

**Features**

- Gain: 13dB Typical
- Noise Figure: 5.0dB Typical
- P1dB Output Power: +20dBm Typical
- Supply Voltage: +7V


**Typical Applications**

- Wireless Infrastructure
- 5G communication
- Test and measurement Instrument

 RF Microwave & VSAT  
Fiber Optics

Parameter	Min.	Typ.	Max.	Units
Frequency Range	0.01		40	GHz
Gain	11	13		dB
Gain Flatness		±1.0		dB
Gain Variation Over Temperature (-40°C~+85°C)		±1.0		dB
Noise Figure		5.0		dB
Input VSWR		1.8		: 1
Output VSWR		1.8		: 1
Output 1dB Compression Point (P1dB)	16	20		dBm
Saturated Output Power (Psat)		22		dBm
Output Third Order Intercept (OIP3)		27		dBm
Supply Current (Vcc=+7V)		160		mA
Isolation S12		-20		dB

Weight	0.64 ounces (Max.)	Impedance	50ohms
Input / Output Connectors	2.92mm-Female	Material	Aluminum
Finish	Gold Plated	Package Sealing	Epoxy Sealed (Standard)
			Hermetically Sealed (Option with extra charge)

**Absolute Maximum Ratings**

Operating Voltage	+8V
*RF Input Power (RFIN)	+13dBm

**Biassing Up Procedure**

Step 1	Connect Ground Pin
Step 2	Connect input and output
Step 3	Connect +7V biasing

