

Low Noise Amplifier

1-40GHz /5.0dB NF/36dB Gain/15dBm P1dB

Model: TLLA1G40G-36-50

TLLA1G40G-36-50 is a low noise amplifier with a typical small signal gain of 36 dB and a nominal noise figure of 5.0 dB across the frequency range of 1 to 40 GHz. The DC power requirement for the amplifier is +5 V DC/400 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 1-40GHz
- Gain: 36dB Typ
- Noise Figure: 5.0dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	1		40	GHz
Small Signal Gain	33	36	39	dB
Gain Flatness		±3.0		dB
Noise Figure		5.0		dB
Output P1dB	12	15		dBm
Output Psat	13	17		dBm
VSWR		2.3		:1
Spurious		-60		dBc
DC Voltage		+5	+12	V DC
DC Supply Current		400		mA
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	44*36*12	mm
Weight	30	g

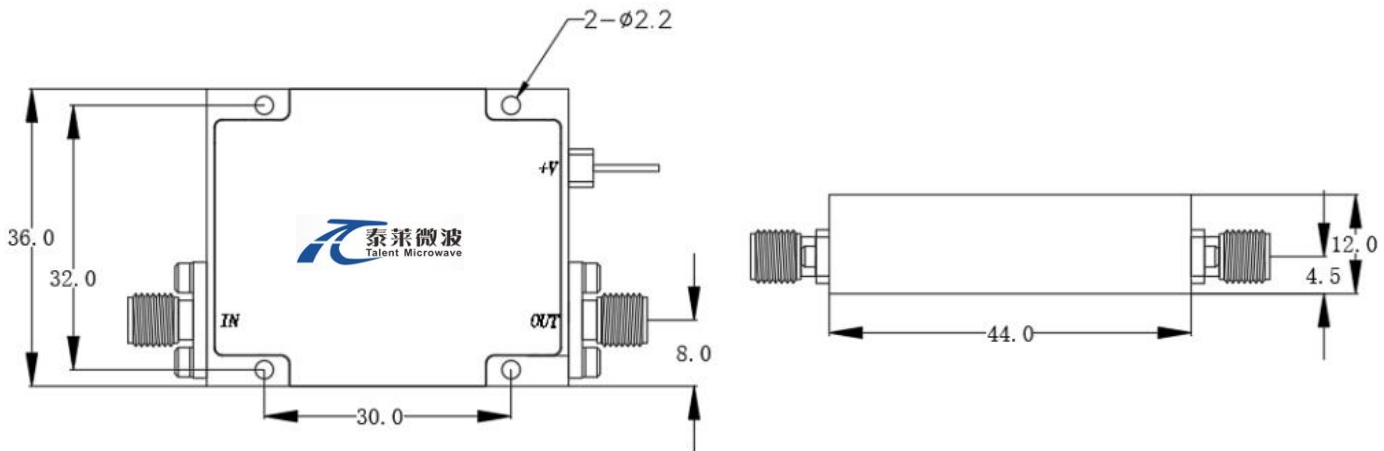
Absolute Maximum Ratings:

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

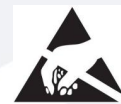


Outline Drawing:

Unit:mm



***Heat Sink Required During Operation



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

Environmental Conditions:

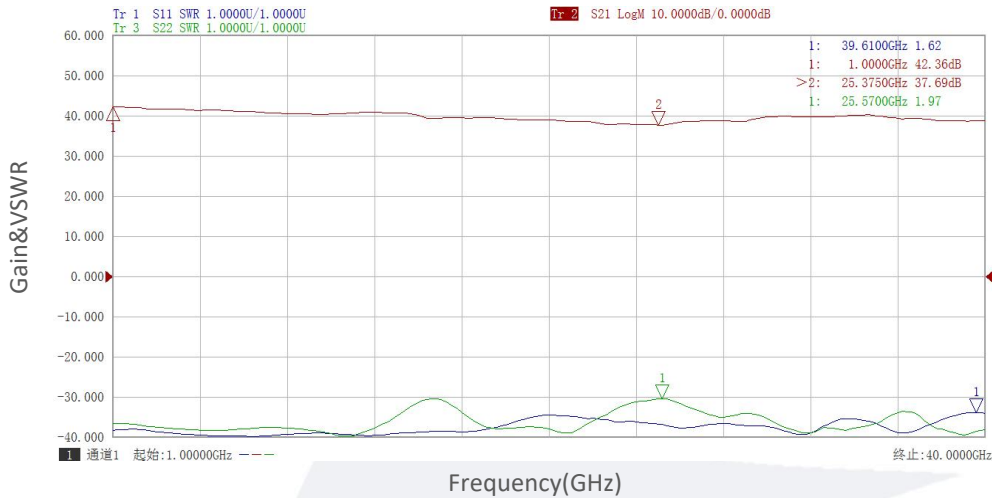
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

