

Low Noise Amplifier

4-20GHz/6.5dB NF/12dB Gain/21dBm P1dB

Model: TLLA4G20G-12-65

TLLA4G20G-12-65 is a low noise amplifier with a typical small signal gain of 12 dB and a nominal noise figure of 6.5 dB across the frequency range of 4 to 20 GHz. The DC power requirement for the amplifier is +8 V DC/135 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 4-20GHz
- Gain: 12dB Typ
- Noise Figure: 6.5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	4		20	GHz
Small Signal Gain	11	12		dB
Phase Noise	-162@10kHz			dBc/Hz
Noise Figure		6.5		dB
Output P1dB		21		dBm
Output Psat		22		dBm
Input VSWR		1.8		:1
Output VSWR		1.8		:1
DC Voltage	+7	+8	+9	V DC
DC Supply Current		135		mA
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	20*28*10	mm

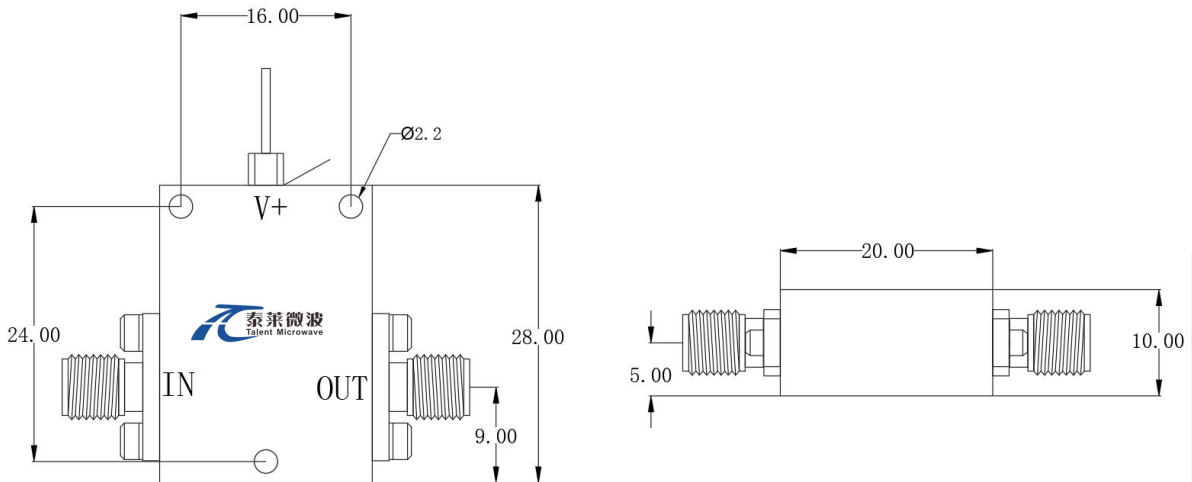
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+9 V
RF Input Power	+5 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	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
TLLA4G20G-12-65	Low Noise Amplifier, 4-20GHz, Noise Figure:6.5dB, Gain:12dB,P1dB:21dBm,+8V DC,Without Heatsink	Rev.1.1
TLLA4G20G-12-65-HS	Low Noise Amplifier, 4-20GHz, Noise Figure:6.5dB, Gain:12dB,P1dB:21dBm,+8V DC,With Heatsink	Rev.1.1