

## Low Noise Amplifier

6-18GHz/2.0dB NF/39dB Gain/20dBm P1dB

Model: TLLA6G18G-39-20

TLLA6G18G-39-20 is a low noise amplifier with a minimum small signal gain of 39 dB and a maximum noise figure of 2.0 dB across the frequency range of 6 to 18 GHz. The DC power requirement for the amplifier is +12 V DC/100 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 6-18GHz
- Gain: 39dB Min
- Noise Figure: 2.0dB Max
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Communication systems

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	6		18	GHz
Small Signal Gain	39	42		dB
Gain Flatness		±2.0		dB
Noise Figure			2	dB
Output P1dB	20			dBm
Input VSWR		2		:1
Output VSWR		2		:1
DC Voltage		+12		V DC
DC Supply Current			100	mA
Impedance	50			Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm

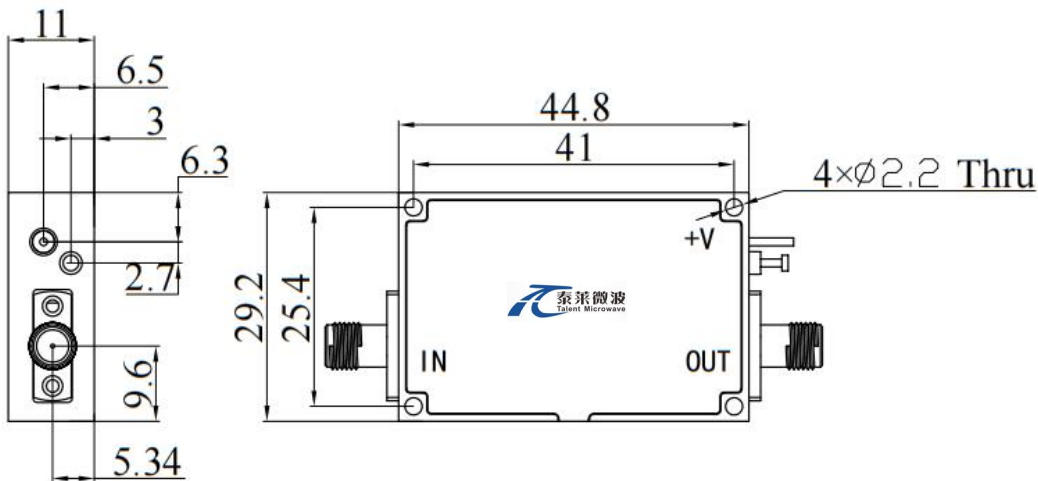
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15V
RF Input Power	+18 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:

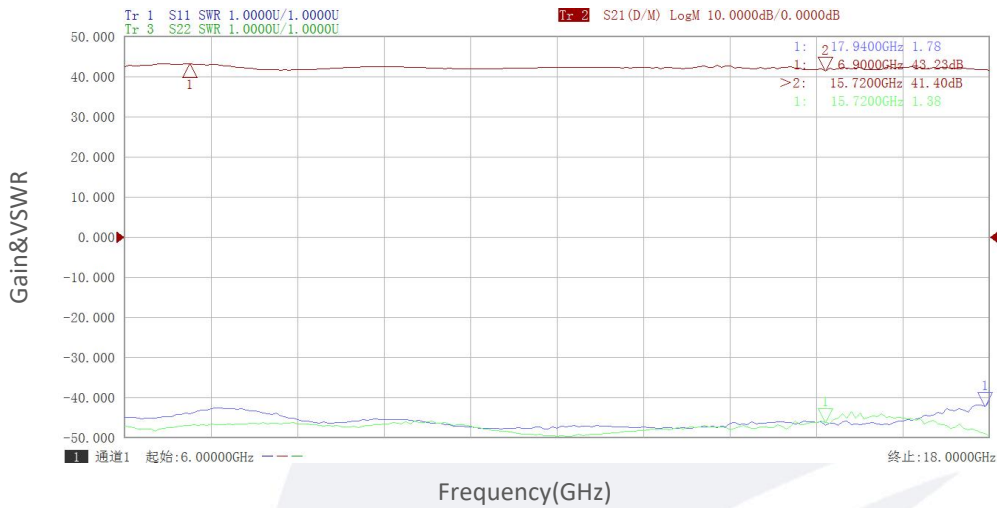
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	50,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

