

Low Noise Amplifier

1-40GHz/4.5dB NF/43dB Gain/20dBm P1dB

Model: TLLA1G40G-40-45

TLLA1G40G-40-45 is a low noise amplifier with a typical small signal gain of 43 dB and a nominal noise figure of 4.5 dB across the frequency range of 1 to 40 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: 1-40GHz
- Gain: 43dB Typ
- Noise Figure: 4.5dB 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	40	43		dB
Gain Flatness		±3.0		dB
Noise Figure		4.5	5.2	dB
Output P1dB	17	20		dBm
Output Psat		21		dBm
Spurious		-60		dBc
Output IP3		28		dBm
VSWR		1.8	2.0	: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	40.3*35.3*12	mm

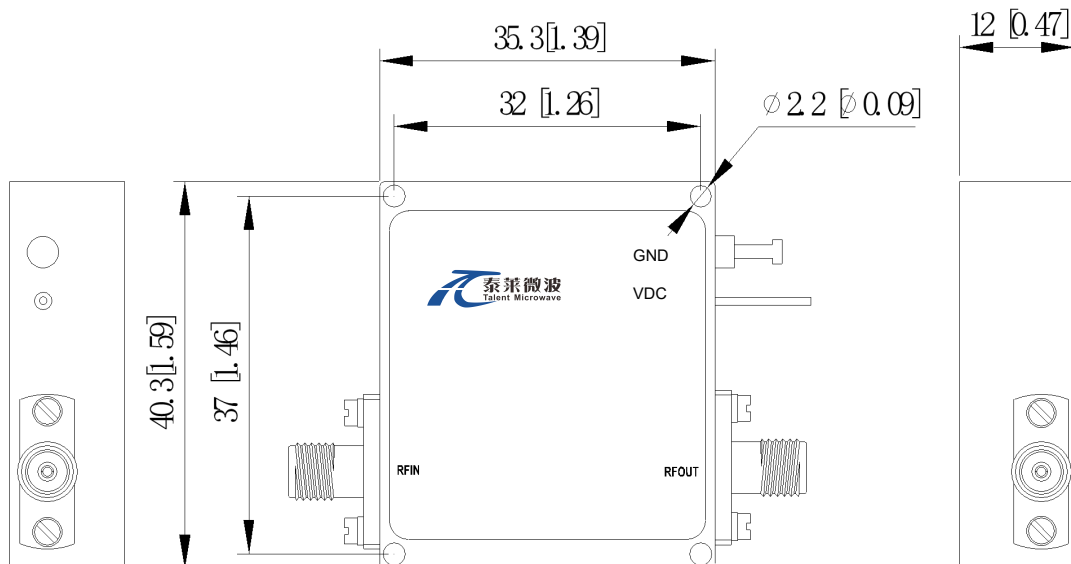
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15V
RF Input Power	-16 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



Outline Drawing:

Unit:mm



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



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Environmental Conditions:

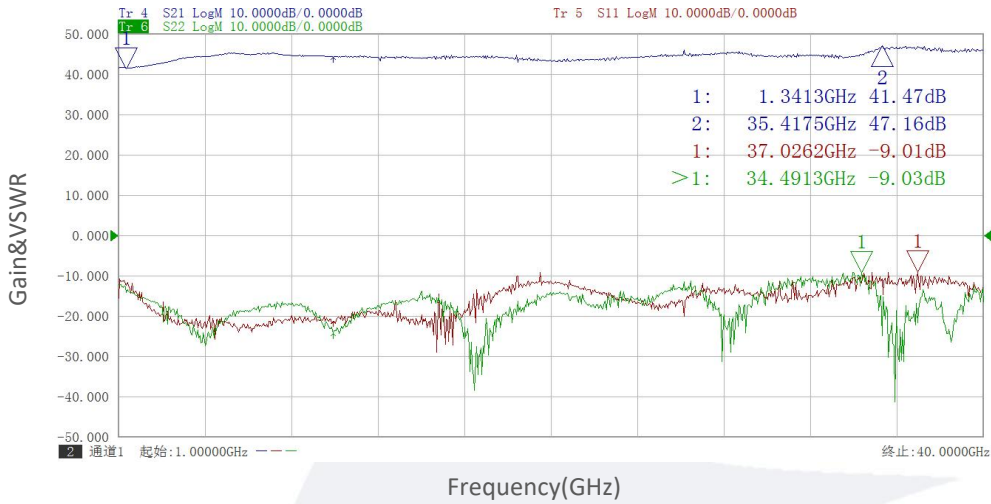
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

