

Low Noise Amplifier

12-15GHz/1.8dB NF/50dB Gain/10dBm P1dB

Model: TLLA12G15G-50-BPF

TLLA12G15G-50-BPF is a low noise amplifier with a minimum small signal gain of 50 dB and a nominal noise figure of 1.8 dB across the frequency range of 12 to 15 GHz. The DC power requirement for the amplifier is +12 V DC/90 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 12-15GHz
- Gain: 50dB Min
- Noise Figure: 1.8dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Frequency range		12		15	GHz
Small Signal Gain		50			dB
Gain Flatness			±2.0		dB
Noise Figure			1.8		dB
Output P1dB		10			dBm
Rejection	@9.5GHz		90		dBc
	@16.5GHz		57		
Input VSWR			2		:1
Output VSWR			2		:1
DC Voltage			12		V DC
DC Supply Current			90		mA
Impedance		50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	95*24*14.5	mm
Weight	106	g

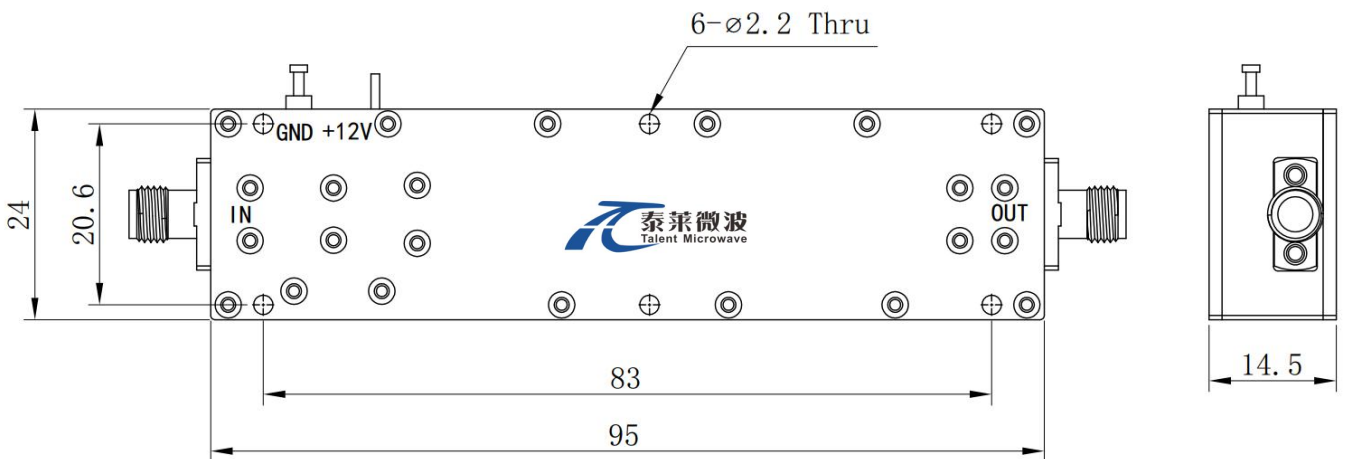
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+14 V
RF Input Power	-10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm; Tolerance:±0.1mm



*****Heat Sink Required During Operation**



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

Environmental Conditions:

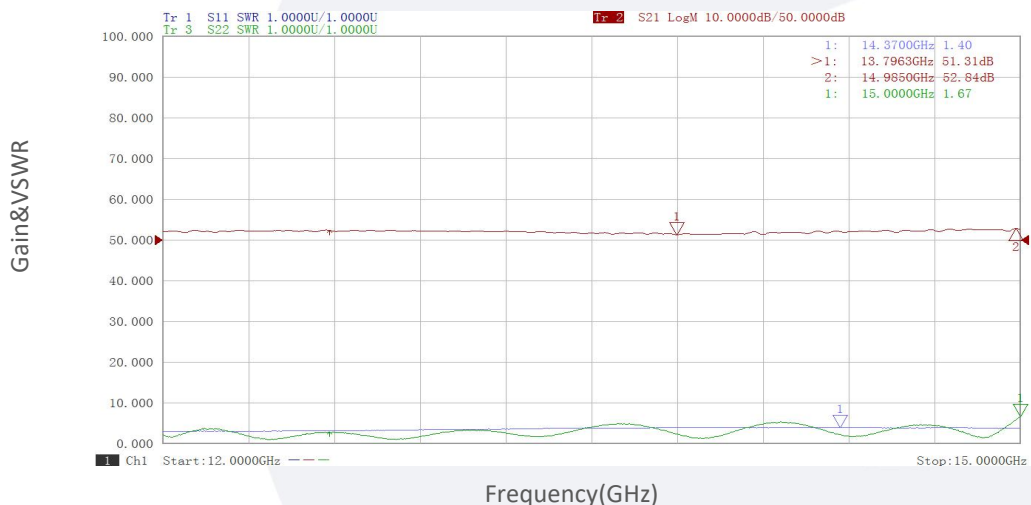
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TLLA12G15G-50-BPF	Low Noise Amplifier, 12-15GHz, Noise Figure:1.8dB, Gain:50dB,P1dB:10dBm,+12V DC,Without Heatsink	Rev.1.0
TLLA12G15G-50-BPF-HS	Low Noise Amplifier, 12-15GHz, Noise Figure:1.8dB, Gain:50dB,P1dB:10dBm,+12V DC,With Heatsink	Rev.1.0