### Ordering Information:

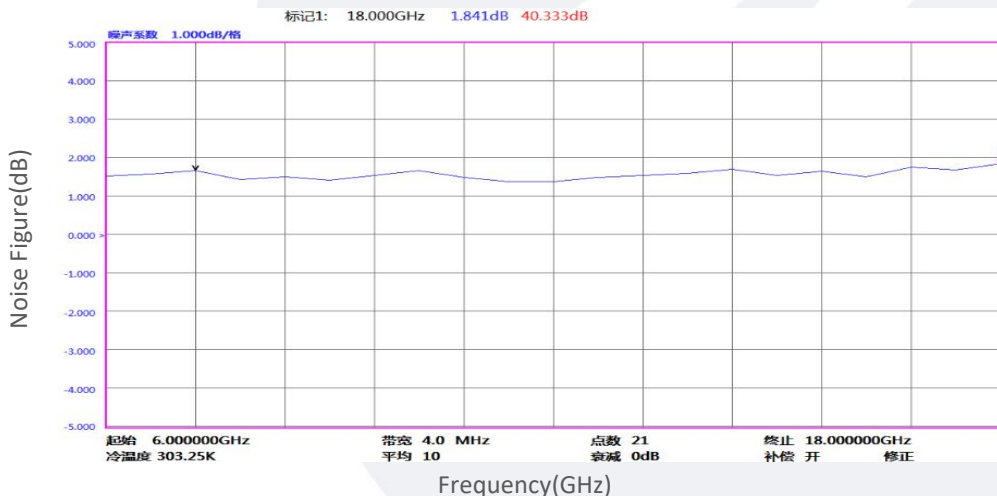
Base Number	Description	Revision
TLLA6G18G-39-20	Low Noise Amplifier, 6-18GHz, Noise Figure:2.0dB, Gain:39dB,P1dB:20dBm,+12V DC,Without Heatsink	Rev.1.1
TLLA6G18G-39-20-HS	Low Noise Amplifier, 6-18GHz, Noise Figure:2.0dB, Gain:39dB,P1dB:20dBm,+12V DC,With Heatsink	Rev.1.1