**Power OFF Procedure**

Step 1	Turn off +7V biasing
Step 2	Remove RF connection
Step 3	Remove Ground

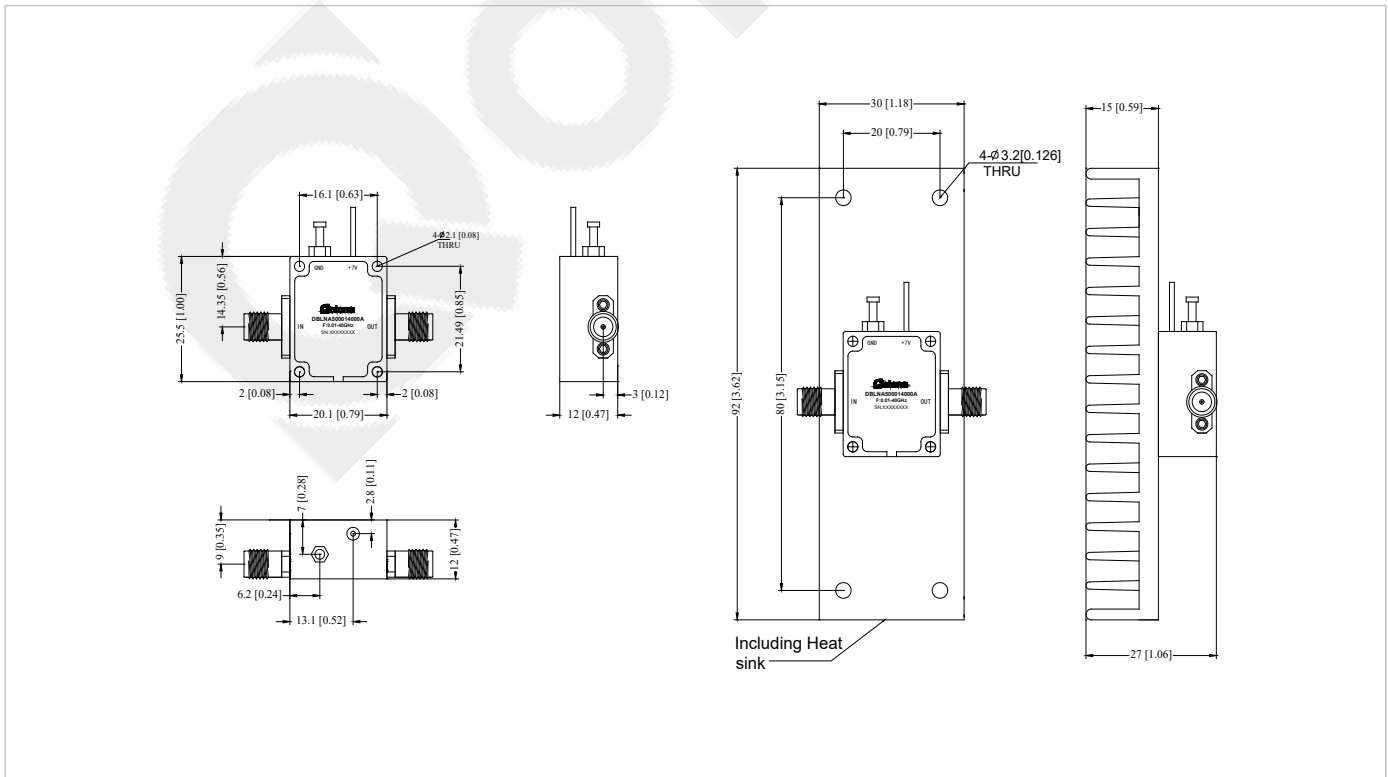
**Environmental Specifications**

Operational Temperature	-40°C~+85°C
Storage Temperature	-50°C~+105°C
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 35°C, 95%RH at 40°C
Shock	20G for 11msec half sine wave, 3 axis both directions

**Outline Drawing:**

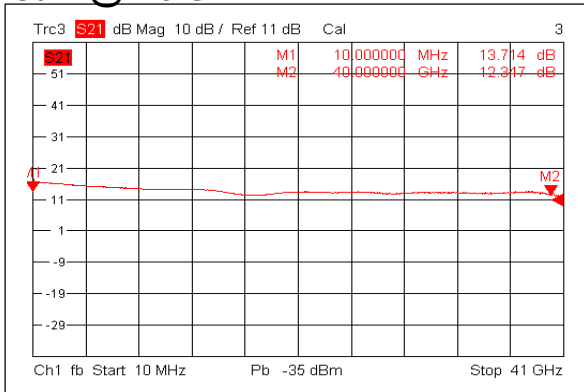
All Dimensions in mm (inches)  
 Housing Tolerances ±0.1 (0.004)  
 (Excl Heat Sink)

Heat Sink required during operation(Sold Separately)

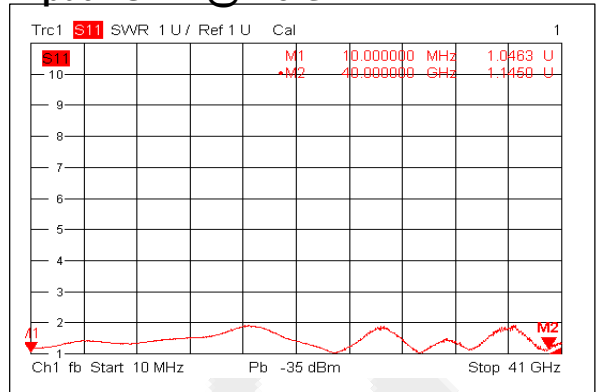


\*Maximum RF input power is set to assure safety of amplifier. Input power may be increased at own risk to achieve full power of amplifier. Please reference gain and power curves.  
 \*\*For vibration testing details please see additional information section.