Typical Performance Data:

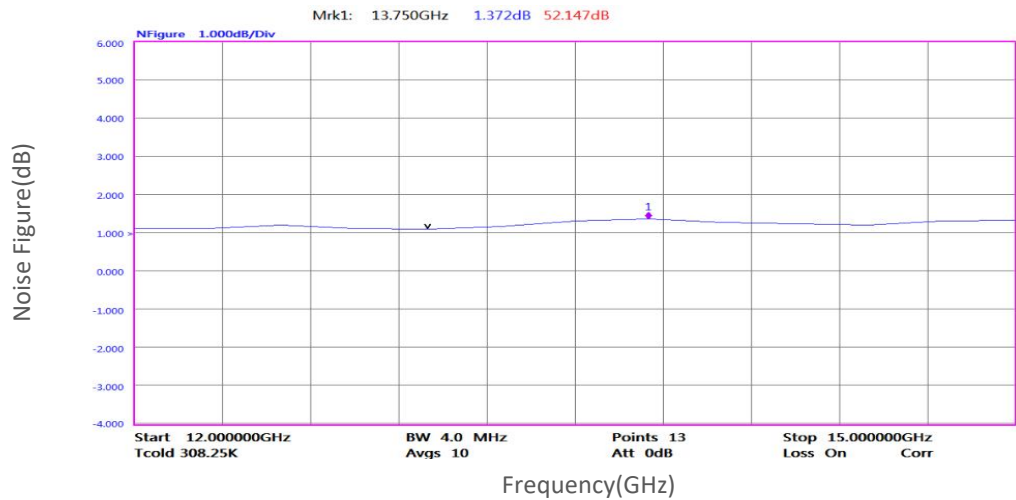
Gain&VSWR vs Frequency



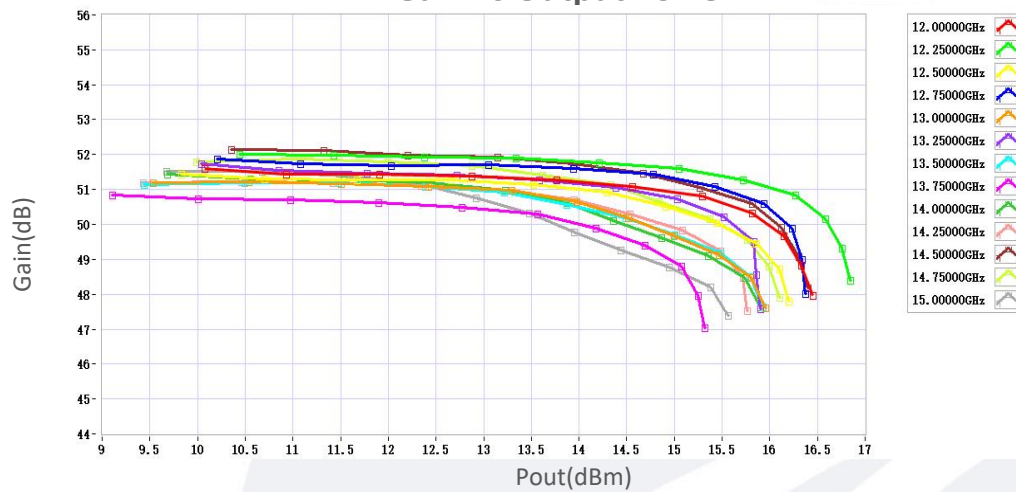
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

