

## Low Noise Amplifier

0.01-18GHz/3.0dB NF/30dB Gain/21dBm P1dBm

18-40GHz/5.5dB NF/29dB Gain/19dBm P1dBm

Model: TLLA10M40G-30-30

TLLA10M40G-30-30 is a low noise amplifier with a typical small signal gain of 30 dB and a nominal noise figure of 3.0 dB across the frequency range of 0.01 to 18 GHz. And offers a typical small signal gain of 29 dB and a nominal noise figure of 5.5 dB across the frequency range of 18 to 40 GHz. The DC power requirement for the amplifier is +12 V DC/350 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Frequency range: 0.01-40GHz
- Gain: 30dB @Band A Typ; 29dB @Band B Typ
- Noise Figure: 3.0dB @Band A Typ; 5.5dB @Band B Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Communication systems

### Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Frequency range		Band A:0.01-18; Band B:18-40			GHz
Small Signal Gain	@0.01-18GHz	25	30		dB
	@18-40GHz	24	29		
Gain Flatness	@0.01-18GHz		±3		dB
	@18-40GHz		±2.5		
Noise Figure	@0.01-18GHz		3		dB
	@18-40GHz		5.5		
Output P1dB	@0.01-18GHz	18	21		dBm
	@18-40GHz	16	19		
Output Psat	@0.01-18GHz		23		dBm
	@18-40GHz		21		
Output IP3	@0.01-18GHz		31		dBm
	@18-40GHz		28		

### Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Input VSWR	@0.01-18GHz		1.8		:1
	@18-40GHz		2		
Output VSWR	@0.01-18GHz		1.8		:1
	@18-40GHz		2		
DC Voltage			+12		V DC
DC Supply Current			350	400	mA
Impedance			50		Ohms

### Mechanical Specifications:

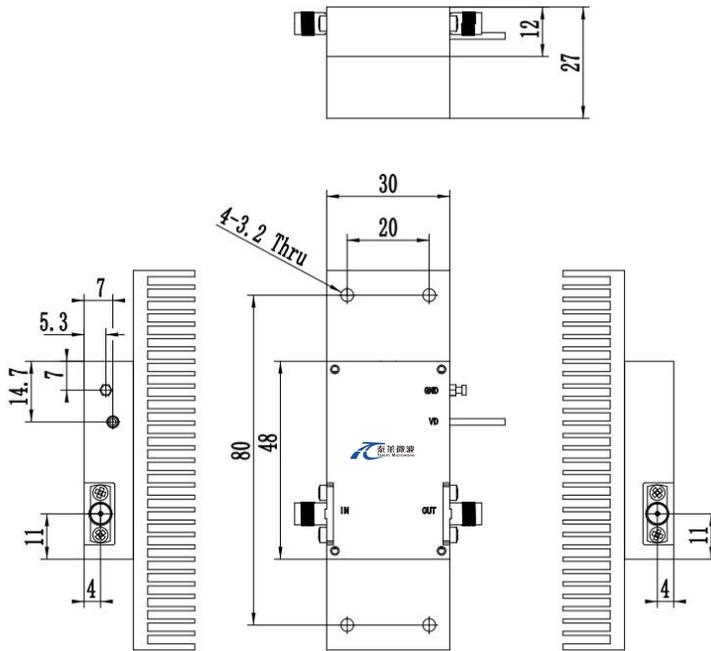
Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	30*48*12(Without Heatsink) 30*92*27(With Heatsink)	mm
Weight	40	g

### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+2 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

**Outline Drawing:**

Unit:mm




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

**Environmental Conditions:**

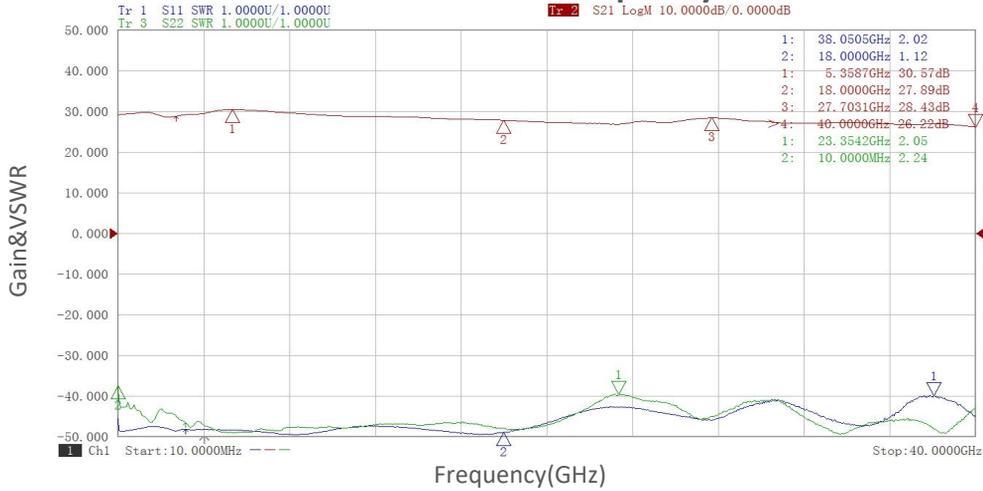
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude		50,000		feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