### Typical Performance Data:

#### Gain&VSWR vs Frequency



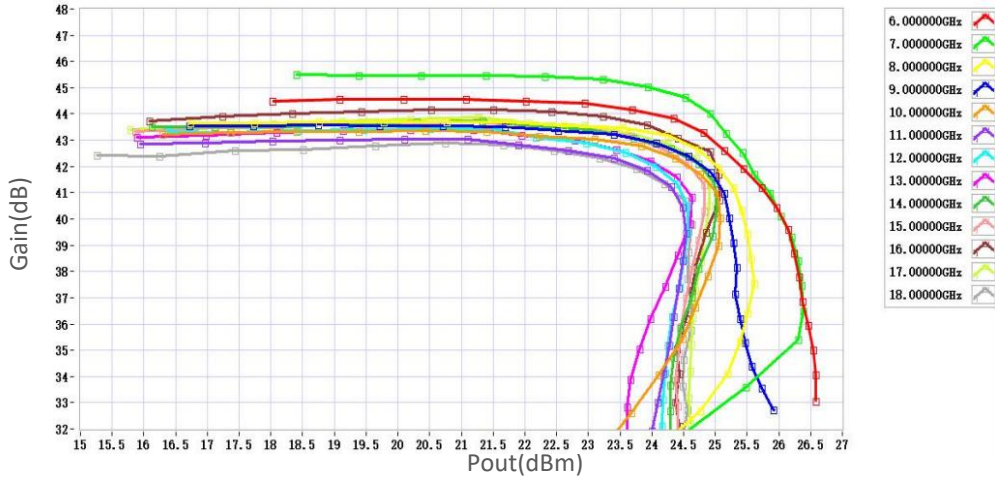
#### Noise Figure vs Frequency



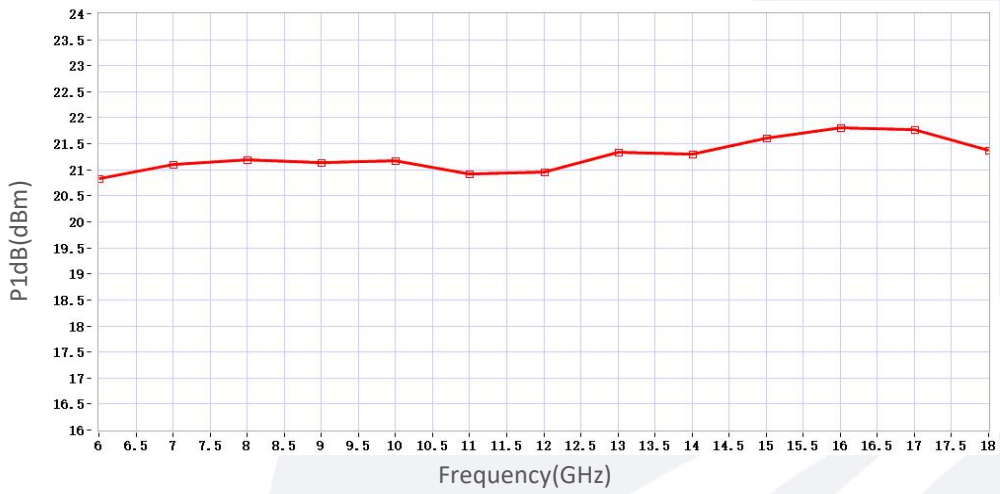
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

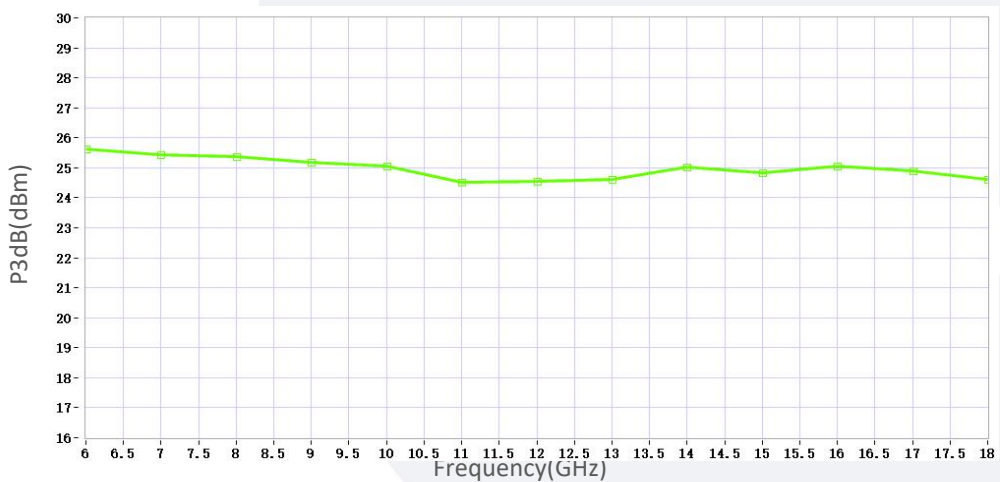
### Gain vs Output Power



### P1dB vs Frequency

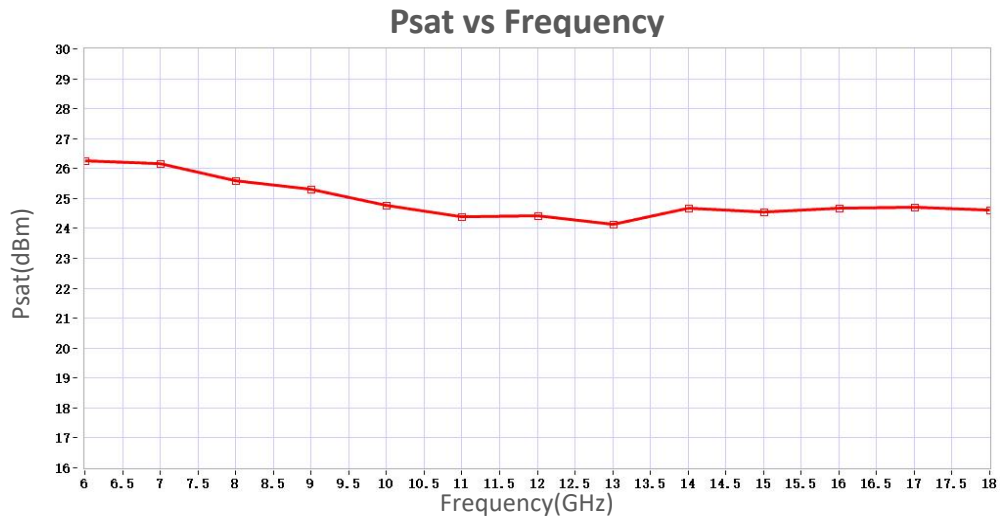


### P3dB vs Frequency



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