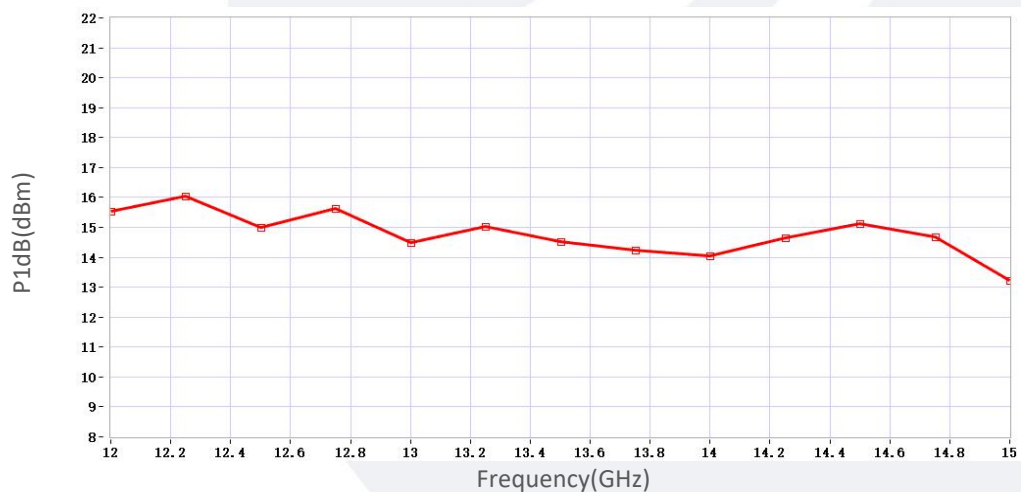
Noise Figure vs Frequency



Gain vs Output Power



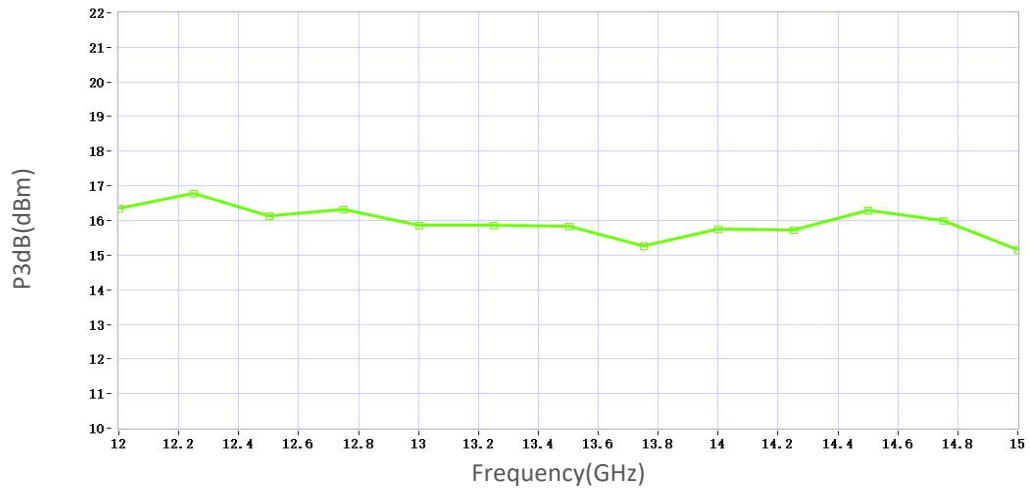
P1dB vs Frequency



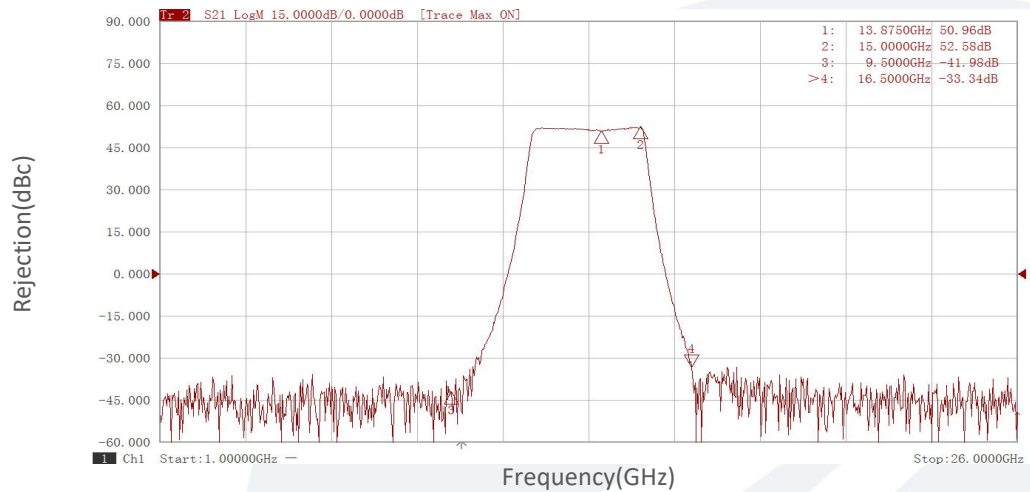
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Typical Performance Data:

P3dB vs Frequency



Rejection vs Frequency



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