

Low Noise Amplifier

0.1-8GHz/4.5dB NF/22dB Gain/21 dBm P1dB

Model: TLLA0.1G8G-22-45

TLLA0.1G8G-22-45 is a low noise amplifier with a typical small signal gain of 22 dB and a nominal noise figure of 4.5 dB across the frequency range of 0.1 to 8 GHz. The DC power requirement for the amplifier is +10 V DC/300 mA. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 0.1-8GHz
- Gain: 22dB 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	0.1		8	GHz
Small Signal Gain	20	22		dB
Gain Flatness		±3.0		dB
Noise Figure		4.5		dB
Output P1dB		21		dBm
Output Psat		22		dBm
Input VSWR		1.8		:1
Output VSWR		1.8		:1
DC Voltage	+8	+10	+15	V DC
DC Supply Current		300		mA
Impedance		50		Ohms

Mechanical Specifications:

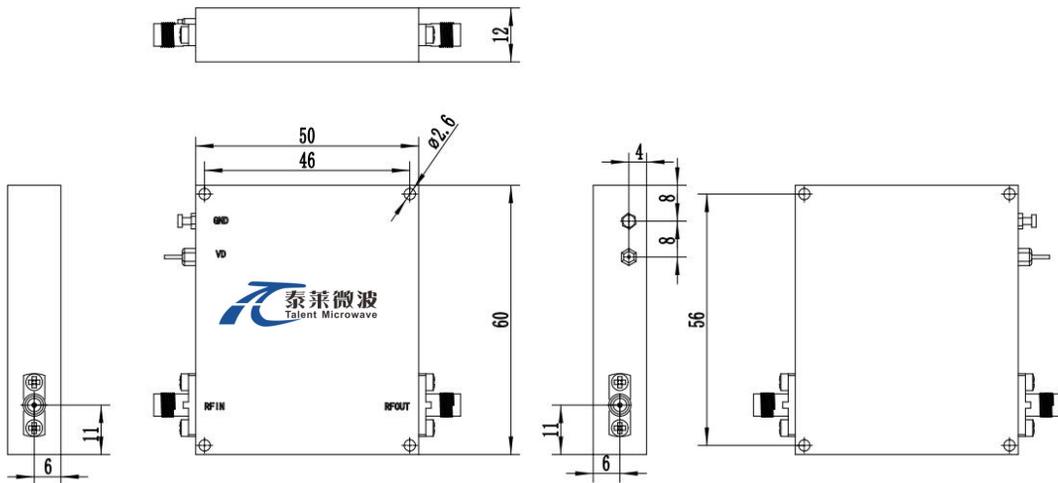
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	50*60*12	mm

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 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	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
TLLA0.1G8G-22-45	Low Noise Amplifier, 0.1-8GHz, Noise Figure:4.5dB, Gain:22 dB,P1dB:21dBm,+10V DC,Without Heatsink	Rev.1.1
TLLA0.1G8G-22-45-HS	Low Noise Amplifier, 0.1-8GHz, Noise Figure:4.5dB, Gain:22 dB,P1dB:21dBm,+10V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



