

Low Noise Amplifier

12-30GHz/2dB NF/30dB Gain/24dBm P1dB

Model: TLLA12G30G-30-20

TLLA12G30G-30-20 is a low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 2 dB across the frequency range of 12 to 30 GHz. The DC power requirement for the amplifier is +12 V DC/550 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 12-30GHz
- Gain: 30dB Typ
- Noise Figure: 2dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	12		30	GHz
Small Signal Gain	28.5	30		dB
Gain Flatness		±1.5		dB
Noise Figure		2	3	dB
Output P1dB	23.5	24		dBm
Output Psat		25		dBm
Input VSWR		1.6		:1
Output VSWR		1.8		:1
DC Voltage		+12		V DC
DC Supply Current		550		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	50*55*14	mm

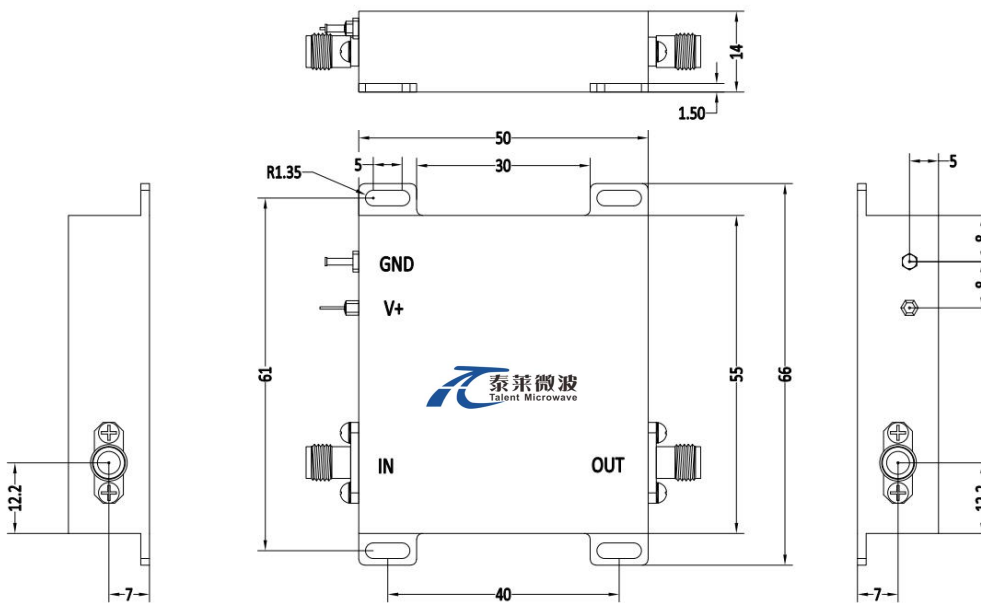
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	TBD
RF Input Power	+5 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:

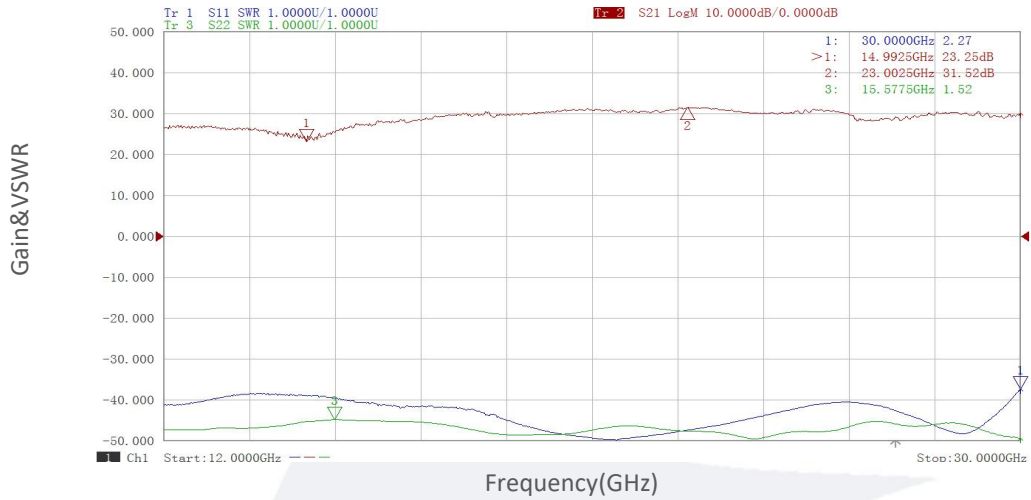
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude		10,000		feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

