

Low Noise Amplifier

0.5-40GHz/5dB NF/43dB Gain/18dBm P1dB

Model: TLLA0.5G40G-40-50

TLLA0.5G40G-40-50 is a low noise amplifier with a typical small signal gain of 43 dB and a nominal noise figure of 5 dB across the frequency range of 0.5 to 40 GHz. The DC power requirement for the amplifier is +12 V DC/350 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 0.5-40GHz
- Gain: 43dB Typ
- Noise Figure: 5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	0.5		40	GHz
Small Signal Gain		43		dB
Gain Flatness		±2.5		dB
Noise Figure		5		dB
Output P1dB		18		dBm
Output Psat		21		dBm
Spurious		-60		dBc
Input VSWR		2	2.5	:1
Output VSWR		2	2.5	:1
DC Voltage	+8	+12		V DC
DC Supply Current		350		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	

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Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	44*36*12(Without heatsink) 44*50*32(With heatsink)	mm

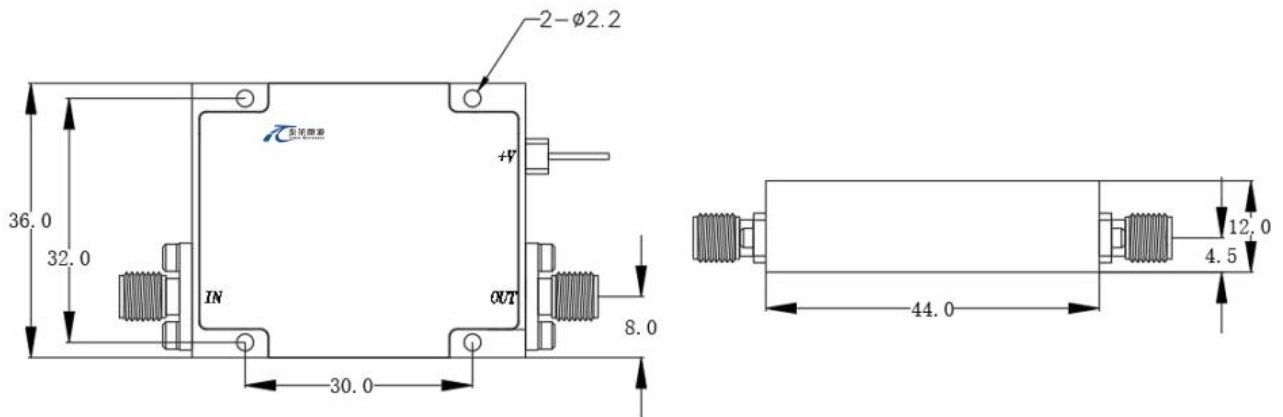
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	-15 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm



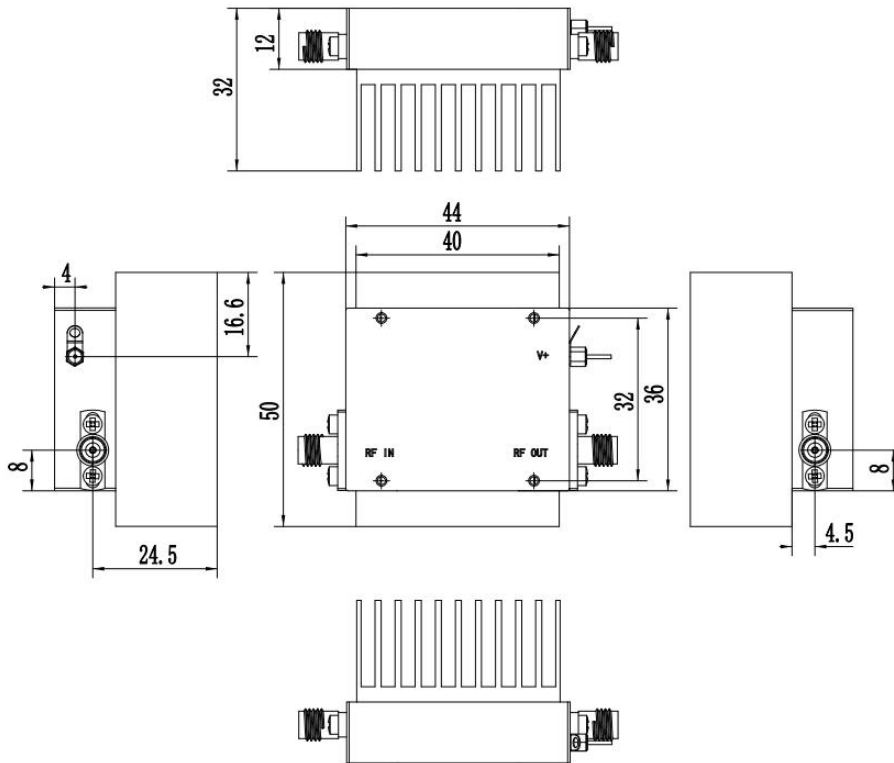
*****Heat Sink Required During Operation**



