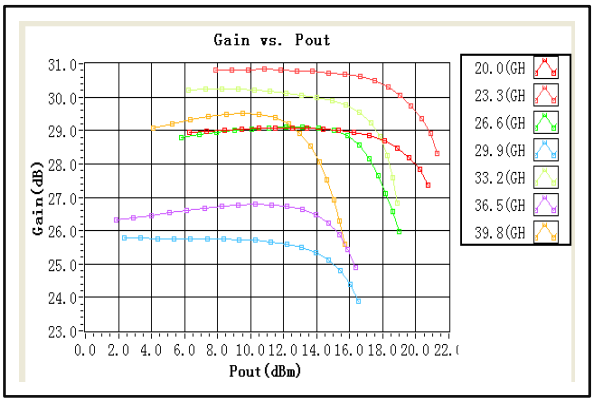


Gain vs. Output Power

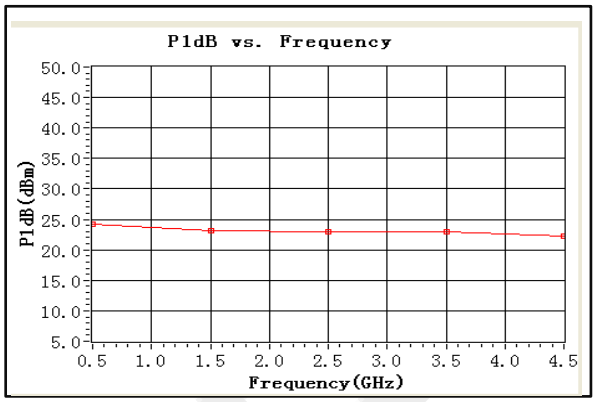


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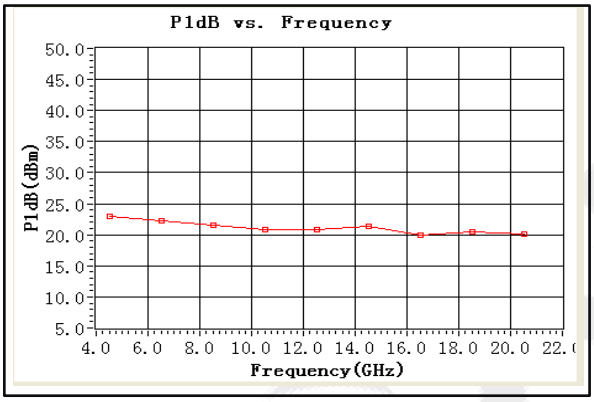
Gain vs. Output Power



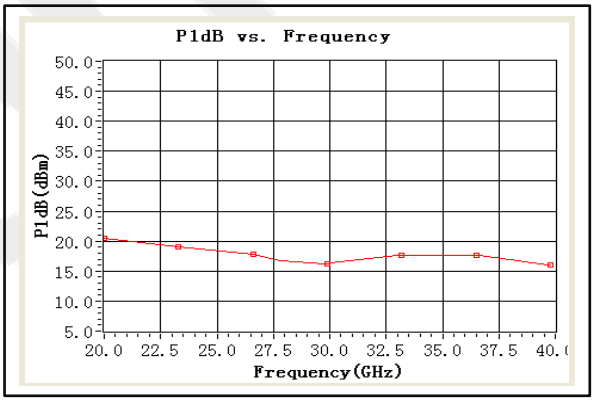
P1dB vs. Frequency(0.5-4GHz)



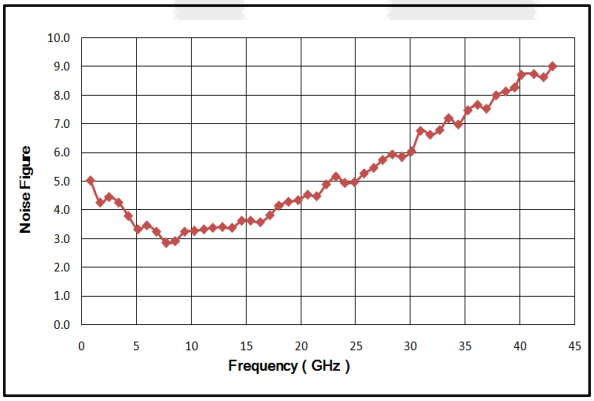
P1dB vs. Frequency(4-20GHz)



