

Low Noise Amplifier

40-50GHz/2.8dB NF/40dB Gain/20dBm P1dB

Model: TLLA40G50G-40-28

TLLA40G50G-40-28 is a low noise amplifier with a typical small signal gain of 40 dB and a nominal noise figure of 2.8 dB across the frequency range of 40 to 50 GHz. The DC power requirement for the amplifier is +12 V DC/110 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Frequency range: 40-50GHz
- Gain: 40dB Typ
- Noise Figure: 2.8dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	40		50	GHz
Small Signal Gain		40		dB
Gain Flatness		±2.0		dB
Noise Figure		2.8	3	dB
Output P1dB	17	20		dBm
Input VSWR			2.2	:1
Output VSWR			2.2	:1
DC Voltage	+8	+12	+20	V DC
DC Supply Current		110		mA
Impedance		50		Ohms

Mechanical Specifications:

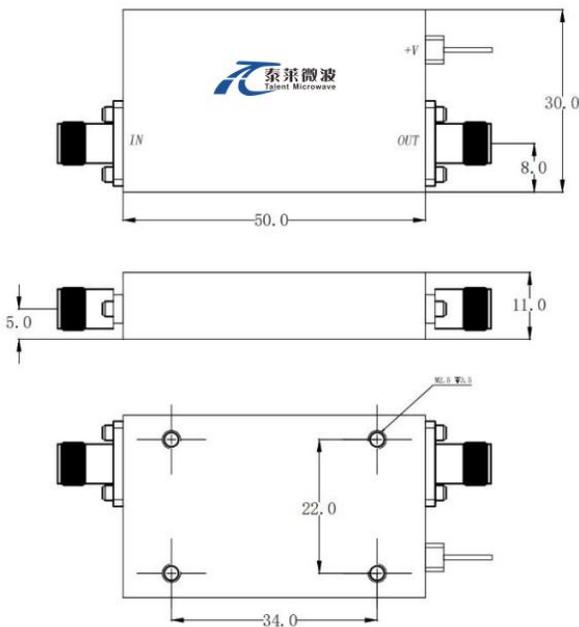
Parameter	Value	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
DC Bias	Solder Pin	
Size	50*30*11	mm
Weight	55	g

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+20 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:

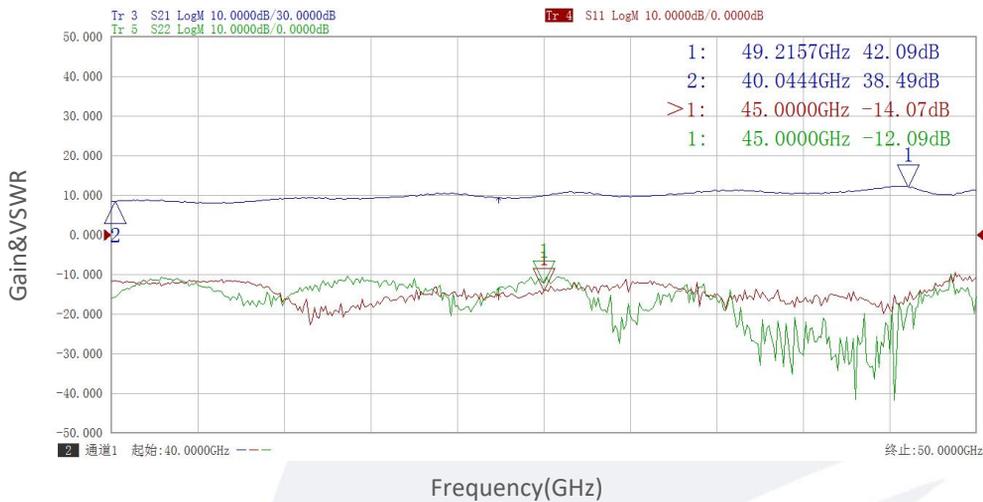
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TLLA40G50G-40-28	Low Noise Amplifier, 40-50GHz, Noise Figure:2.8dB, Gain:40 dB,P1dB:20dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA40G50G-40-28-HS	Low Noise Amplifier, 40-50GHz, Noise Figure:2.8dB, Gain:40 dB,P1dB:20dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



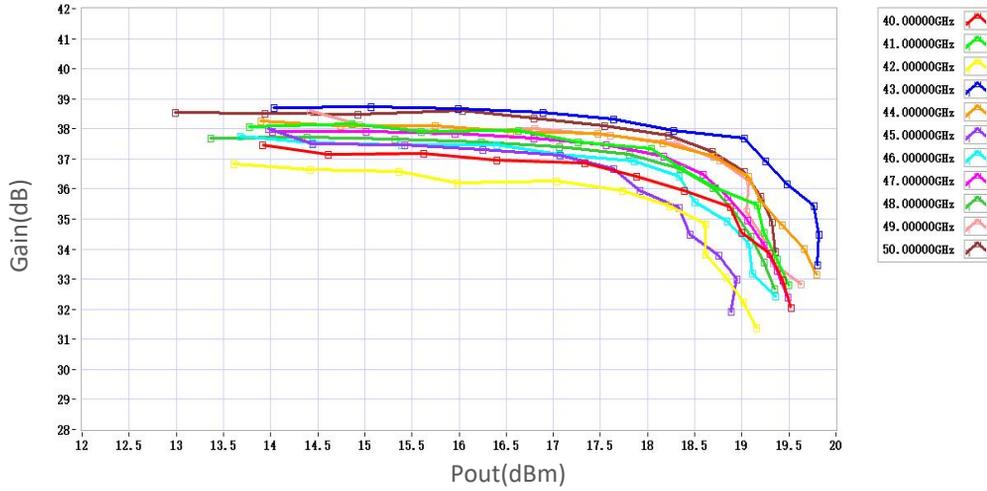
Noise Figure vs Frequency



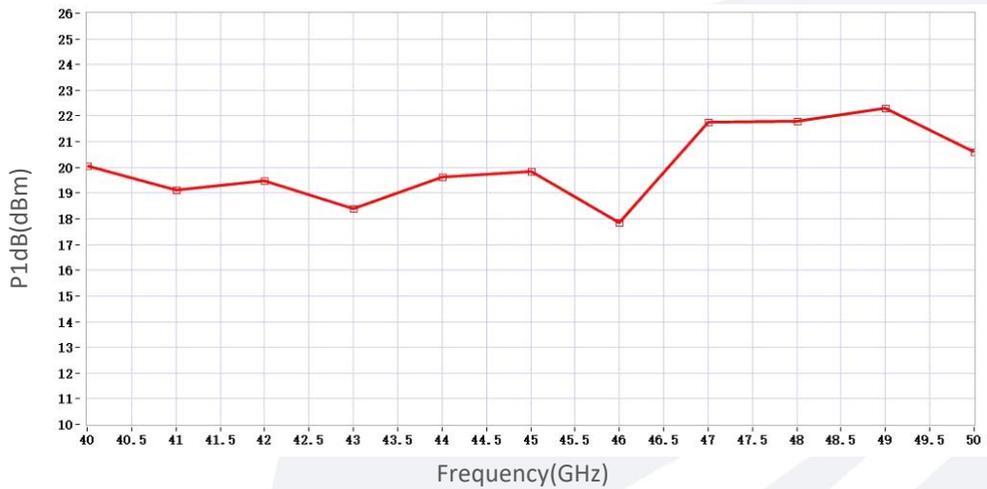
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency



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