

Low Noise Amplifier

35-50GHz/2.5dB NF/44dB Gain/12dBm P1dB

Model: TLLA35G50G-44-20

TLLA35G50G-44-20 is a low noise amplifier with a typical small signal gain of 44 dB and a nominal noise figure of 2.5 dB across the frequency range of 35 to 50 GHz. The DC power requirement for the amplifier is +12 V DC/120 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

Features:

- Frequency range: 35-50GHz
- Gain: 44dB Typ
- Noise Figure: 2.5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	35		50	GHz
Small Signal Gain	40	44		dB
Gain Flatness		±2.0	±3.0	dB
Noise Figure		2.5	3	dB
Output P1dB		12		dBm
Input VSWR		2	3	:1
Output VSWR		2	3	:1
DC Voltage		+12		V DC
DC Supply Current		120		mA
Impedance		50		Ohms

Mechanical Specifications:

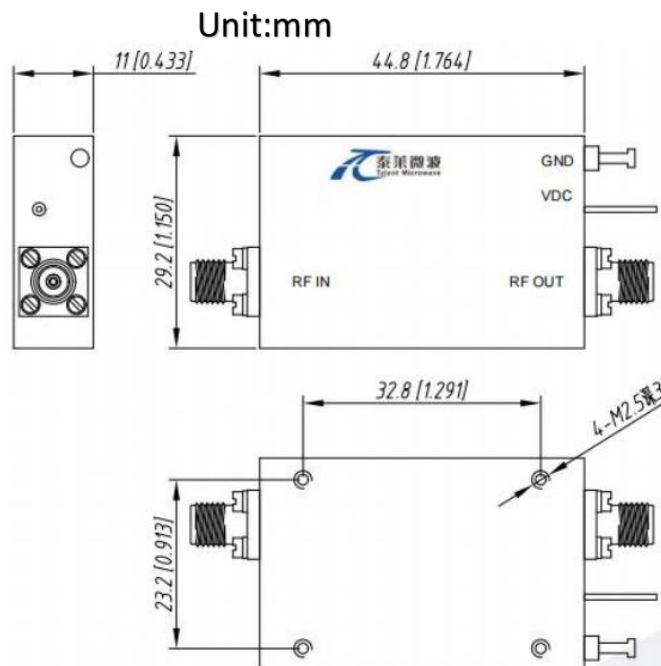
Parameter	Value	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm
Weight	55	g

Absolute Maximum Ratings:

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



Outline Drawing:



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



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

Environmental Conditions:

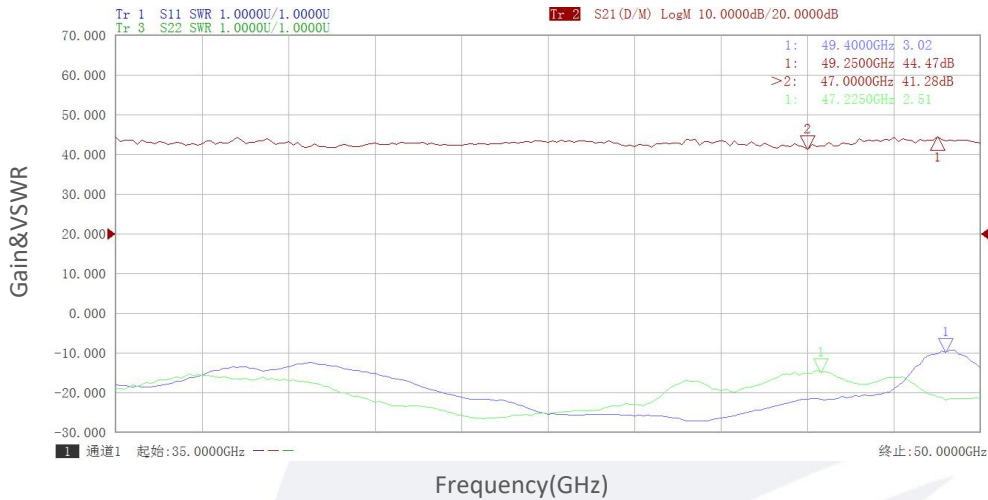
Parameter	Min	Typ	Max	Units
Operating Temperature	-40		+125	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TLLA35G50G-44-20	Low Noise Amplifier, 35-50GHz, Noise Figure:2.5dB, Gain:44 dB,P1dB:12dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA35G50G-44-20-HS	Low Noise Amplifier, 35-50GHz, Noise Figure:2.5dB, Gain:44 dB,P1dB:12dBm,+12V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