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

Outline Drawing:

Unit:mm



Environmental Conditions:

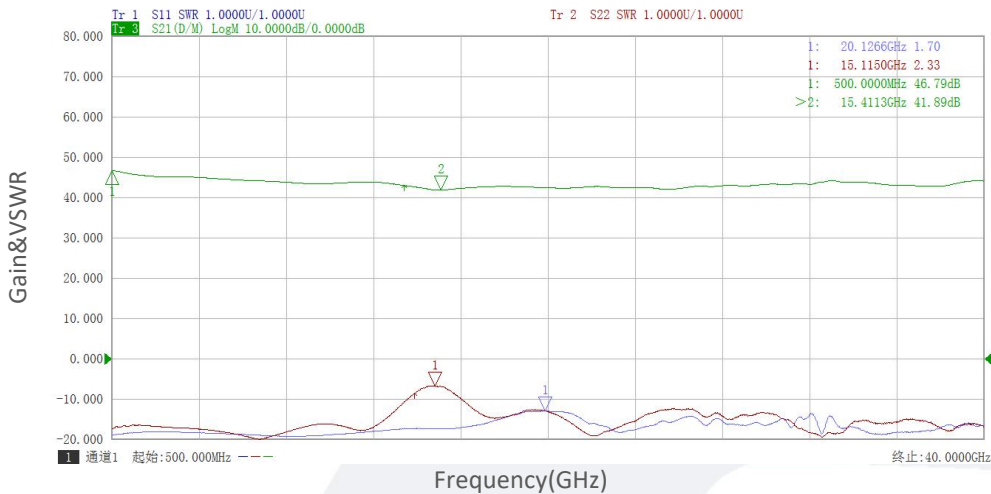
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

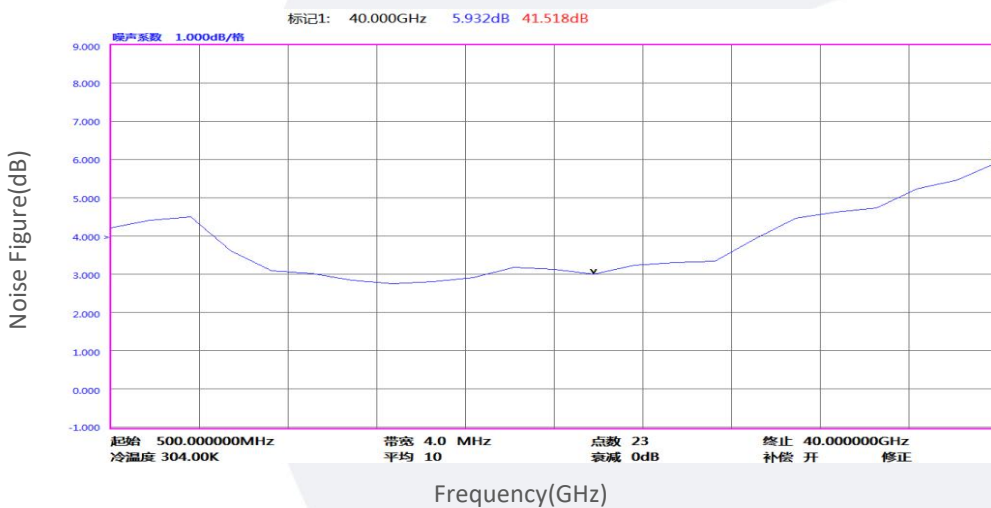
Base Number	Description	Revision
TLLA0.5G40G-40-50	Low Noise Amplifier, 0.5-40GHz, Noise Figure:5dB, Gain: 43dB,P1dB:18dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA0.5G40G-40-50-HS	Low Noise Amplifier, 0.5-40GHz, Noise Figure:5dB, Gain: 43dB,P1dB:18dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



