

Low Noise Amplifier

15-30GHz/4.0dB NF/50dB Gain/14dBm P1dB

Model: TLLA15G30G-50-40

TLLA15G30G-50-40 is a low noise amplifier with a minimum small signal gain of 50 dB and a maximum noise figure of 4.0 dB across the frequency range of 15 to 30 GHz. The DC power requirement for the amplifier is +12 V DC/160 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 15-30GHz
- Gain: 50dB Min
- Noise Figure: 4.0dB Max
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	15		30	GHz
Small Signal Gain	50			dB
Gain Flatness		±2.0		dB
Noise Figure			4.0	dB
Output P1dB	14	16		dBm
Input VSWR		2.0	2.2	:1
Output VSWR		2.0	2.2	:1
DC Voltage	+8	+12	+15	V DC
DC Supply Current		160		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm
Weight	55	g

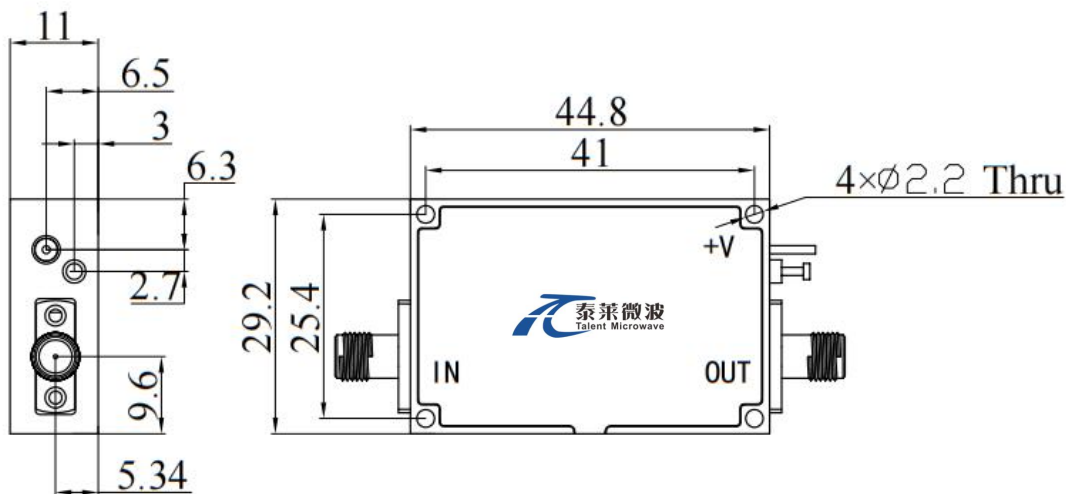
Absolute Maximum Ratings:

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:

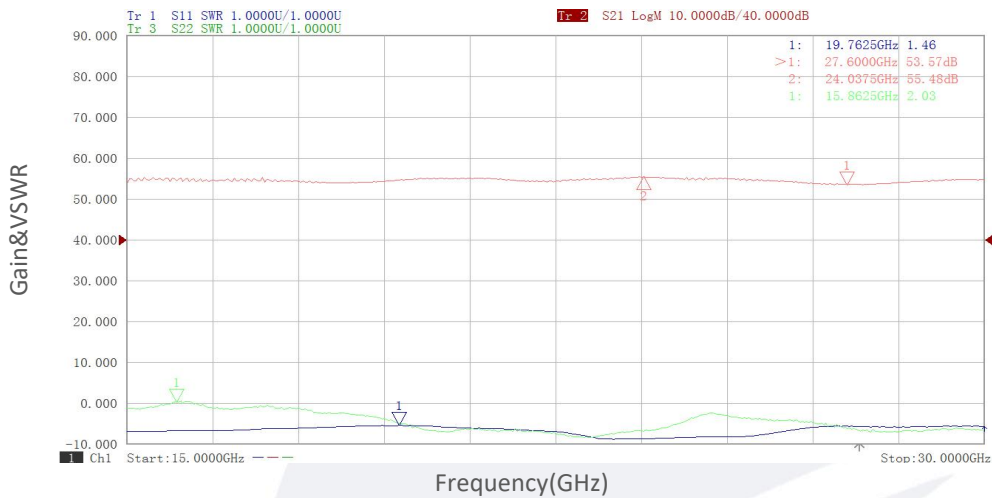
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TLLA15G30G-50-40	Low Noise Amplifier, 15-30GHz, Noise Figure:4.0dB, Gain:50dB,P1dB:14dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA15G30G-50-40-HS	Low Noise Amplifier, 15-30GHz, Noise Figure:4.0dB, Gain:50dB,P1dB:14dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