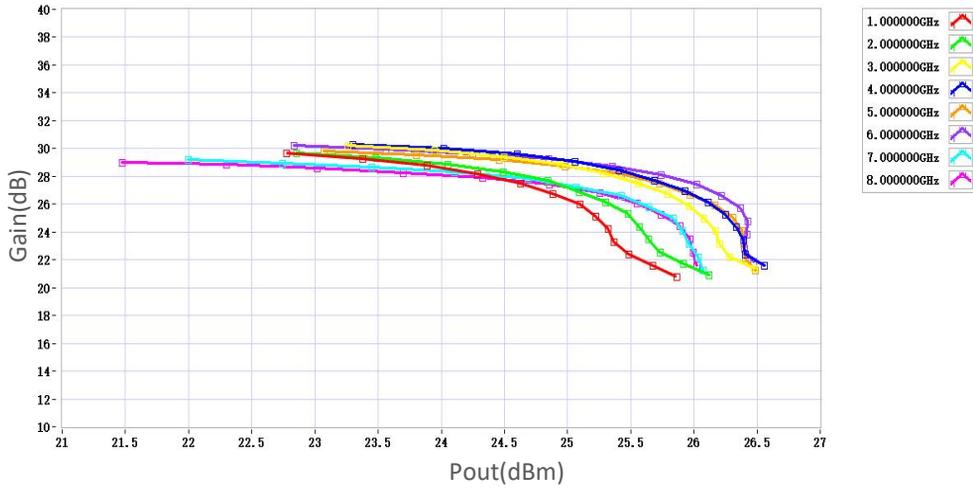
Noise Figure vs Frequency



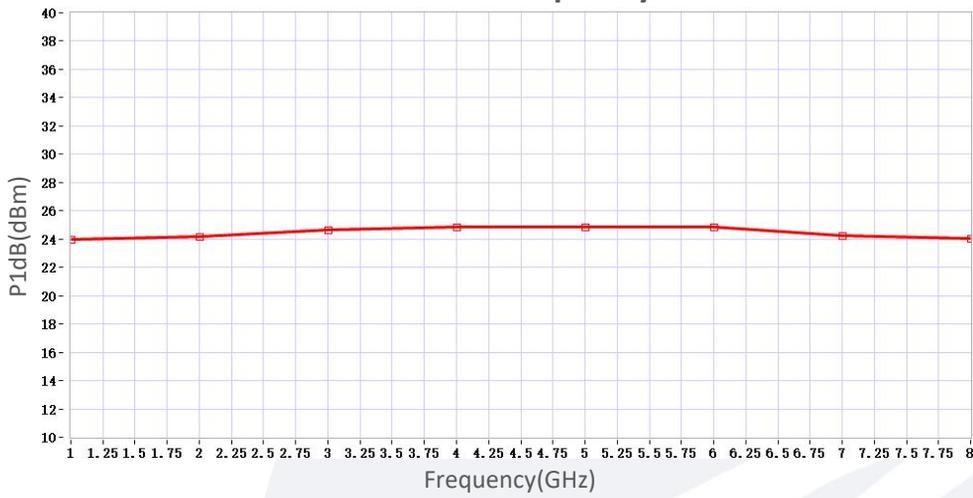
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

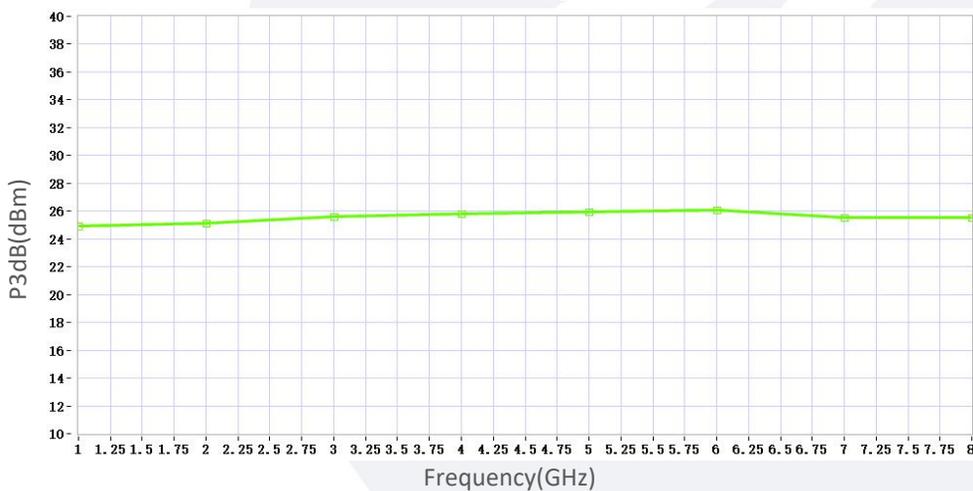
Gain vs Output Power



P1dB vs Frequency



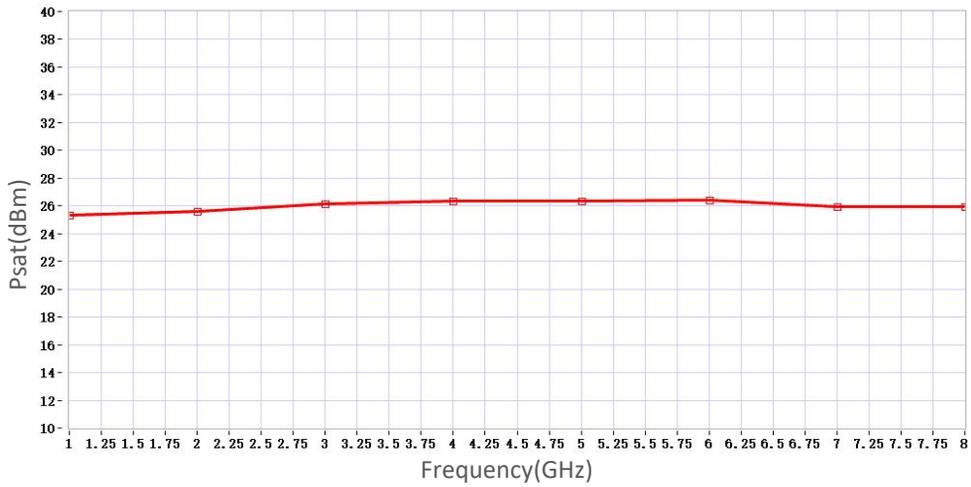
P3dB vs Frequency



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Typical Performance Data:

Psat vs Frequency



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