泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

# Low Noise Amplifier

## 18-40GHz /2.5dB NF/53dB Gain/16 dBm P1dB

## Model: TLLA18G40G-53-30

TLLA18G40G-53-30 is a low noise amplifier with a typical small signal gain of 53 dB and a nominal noise figure of 2.5 dB across the frequency range of 18 to 40 GHz. The DC power requirement for the amplifier is +12 V DC/180 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Ultra Wide Band:18-40GHz
- Gain: 53dB 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 | 18 | | 40 | GHz |
| Gain | 50 | 53 | | dB |
| Gain Flatness | | ±3 | | dB |
| Noise Figure | | 2.5 | 3.5 | dB |
| Output P1dB | | 16 | | dBm |
| Input VSWR | | 2.5 | | :1 |
| Output VSWR | | 2 | | :1 |
| DC Voltage | | +12 | +15 | V DC |
| DC Supply Current | | 180 | | mA |
| Impedance | | 50 | | Ohms |

### Mechanical Specifications:

| Parameter | Value | Units |
|---|---|---|
| Input /Output Connector | 2.92mm Female/2.92mm Female | |
| DC Bias | Solder Pin | |
| Size | 50*30*11 | mm |
| Weight | 55 | g |

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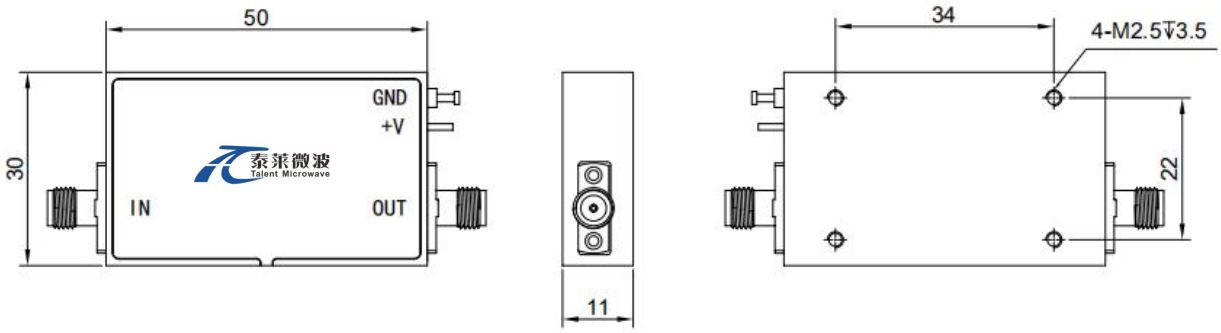
## Absolute Maximum Ratings:

| 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 | -40 | | +85 | ℃ |
| Non-operating Temperature | -55 | | +125 | ℃ |
| 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 | | | |

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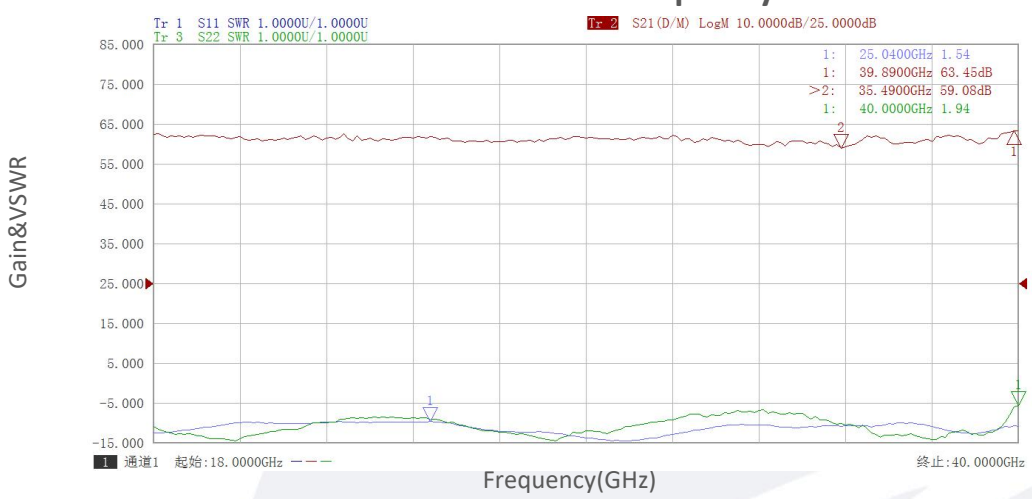
## Ordering Information:

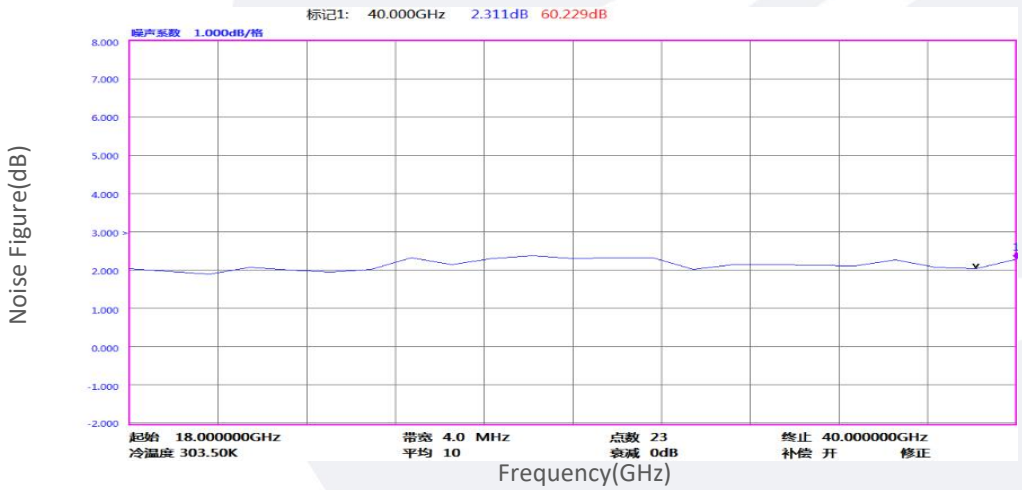
| Base Number | Desciption | Revision |
|---|---|---|
| TLLA18G40G-53-30 | Low Noise Amplifier, 18-40GHz, Noise Figure:2.5dB, Gain:53 dB,P1dB:16dBm,+12V DC,Without Heatsink | Rev.1.1 |
| TLLA18G40G-53-30-HS | Low Noise Amplifier, 18-40GHz, Noise Figure:2.5dB, Gain:53 dB,P1dB:16dBm,+12V DC,With Heatsink | |

## 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.

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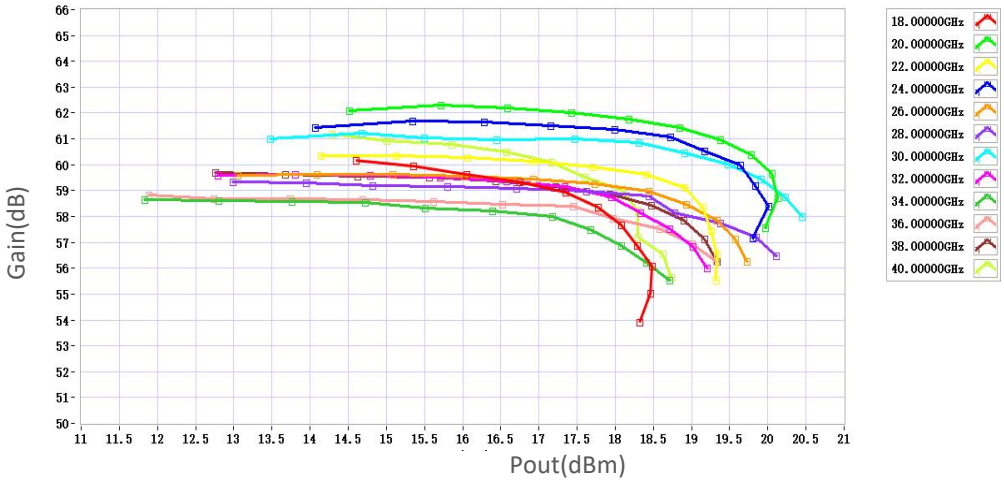
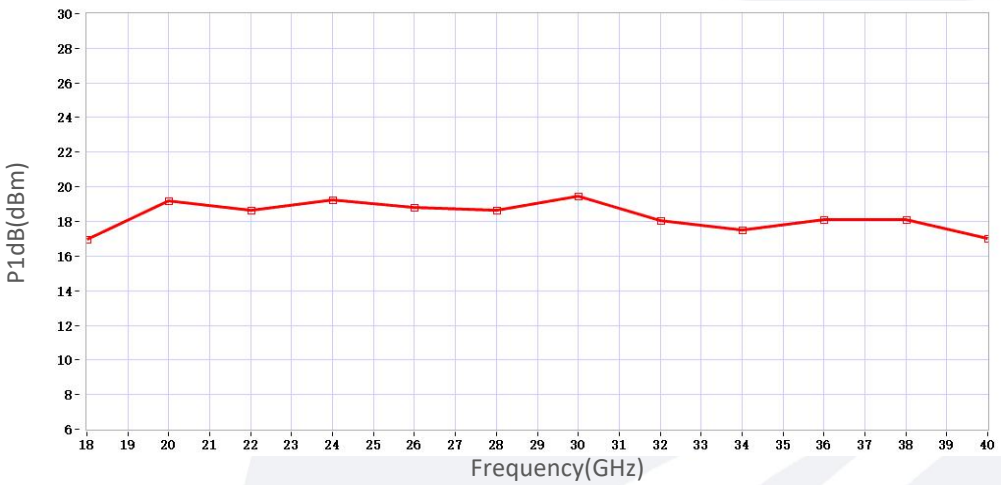
## Typical Performance Data:

### Gain vs Output Power




### P1dB vs Frequency

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