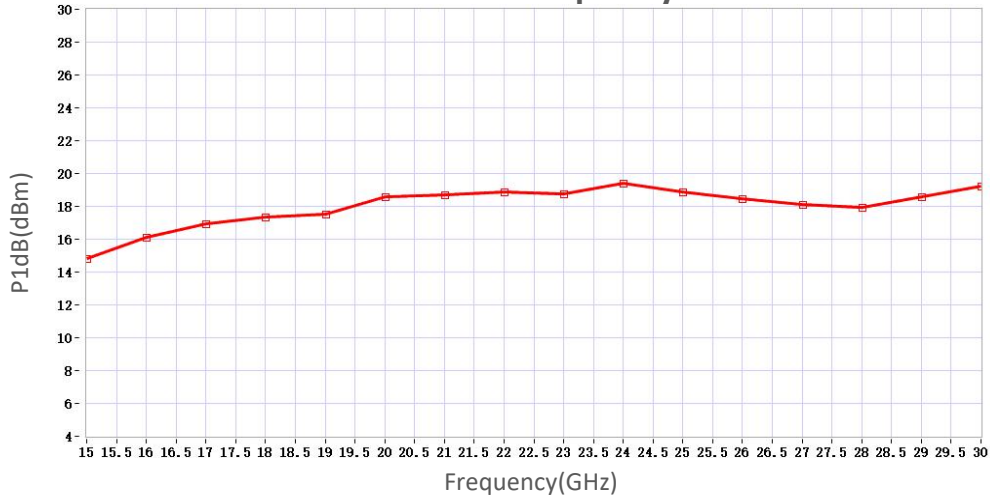
Noise Figure vs Frequency



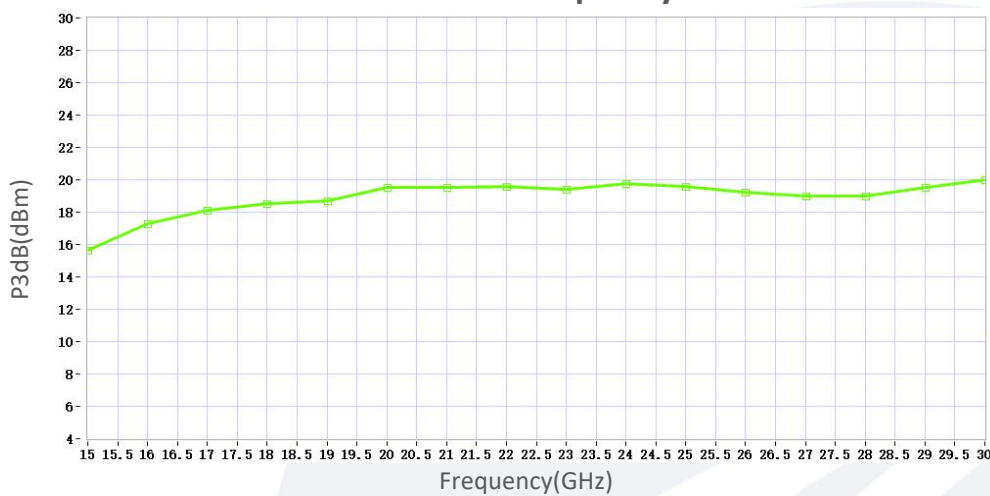
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

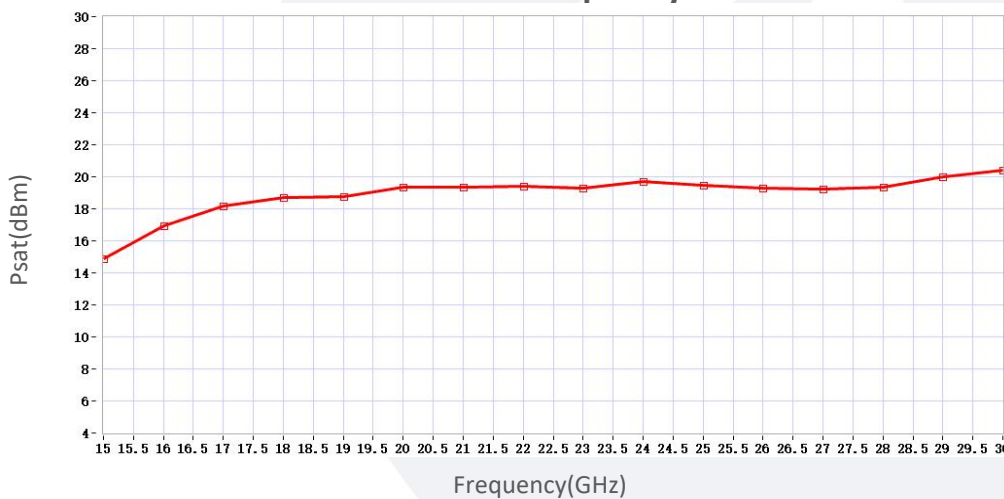
P1dB vs Frequency



P3dB vs Frequency



Psat vs Frequency



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