**Ordering Information:**

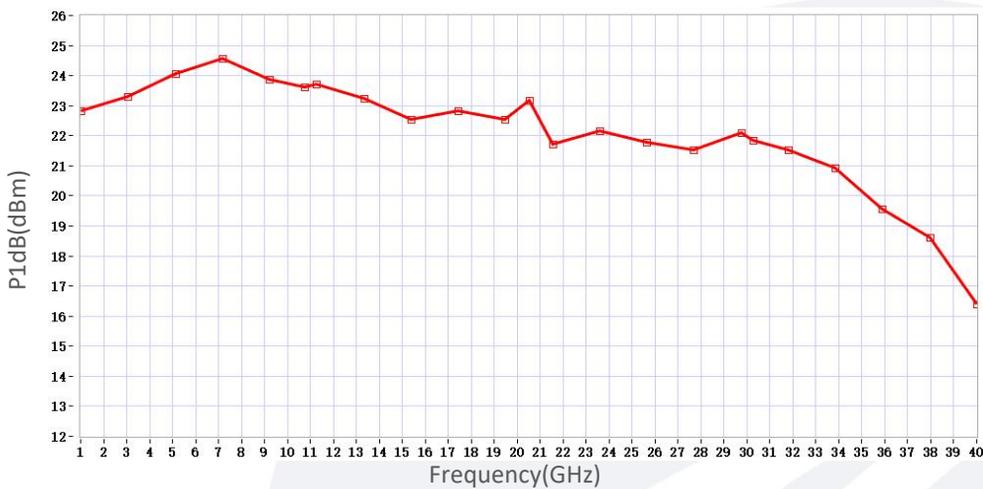
Base Number	Description	Revision
TLLA10M40G-30-30	Low Noise Amplifier, Band A: Noise Figure:3.0dB, Gain:30 dB,P1dB:21dBm,18-40GHz, Noise Figure:5.5dB, Gain:29 dB,P1dB:19dBm; +12V DC,Without Heatsink	Rev.1.1
TLLA10M40G-30-30-HS	Low Noise Amplifier, Band A: Noise Figure:3.0dB, Gain:30 dB,P1dB:21dBm,18-40GHz, Noise Figure:5.5dB, Gain:29 dB,P1dB:19dBm; +12V DC,With Heatsink	Rev.1.1

## Typical Performance Data:

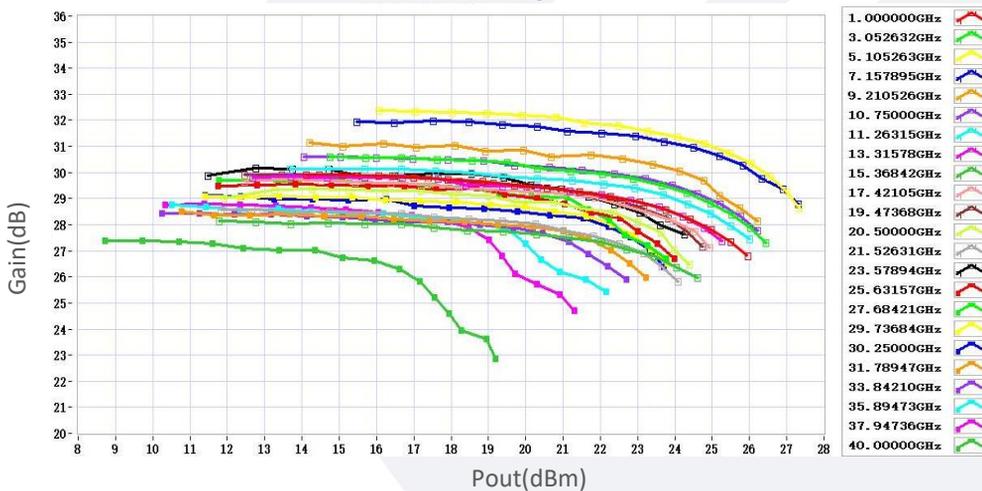
### Gain&VSWR vs Frequency



### P1dB vs Frequency



### Gain vs Output Power



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.