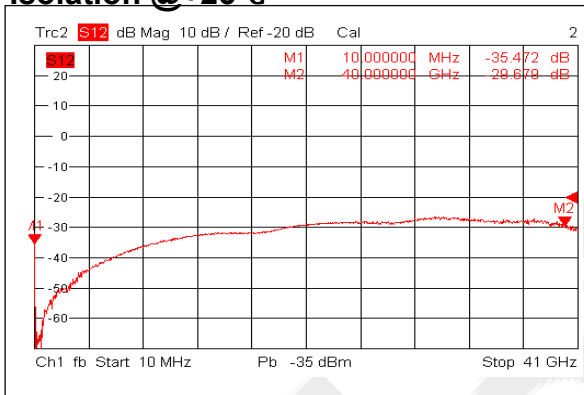
Gain @+25°C



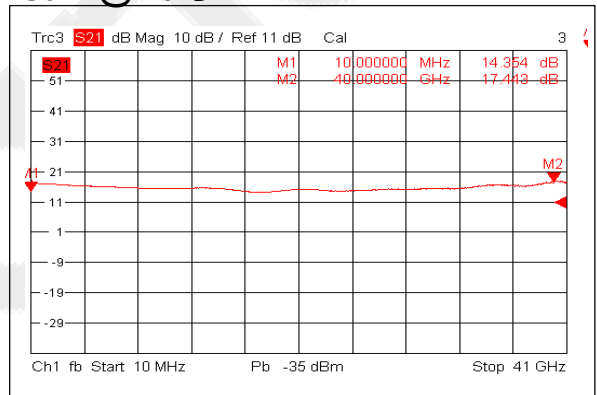
Input VSWR @+25°C



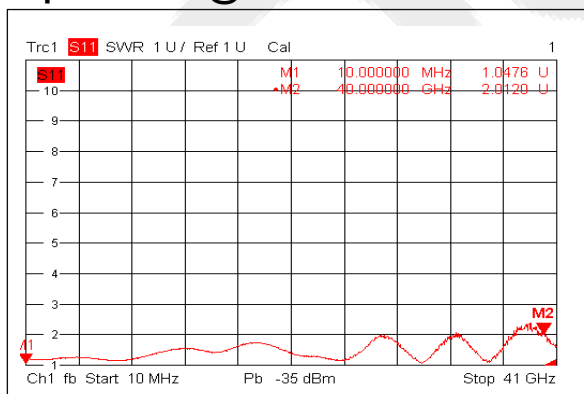
Isolation @+25°C



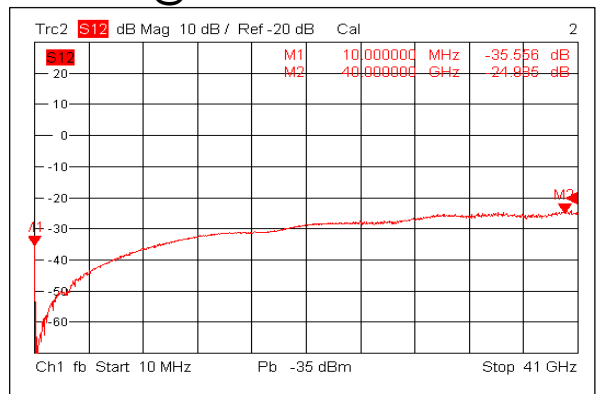
Gain @-40°C



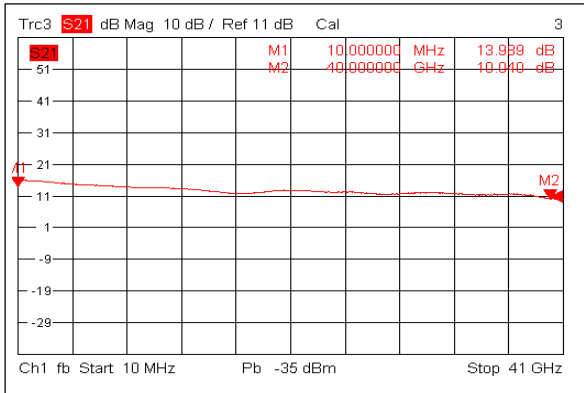
Input VSWR @-40°C



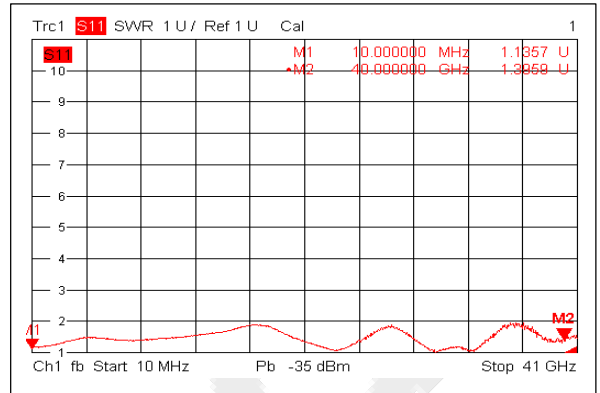
Isolation @-40°C



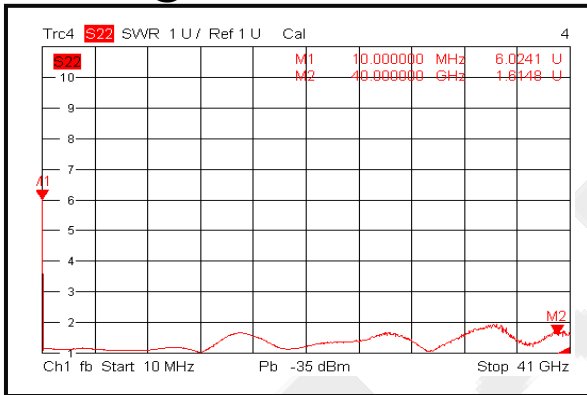
Gain @+85°C



