泰莱微波 Talent Microwave

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# Low Noise Amplifier

## 0.01-50GHz/6.0dB NF/32dB Gain/19dBm P1dB Model: TLLA0.01G50G-33-60

TLLA0.01G50G-33-60 is a low noise amplifier with a typical small signal gain of 32 dB and a nominal noise figure of 6.0 dB across the frequency range of 0.01 to 50 GHz. The DC power requirement for the amplifier is +12 V DC/400 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

## Features:

- Frequency range: 0.01-50GHz
- Gain: 32dB Typ
- Noise Figure: 6.0dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

## Applications:

- Communication systems

## 电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|---|---|---|---|---|
| 频率范围 Frequency range | 0.01 | | 50 | GHz |
| 小信号增益 Small Signal Gain | | 32 | | dB |
| 增益平坦度 Gain Flatness | | ±3.5 | | dB |
| 噪声系数 Noise Figure | | 6.0 | | dB |
| 线性输出功率 Output P1dB | | 19 | | dBm |
| 输出三阶交调 Output IP3 | | 30 | | dBm |
| 输入驻波 Input VSWR | | 1.9 | | :1 |
| 输出驻波 Output VSWR | | 1.9 | | :1 |
| 直流电压 DC Voltage | | +12 | | V DC |
| 直流电流 DC Supply Current | | 400 | | mA |
| 阻抗 Impedance | | 50 | | Ohms |

*Performance may degrade below 300 MHz. Please refer to below typical test plots

## 机械特性 Mechanical Specifications:

| 参数 Parameter | 指标 Value | 单位 Units |
|---|---|---|
| 输入/输出接口 Input /Output Connector | 2.4mm Female/2.4mm Female | |
| 直流偏置 DC Bias | Solder Pin | |
| 尺寸 Size | 35.3*40.3*12 | mm |
| 重量 Weight | 55 | g |

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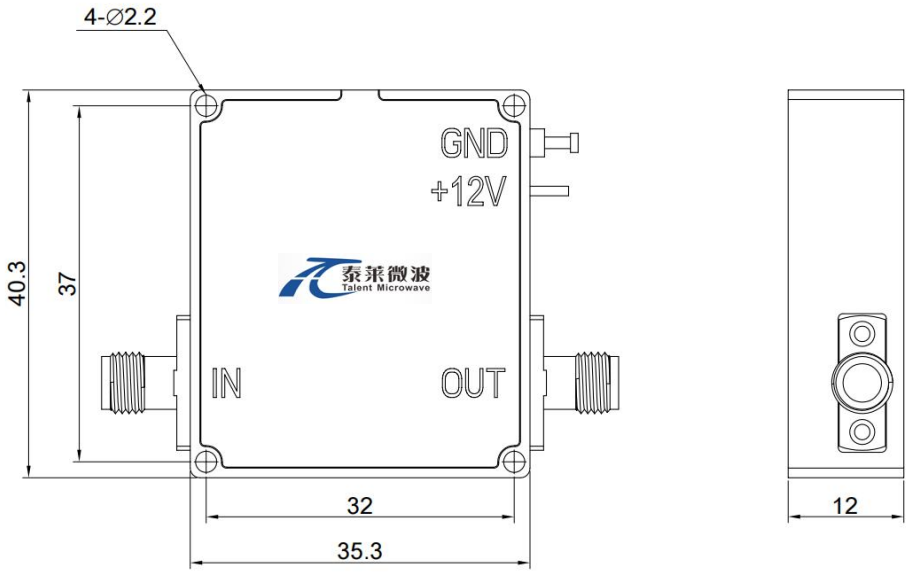
## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|---|---|
| 供电偏置电压 Supply Bias Voltage | TBD |
| 输入功率 RF Input Power | -5 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm




***Heat Sink Required During Operation

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

## 温度环境 Environmental Conditions:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|---|---|---|---|---|
| 操作温度 Operating Temperature | -45 | | +75 | ℃ |
| 存储温度 Non-operating Temperature | -55 | | +125 | ℃ |
| 相对湿度 Relative humidity | | 95 | | % |
| 海拔 Altitude | 50,000 | | | feet |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis | | | |
| 冲击 Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions | | | |

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## 订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|---|---|---|
| TLLA0.01G50G-33-60 | Low Noise Amplifier, 0.01-50GHz, Noise Figure:6.0dB, Gain:32 dB,P1dB: 19dBm,+12V DC,Without Heatsink | Rev.1.1 |
| TLLA0.01G50G-33-60-HS | Low Noise Amplifier, 0.01-50GHz, Noise Figure:6.0dB, Gain:32 dB,P1dB: 19dBm,+12V DC,With Heatsink | Rev.1.1 |