

## Low Noise Amplifier

8-12GHz/1.5dB NF/32dB Gain/15dBm P1dB

Model: TLLA8G12G-32-15

TLLA8G12G-32-15 is a low noise amplifier with a minimum small signal gain of 32 dB and a nominal noise figure of 1.5 dB across the frequency range of 8 to 12 GHz. The DC power requirement for the amplifier is +12 V DC/100 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 8-12GHz
- Gain: 32dB Min
- Noise Figure: 1.5dB Max
- 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			1.5	dB
Output P1dB	15			dBm
Input VSWR			2	:1
Output VSWR			2	:1
DC Voltage		+12	+15	V DC
DC Supply Current		100		mA
Impedance		50		Ohms

### Mechanical Specifications:

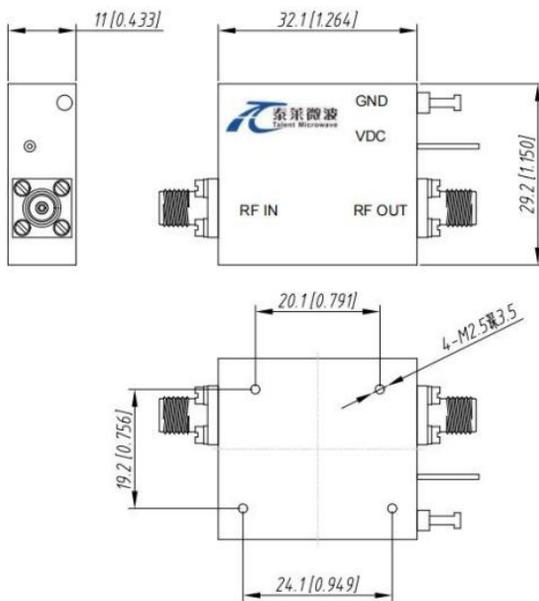
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	32.1*29.2*11	mm
Weight	300	g

### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+15 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:

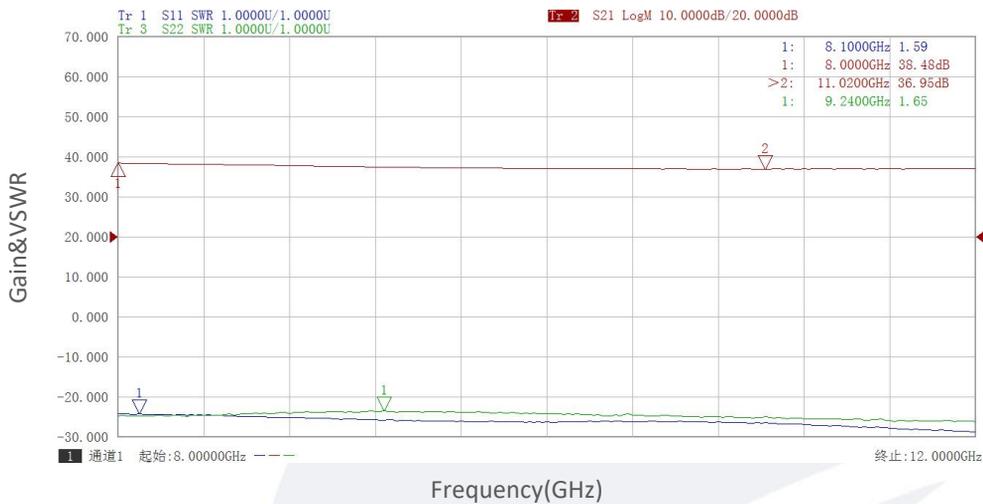
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

### Ordering Information:

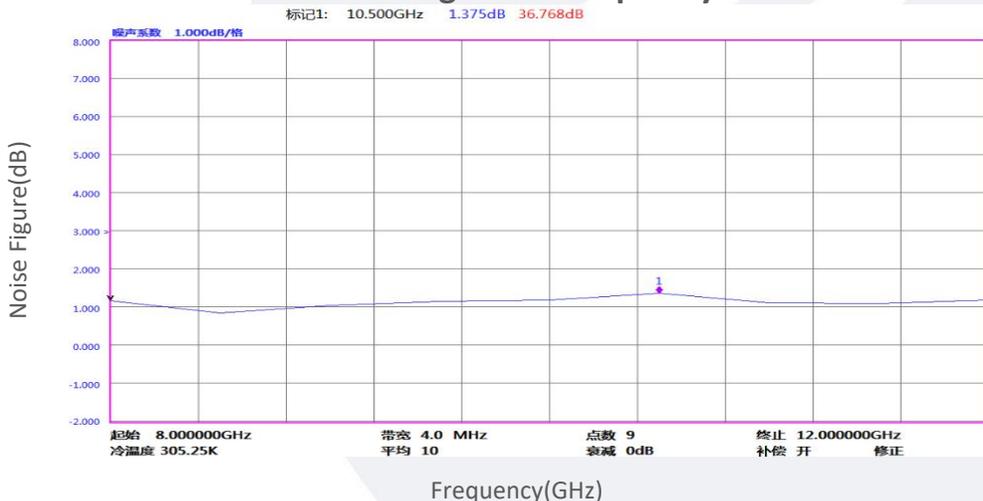
Base Number	Description	Revision
TLLA8G12G-32-15	Low Noise Amplifier, 8-12GHz, Noise Figure:1.5dB, Gain:32dB,P1dB:15dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA8G12G-32-15-HS	Low Noise Amplifier, 8-12GHz, Noise Figure:1.5dB, Gain:32dB,P1dB:15dBm,+12V DC,With Heatsink	Rev.1.1

