

## Low Noise Amplifier

50KHz-50GHz/6dB NF/32dB Gain/19dBm P1dB

Model: TLLA50K50G-33-60

TLLA50K50G-33-60 is a low noise amplifier with a typical small signal gain of 32 dB and a nominal noise figure of 6 dB across the frequency range of 50KHz 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:50KHz-50GHz
- Gain: 32dB Typ
- Noise Figure: 6dB 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    | 50KHz-50GHz |      |     |          |
| 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    |     | dB       |
| 线性输出功率 Output P1dB      |             | 19   |     | 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     |

## 机械特性 Mechanical Specifications:

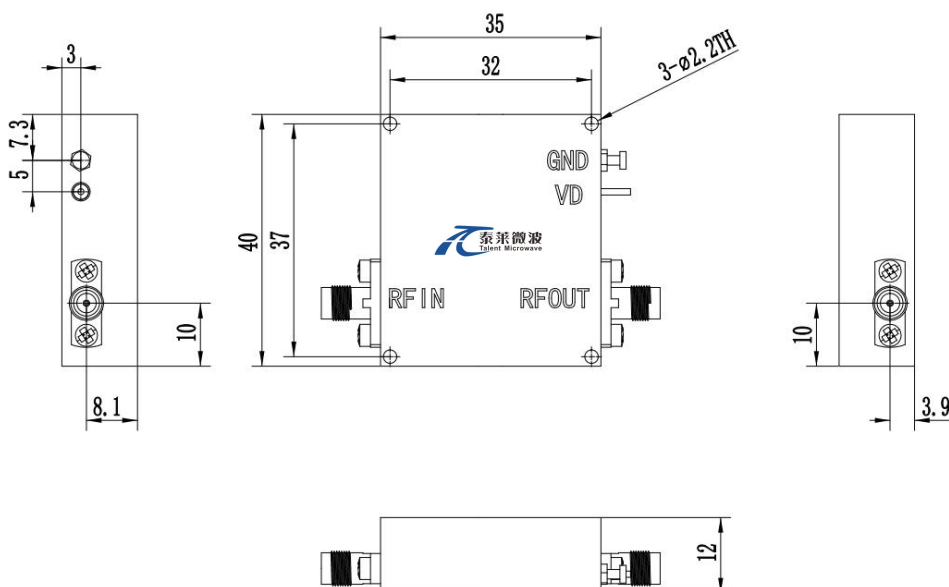
| 参数 Parameter                    | 指标 Value                  | 单位 Units |
|---------------------------------|---------------------------|----------|
| 输入/输出接口 Input /Output Connector | 2.4mm Female/2.4mm Female |          |
| 直流偏置 DC Bias                    | Solder Pin                |          |
| 尺寸 Size                         | 35*40*12                  | mm       |

## 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



**\*\*\*Heat Sink Required During Operation**



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

## 温度环境 Environmental Conditions:

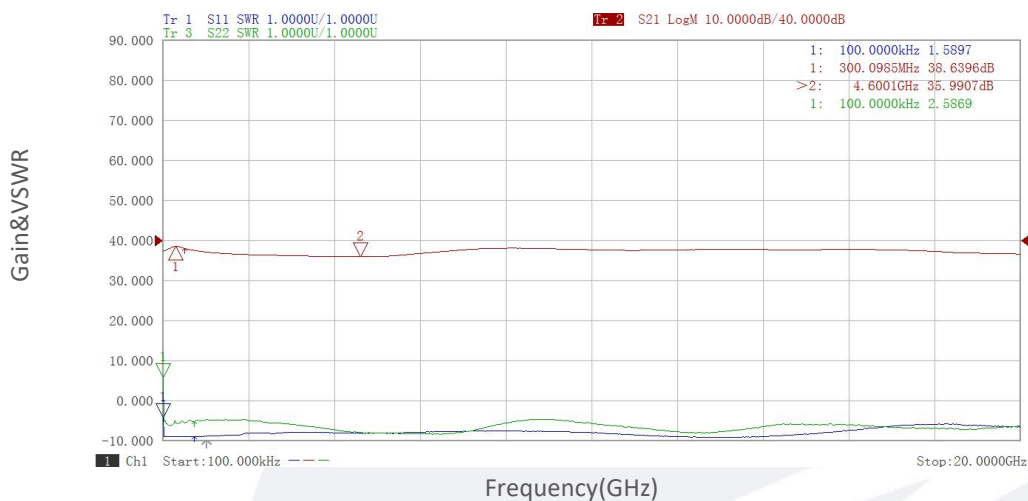
| 参数 Parameter                       | Min                                                 | Typ | Max  | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|------|----------|
| 操作温度 Operating Temperature         | -45                                                 |     | +85  | °C       |
| 存储温度 Non-operating Temperature     | -55                                                 |     | +125 | °C       |
| 相对湿度 Relative humidity             |                                                     | 95  |      | %        |
| 海拔 Altitude                        | 10,000                                              |     |      | 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  |     |      |          |