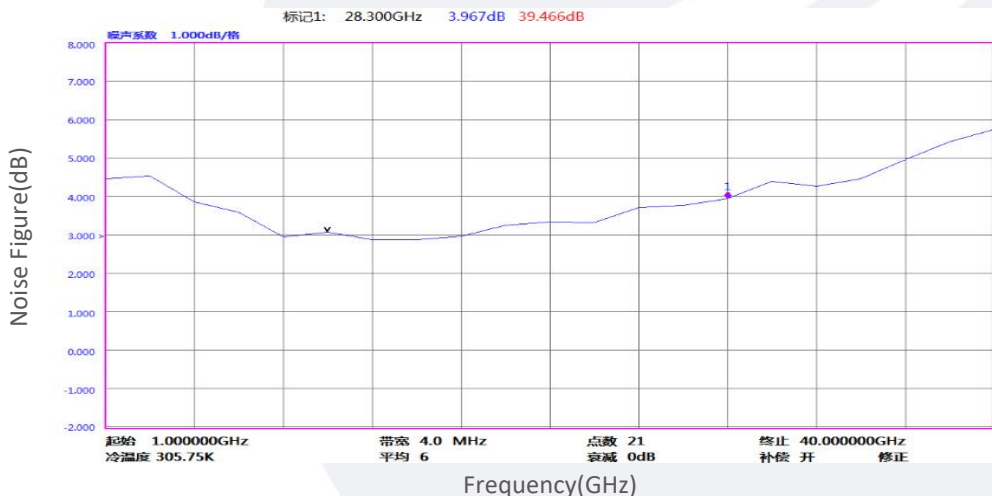
Base Number	Description	Revision
TLLA1G40G-36-50	Low Noise Amplifier, 1-40GHz, Noise Figure:5.0dB, Gain:36 dB,P1dB:15dBm,+5V DC,Without Heatsink	Rev.1.1
TLLA1G40G-36-50-HS	Low Noise Amplifier, 1-40GHz, Noise Figure:5.0dB, Gain:36 dB,P1dB:15dBm,+5V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



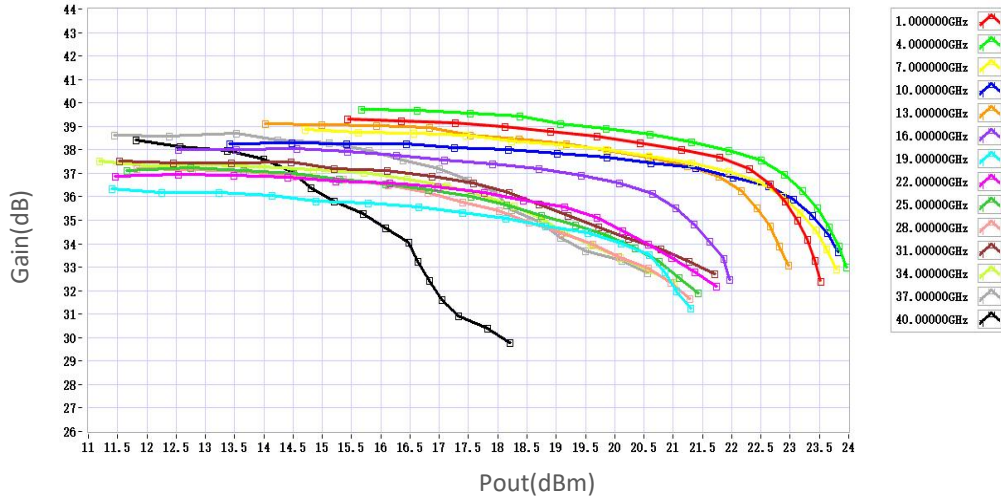
Noise Figure vs Frequency



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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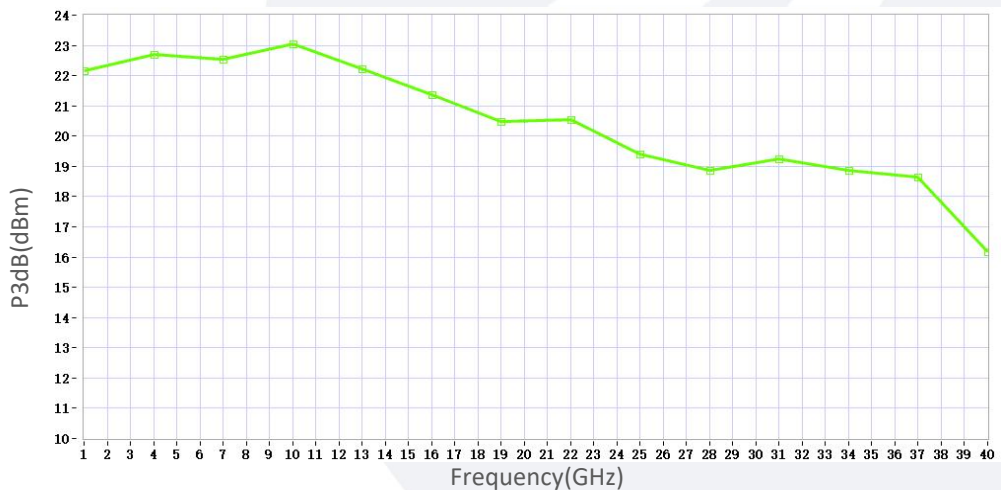
Gain vs Output Power



P1dB vs Frequency



P3dB vs Frequency



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