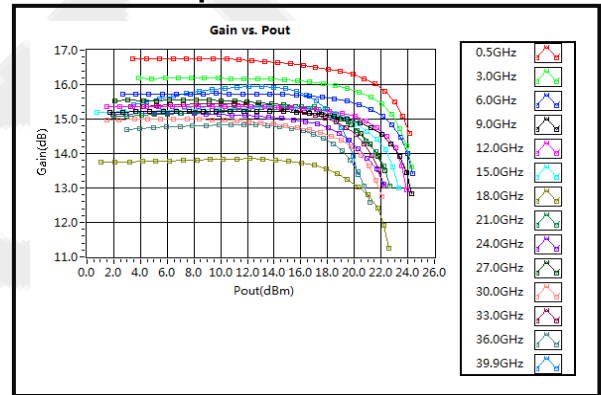
Input VSWR @+85°C



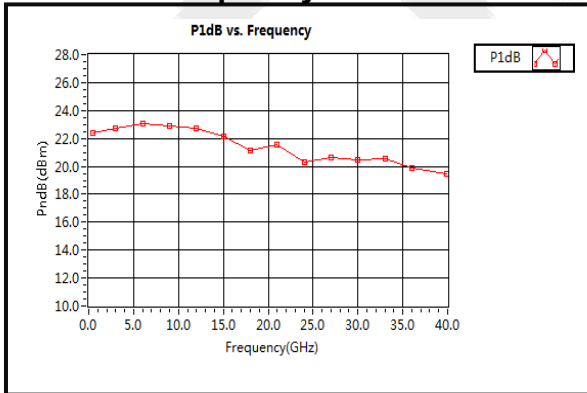
Isolation @+85°C



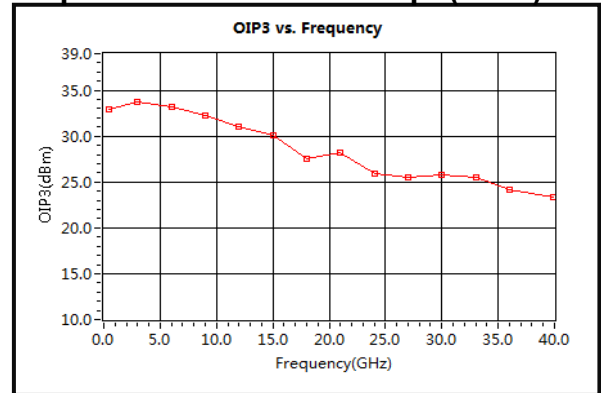
Gain vs. Output Power



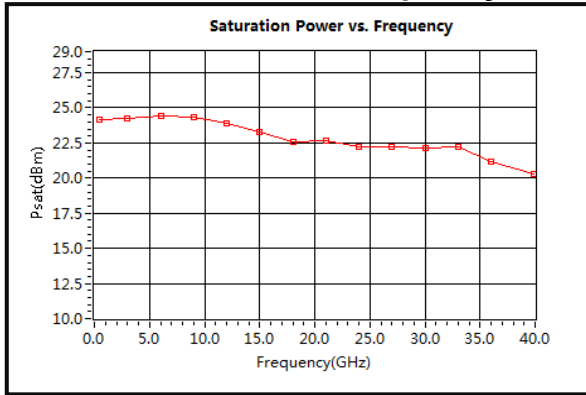
P1dB vs. Frequency



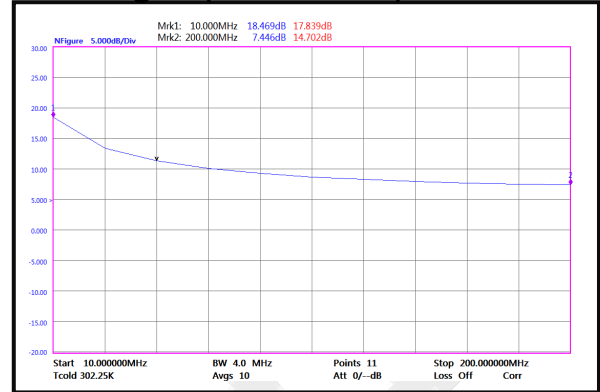
Output Third Order Intercept (OIP3)



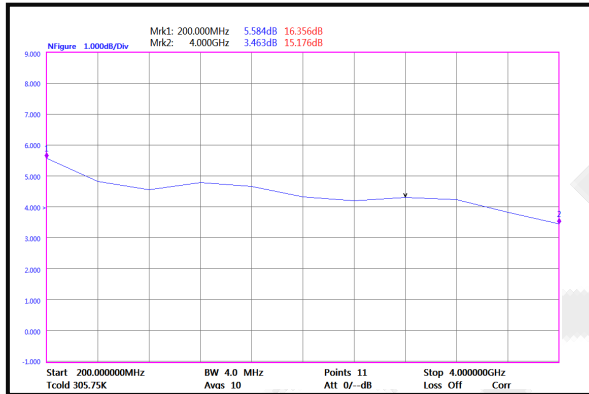
**Saturation Power vs. Frequency**



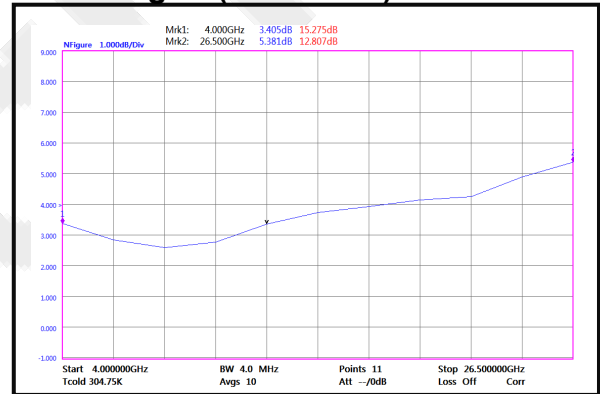
**Noise Figure(0.01-0.2GHz)**



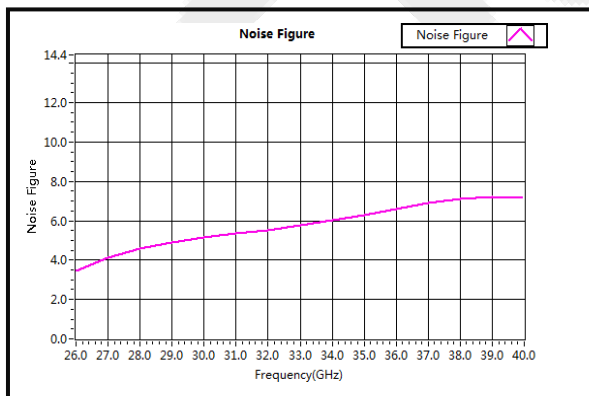
**Noise Figure(0.2-4GHz)**



**Noise Figure(4-26.5GHz)**



**Noise Figure(26-40GHz)**



QOTANA TECHNOLOGIES and its affiliates reserve the right to make changes to the product(s) or information contained herein without notice. Visit [www.qotana.com](http://www.qotana.com) for additional data sheets and product information.