### Typical Performance Data:

#### Gain&VSWR vs Frequency



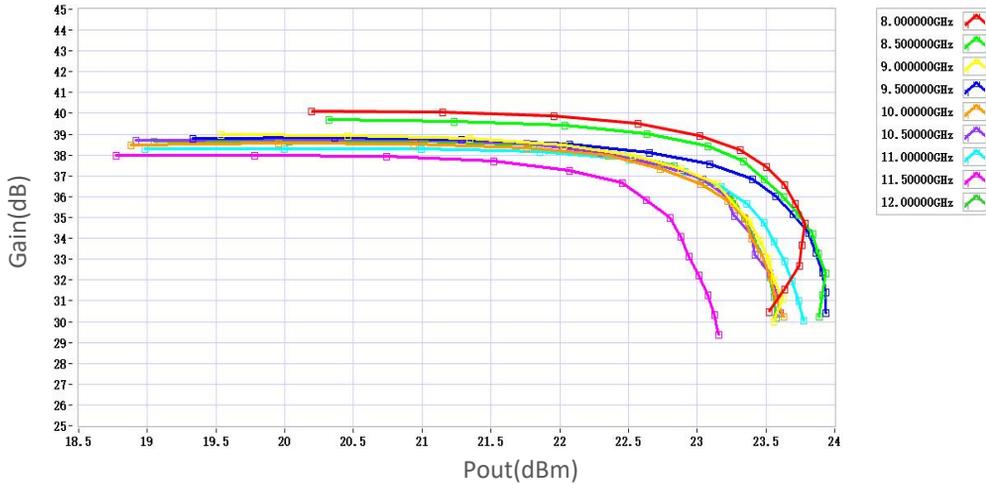
#### Noise Figure vs Frequency



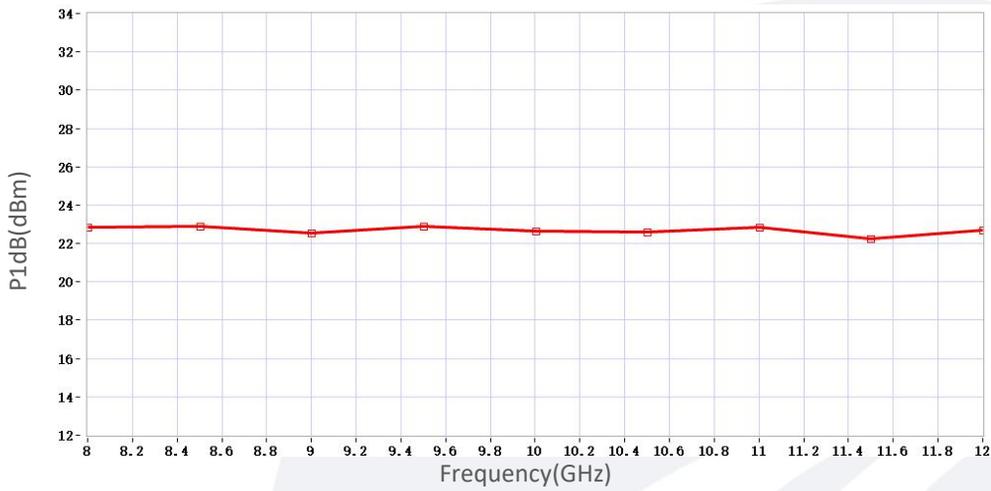
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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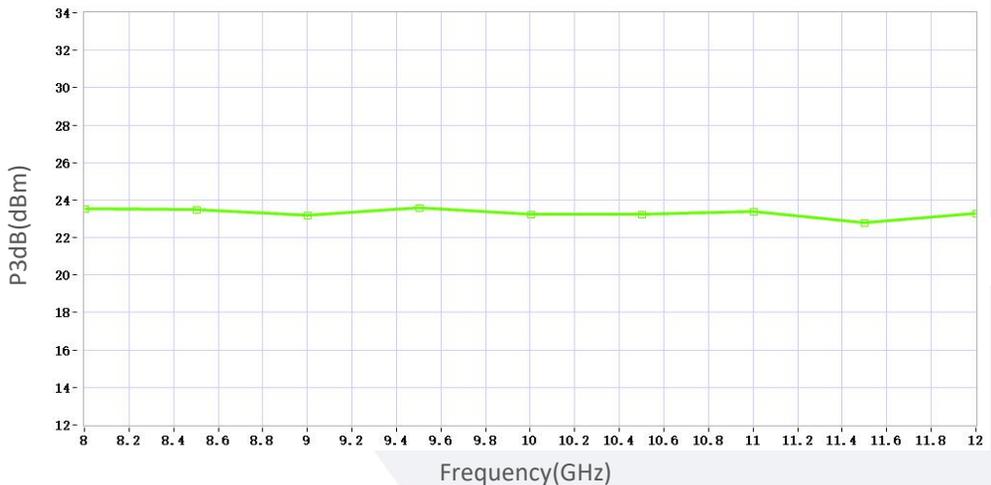
### Gain vs Output Power



### P1dB vs Frequency



### P3dB vs Frequency



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