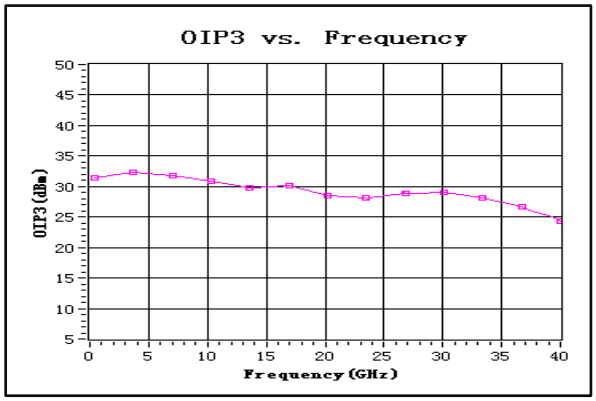
P1dB vs. Frequency(20-40GHz)



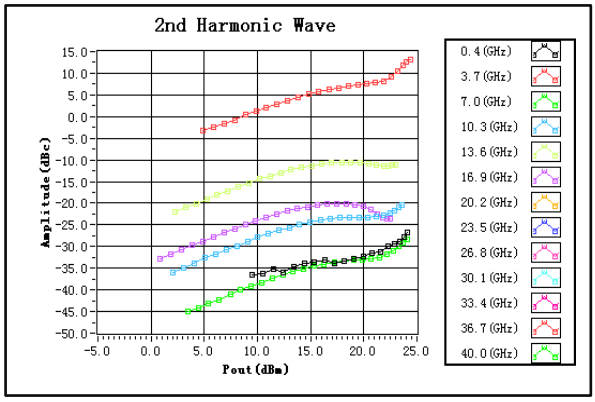
Noise Figure



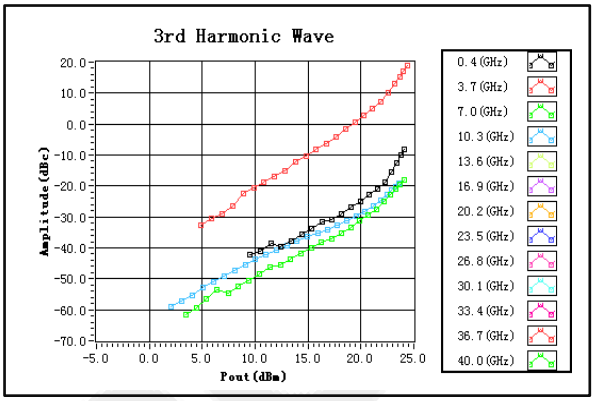
Output Third order Intercept (IP3)



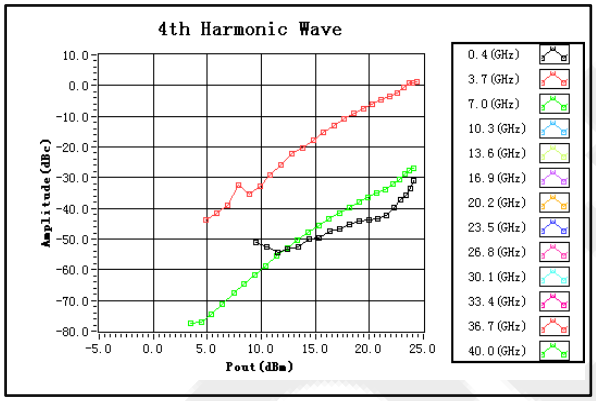
2nd Harmonic Wave Output Power



3rd Harmonic Wave Output Power



4th Harmonic Wave Output Power



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