泰莱微波
Talent Microwave

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# Low Noise Amplifier

## 1-40GHz/5dB NF/43dB Gain/18dBm P1dB

## Model: TLLA1G40G-40-50

TLLA1G40G-40-50 is a low noise amplifier with a typical small signal gain of 43 dB and a nominal noise figure of 5 dB across the frequency range of 1 to 40 GHz. The DC power requirement for the amplifier is +12 V DC/500 mA. The input and output port configuration offers coax adapter structure with 2.92mm female.

### Features:

- Frequency range: 1-40GHz
- Gain: 43dB Typ
- Noise Figure: 5.0dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Communication systems

### Electrical Characteristics:

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Frequency range | 1 | | 40 | GHz |
| Small Signal Gain | | 43 | | dB |
| Gain Flatness | | ±2.5 | | dB |
| Noise Figure | | 5 | | dB |
| Output P1dB | | 18 | | dBm |
| Input VSWR | | 2 | 2.5 | :1 |
| Output VSWR | | 2 | 2.5 | :1 |
| DC Voltage | +8 | +12 | | V DC |
| DC Supply Current | | 500 | | mA |
| Impedance | | 50 | | Ohms |

### Mechanical Specifications:

| Parameter | Value | Units |
|---|---|---|
| Input /Output Connector | 2.92mm Female/2.92mm Female | |
| DC Bias | Solder Pin | |
| Size | 44*36*12 | mm |
| Weight | 30 | g |

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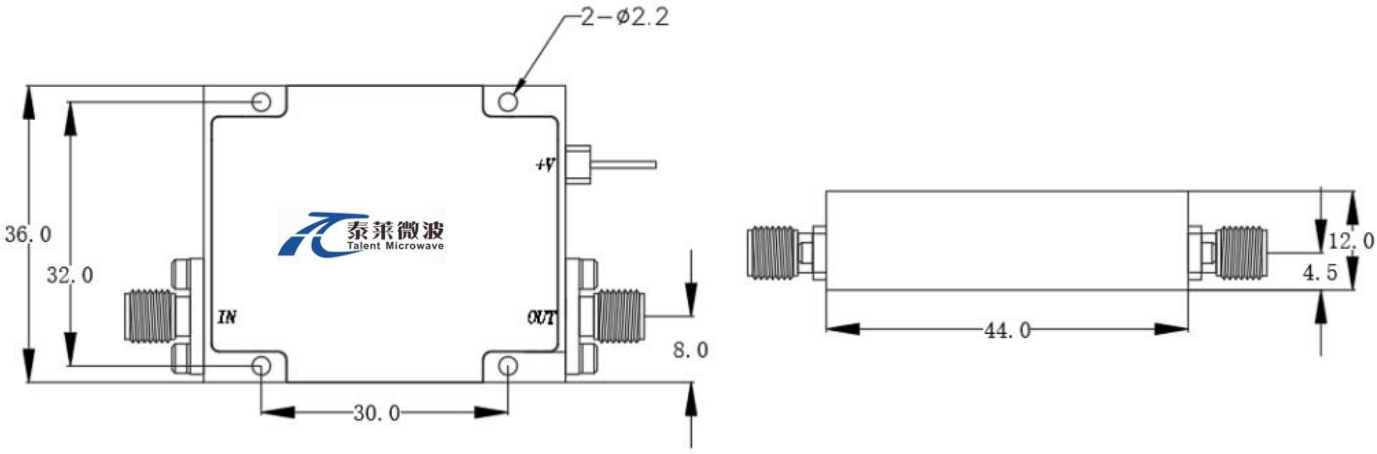
## Absolute Maximum Ratings:

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

Simple 220V System
Available SAC option

## 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 | ℃ |
| 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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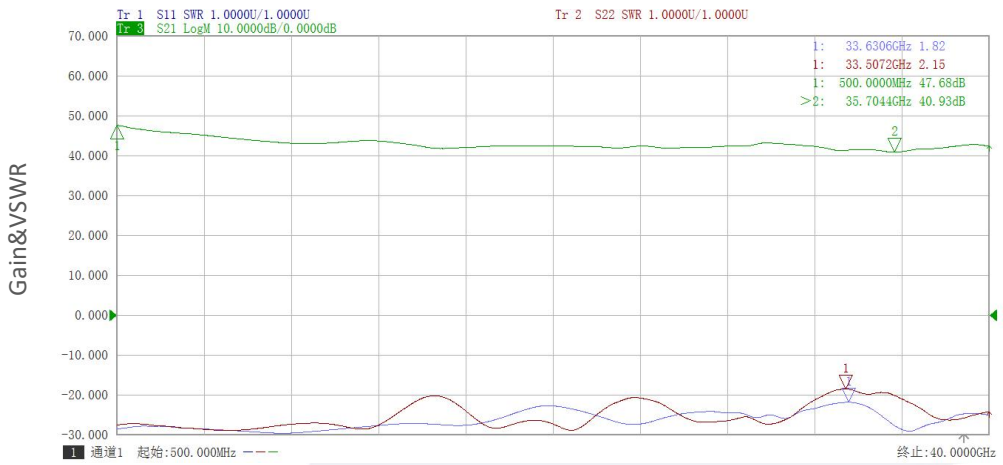
## Ordering Information:

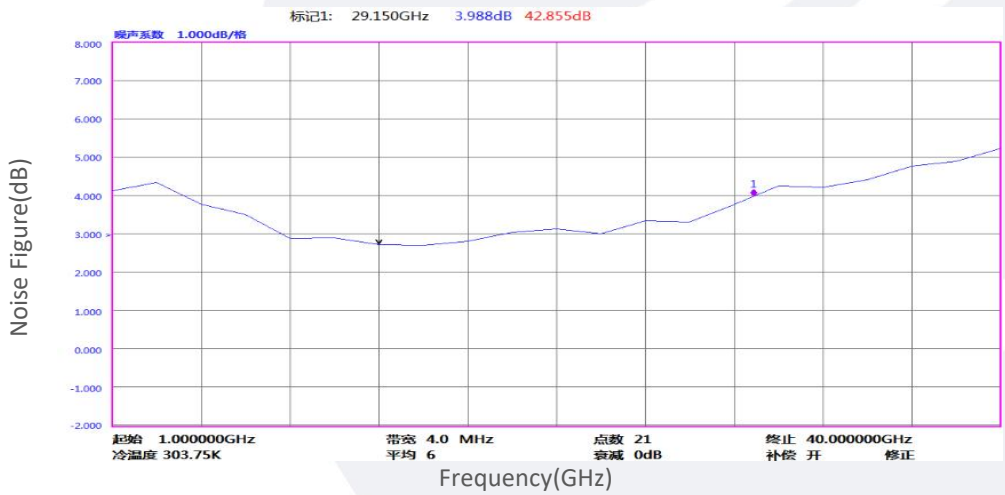
| Base Number | Description | Revision |
|---|---|---|
| TLLA1G40G-40-50 | Low Noise Amplifier, 1-40GHz, Noise Figure:5.0dB, Gain:43 dB, P1dB:18dBm, +12V DC, Without Heatsink | Rev.1.1 |
| TLLA1G40G-40-50-HS | Low Noise Amplifier, 1-40GHz, Noise Figure:5.0dB, Gain:43 dB, P1dB:18dBm, +12V DC, With Heatsink | 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.

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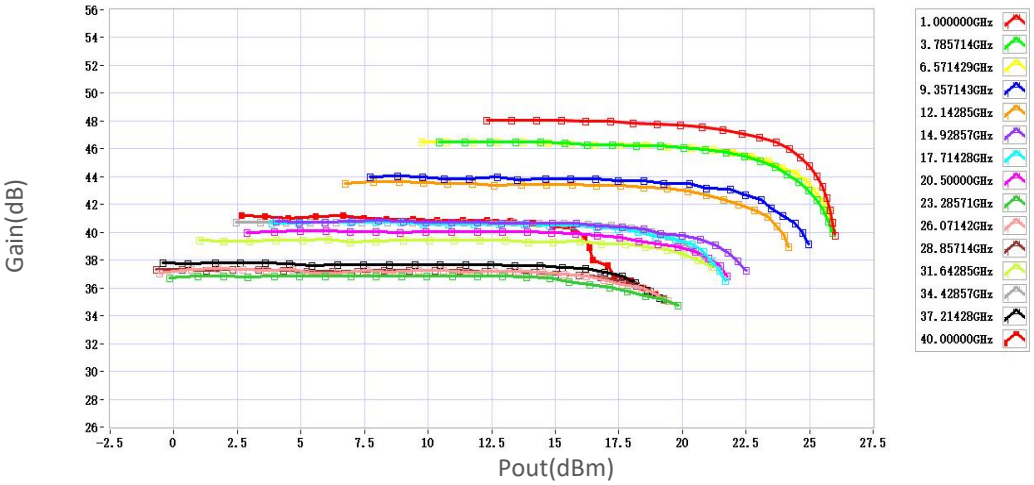
## Typical Performance Data:

### Gain vs Output Power




### P1dB 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.