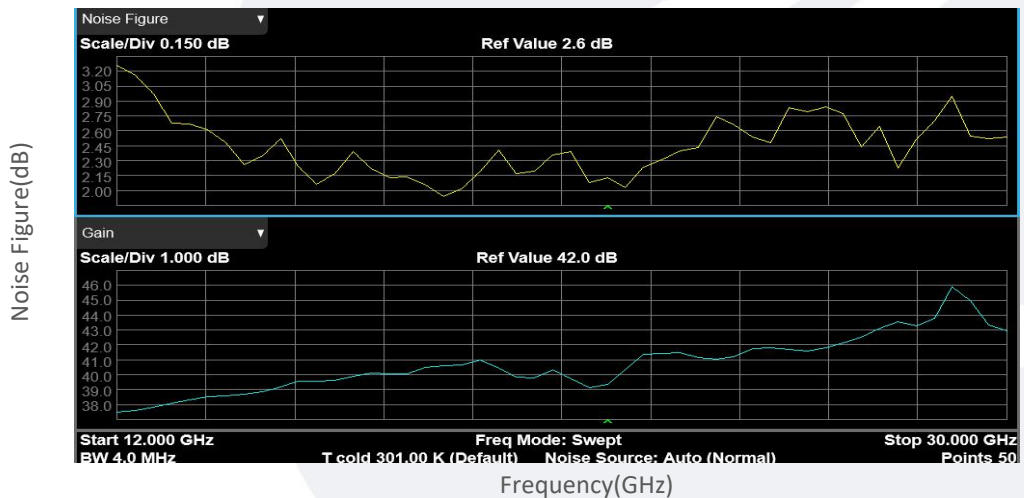
Base Number	Description	Revision
TLLA12G30G-30-20	Low Noise Amplifier, 12-30GHz, Noise Figure:2dB, Gain:30 dB,P1dB:24dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA12G30G-30-20-HS	Low Noise Amplifier, 12-30GHz, Noise Figure:2dB, Gain:30 dB,P1dB:24dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



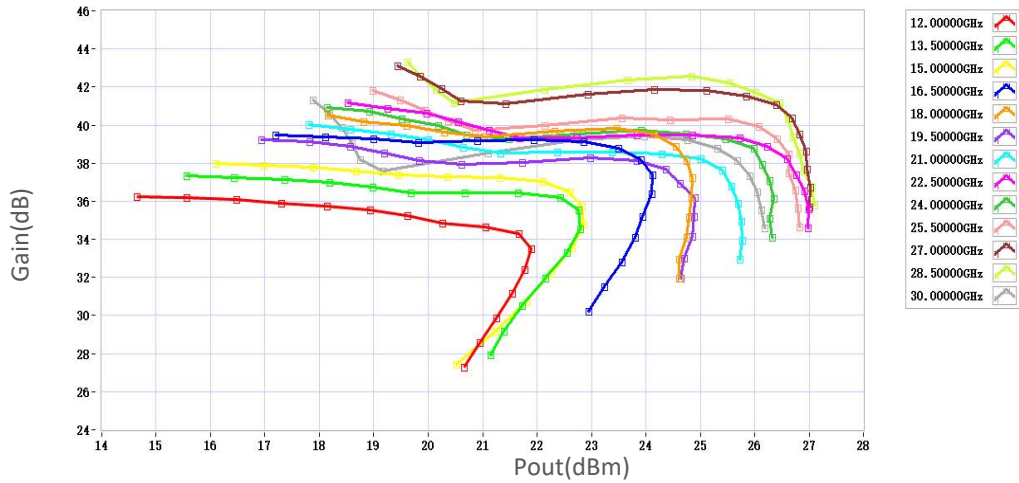
Noise Figure vs Frequency



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:

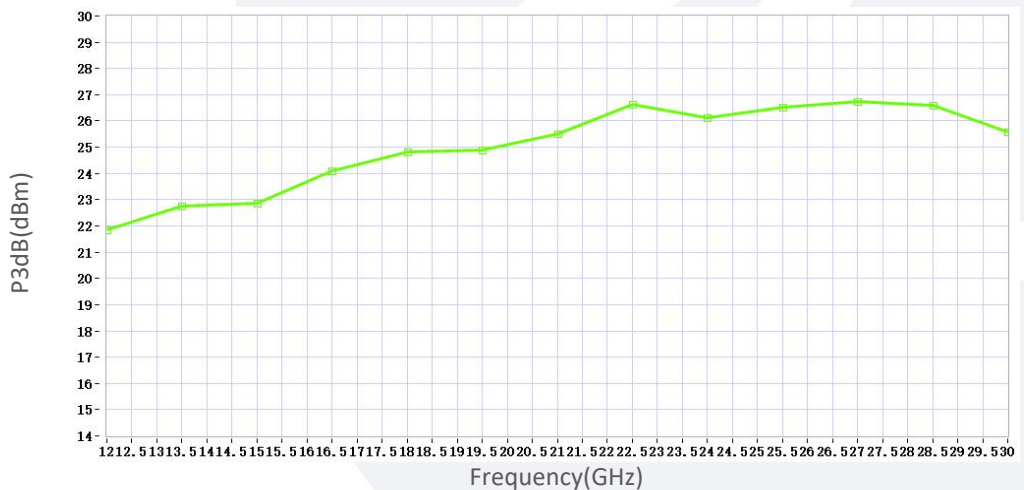
Gain vs Output Power



P1dB vs Frequency



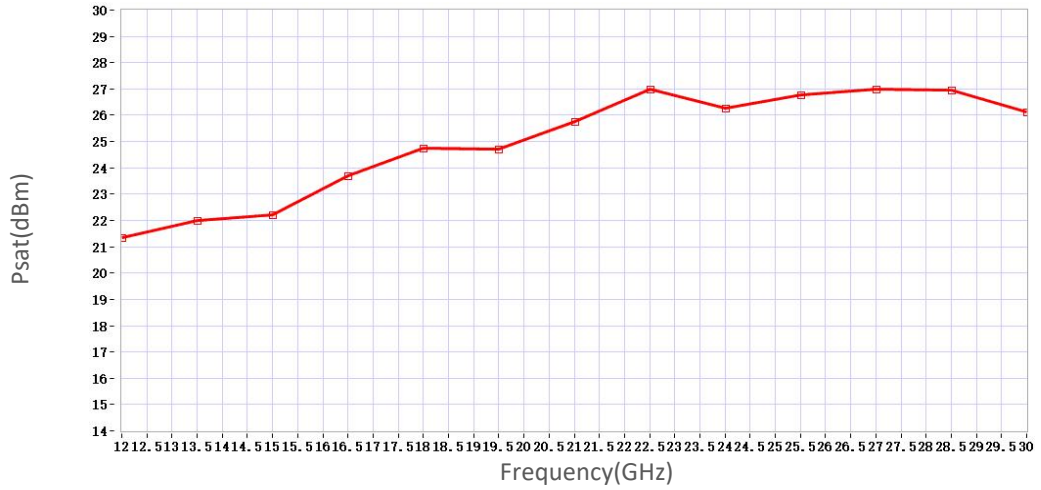
P3dB vs Frequency



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Typical Performance Data:

Psat vs Frequency



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