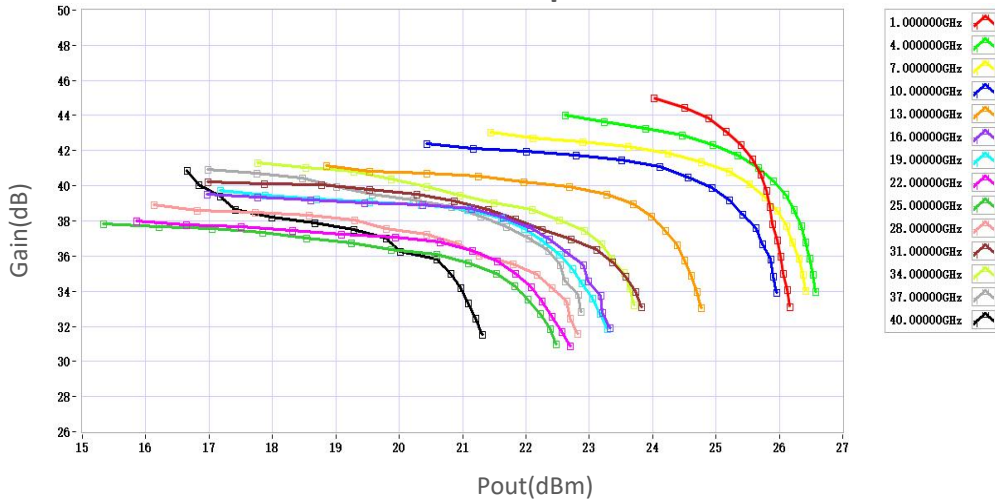
Noise Figure vs Frequency



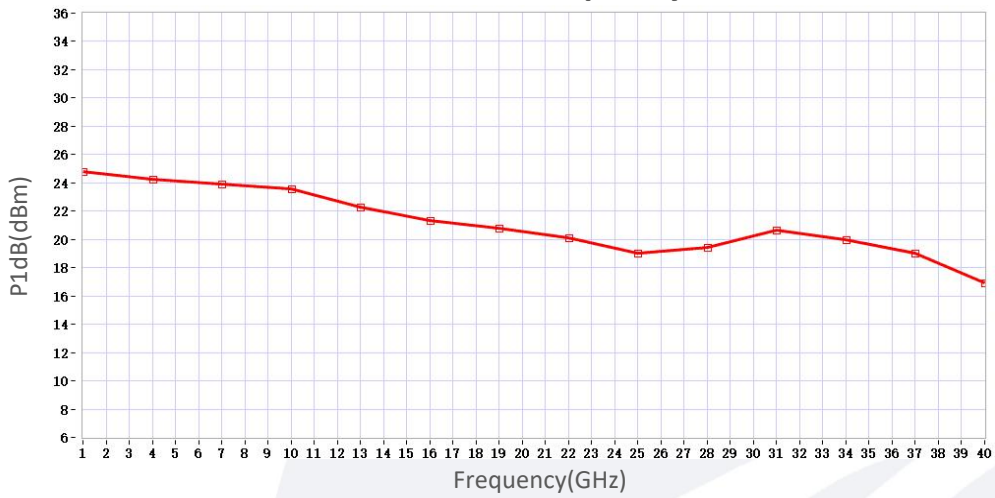
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

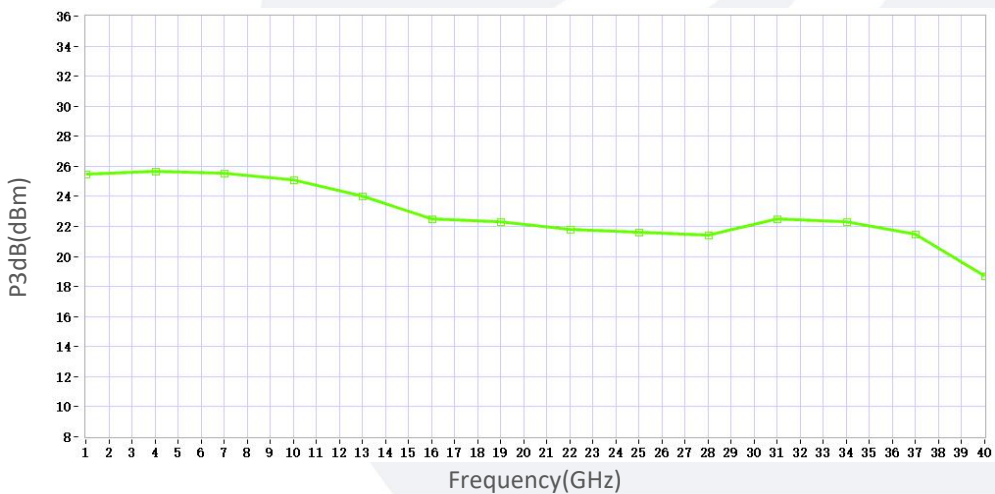
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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