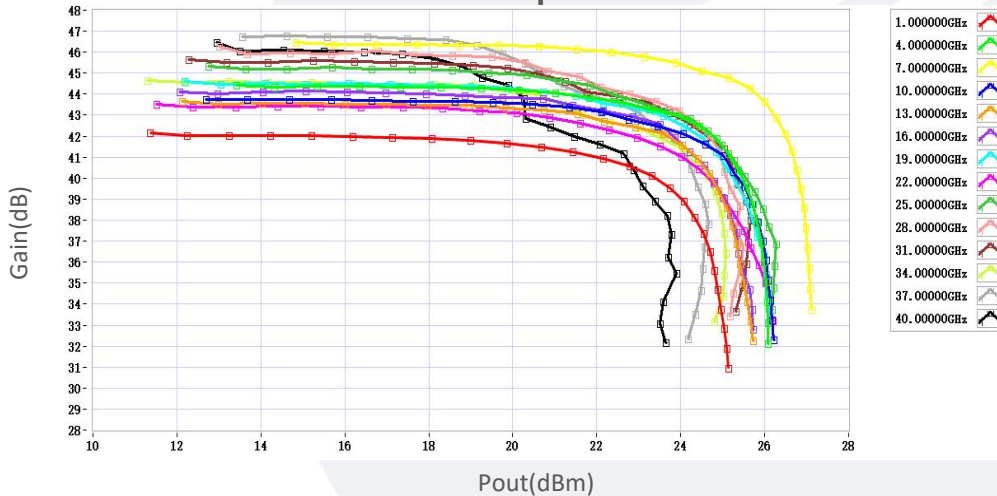
Base Number	Description	Revision
TLLA1G40G-40-45	Low Noise Amplifier, 1-40GHz, Noise Figure:4.5dB, Gain:43 dB,P1dB:20dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA1G40G-40-45-HS	Low Noise Amplifier, 1-40GHz, Noise Figure:4.5dB, Gain:43 dB,P1dB:20dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



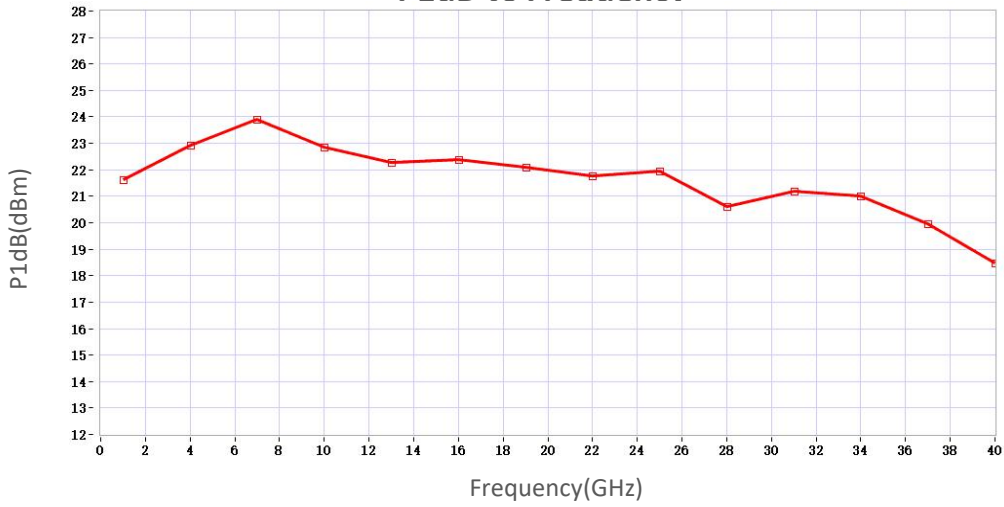
Gain vs Output Power



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



Psat vs Frequency



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