

Low Noise Amplifier

8-12GHz/1.0dB NF/32dB Gain/12 dBm P1dB

Model: TLLA8G12G-32-10

TLLA8G12G-32-10 is a low noise amplifier with a minimum small signal gain of 32 dB and a nominal noise figure of 1.0 dB across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +12 V DC/50 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 8-12GHz
- Gain: 32dB Min
- Noise Figure: 1.0dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	8		12	GHz
Small Signal Gain	32			dB
Gain Flatness		±1.5		dB
Noise Figure		1.0	1.2	dB
Output P1dB	11	12		dBm
Input VSWR		1.5	1.8	:1
Output VSWR		1.5	1.8	:1
DC Voltage	+6	+12	+12	V DC
DC Supply Current		50		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	20*20*10	mm

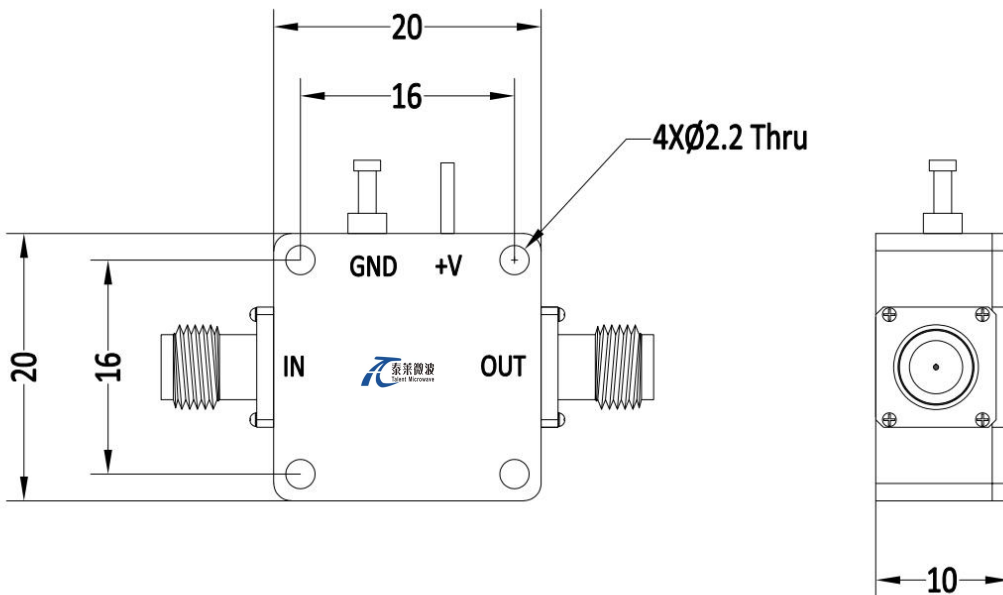
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+12 V
RF Input Power	+10 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm



***Heat Sink Required During Operation



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

Environmental Conditions:

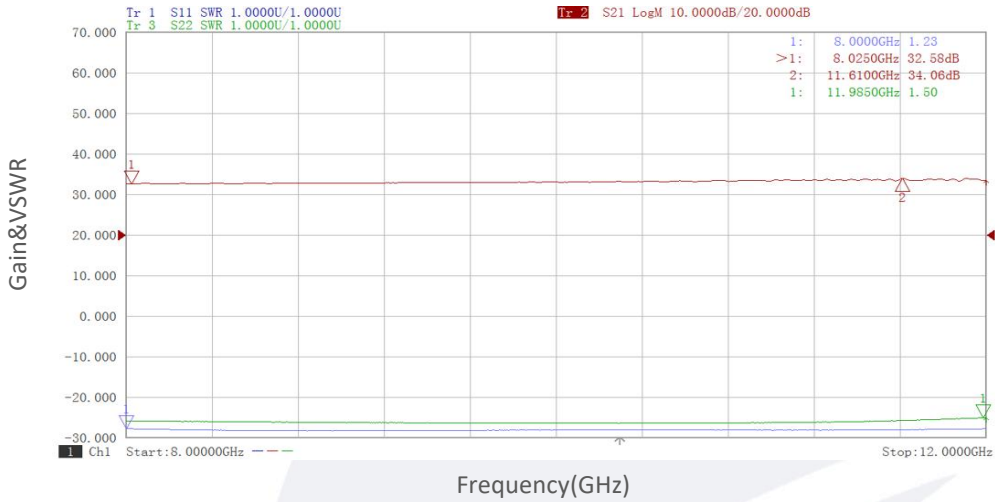
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

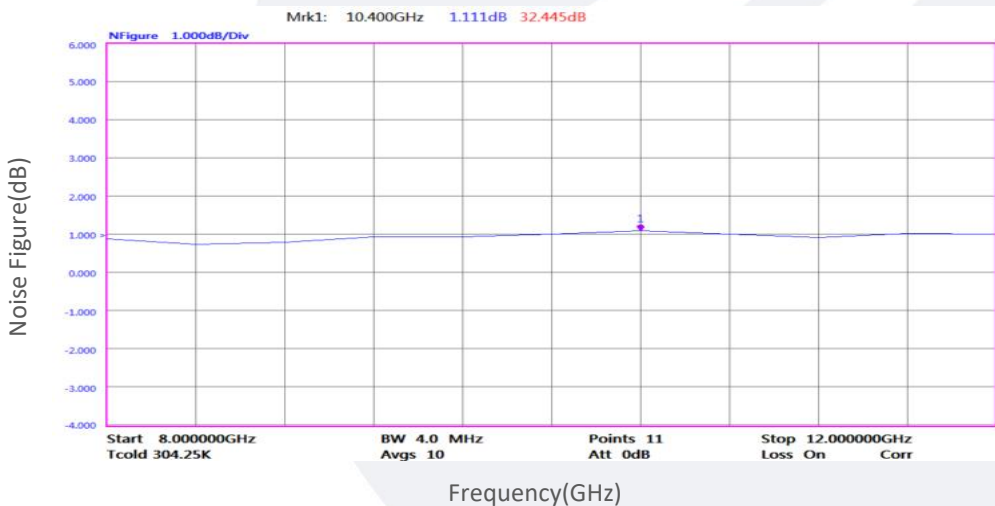
Base Number	Description	Revision
TLLA8G12G-32-10	Low Noise Amplifier, 8-12GHz, Noise Figure:1.0dB, Gain:32dB,P1dB:12dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA8G12G-32-10-HS	Low Noise Amplifier, 8-12GHz, Noise Figure:1.0dB, Gain:32dB,P1dB:12dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