## 订货信息 Ordering Information:

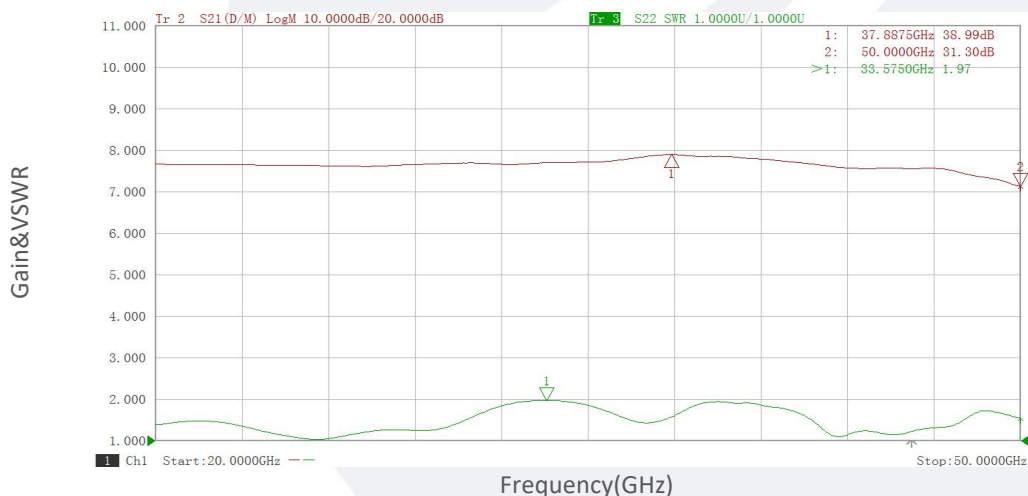
| 标准型号 Base Number    | 描述 Description                                                                                     | 版本号 Revision |
|---------------------|----------------------------------------------------------------------------------------------------|--------------|
| TLLA50K50G-33-60    | Low Noise Amplifier, 50KHz-50GHz, Noise Figure:6dB, Gain:32 dB,P1dB:19dBm,+12V DC,Without Heatsink | Rev.1.1      |
| TLLA50K50G-33-60-HS | Low Noise Amplifier, 50KHz-50GHz, Noise Figure:6dB, Gain:32 dB,P1dB:19dBm,+12V DC,With Heatsink    | Rev.1.1      |

## 典型曲线 Typical Performance Data:

### Gain&VSWR vs Frequency



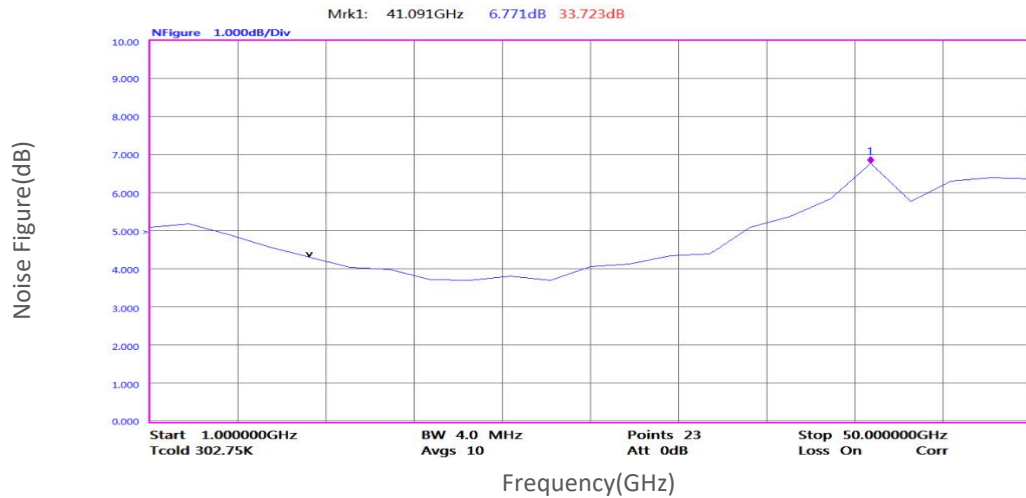
### Gain&VSWR vs Frequency



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.

## 典型曲线 Typical Performance Data:

### Noise Figure vs Frequency



### 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.