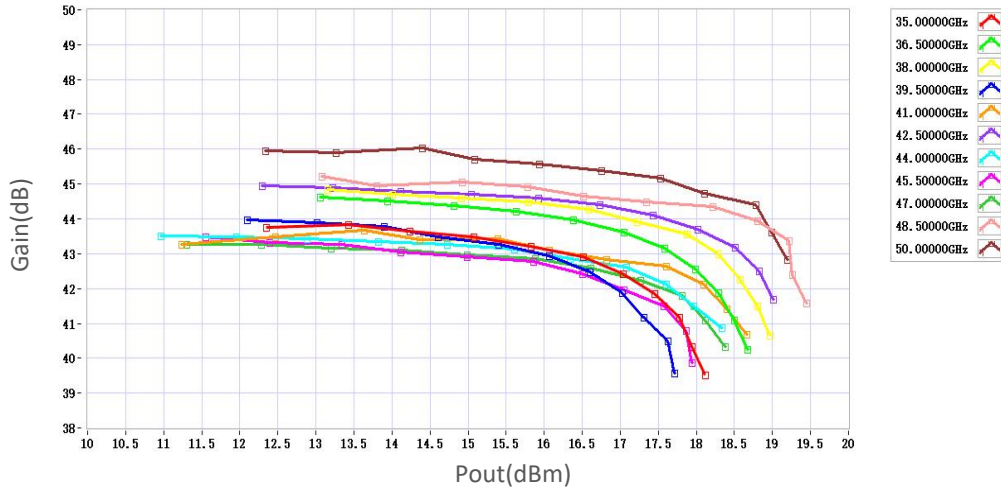
Noise Figure vs Frequency



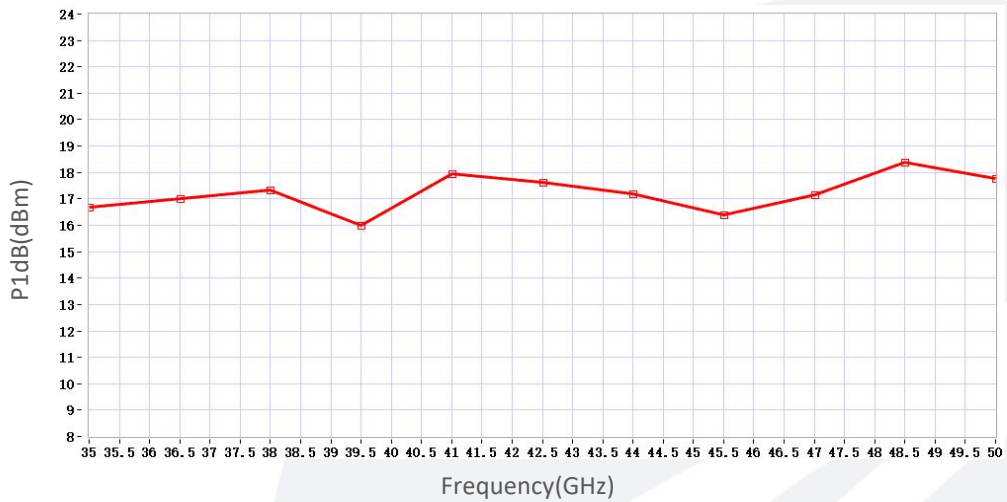
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

Gain vs Output Power



P1dB vs Frequency



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