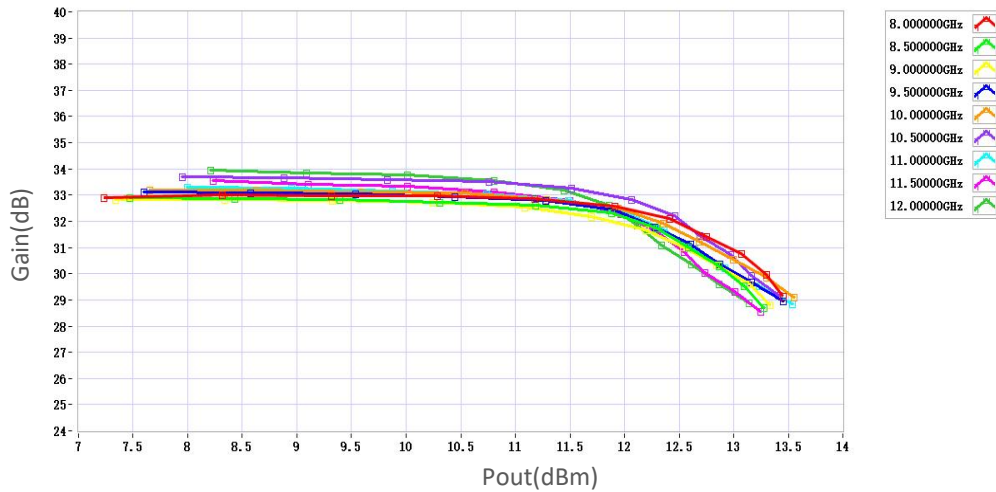
Noise Figure vs Frequency



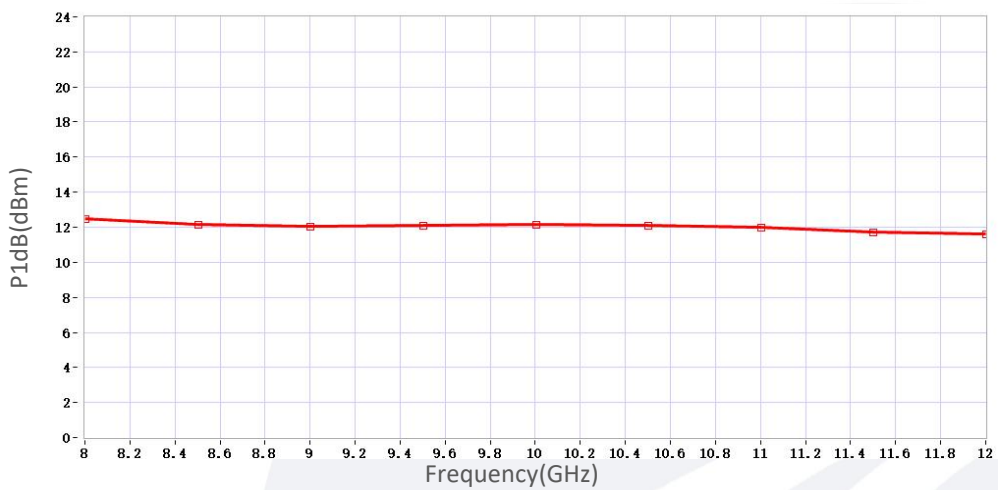
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

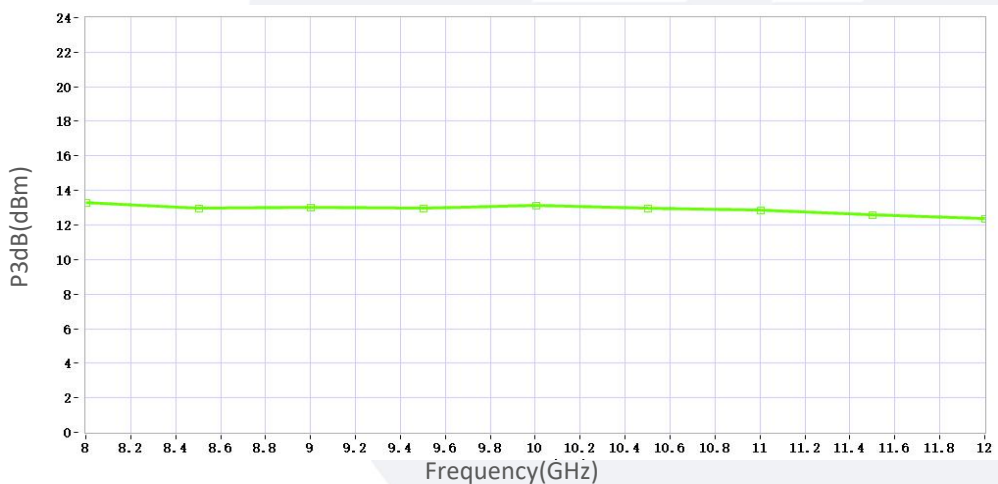
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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