泰莱微波 Talent Microwave

Suzhou Talent Microwave,Inc
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# Low Noise Amplifier

## 0.03-6GHz/2.0dB NF/38dB Gain/13dBm P1dB  Model: TLLA0.03G6G-38-20

TLLA0.03G6G-38-20 is a low noise amplifier with a typical small signal gain of 38 dB and a maximum noise figure of 2.0 dB@0.1-6GHz across the frequency range of 0.03 to 6 GHz. The DC power requirement for the amplifier is +12 V DC/80 mA. The input and output port configuration offers coax adapter structure with SMA female.

## Features:

- Frequency range: 0.03-6 GHz
- Gain: 38dB Typ
- Noise Figure: 2.0dB Max@0.1-6GHz
- 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 | | 0.03 | | 6 | GHz |
| 小信号增益 Small Signal Gain | | | 38 | | dB |
| 增益平坦度 Gain Flatness | | | ±2.5 | | dB |
| 噪声系数 Noise Figure | @0.03-0.1GHz | | 3 | | dB |
| | @0.1-6GHz | | | 2 | |
| 线性输出功率 Output P1dB | | 13 | 15 | | dBm |
| 输入驻波 Input VSWR | | | 2 | 2.2 | :1 |
| 输出驻波 Output VSWR | | | 2 | 2.2 | :1 |
| 直流电压 DC Voltage | | +8 | +12 | +15 | V DC |
| 直流电流 DC Supply Current | | | 80 | | 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 | SMA Female/SMA Female | |
| 直流偏置 DC Bias | Solder Pin | |
| 尺寸 Size | 32.1*29.2*11 | mm |

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## 绝对最大值 Absolute Maximum Ratings:

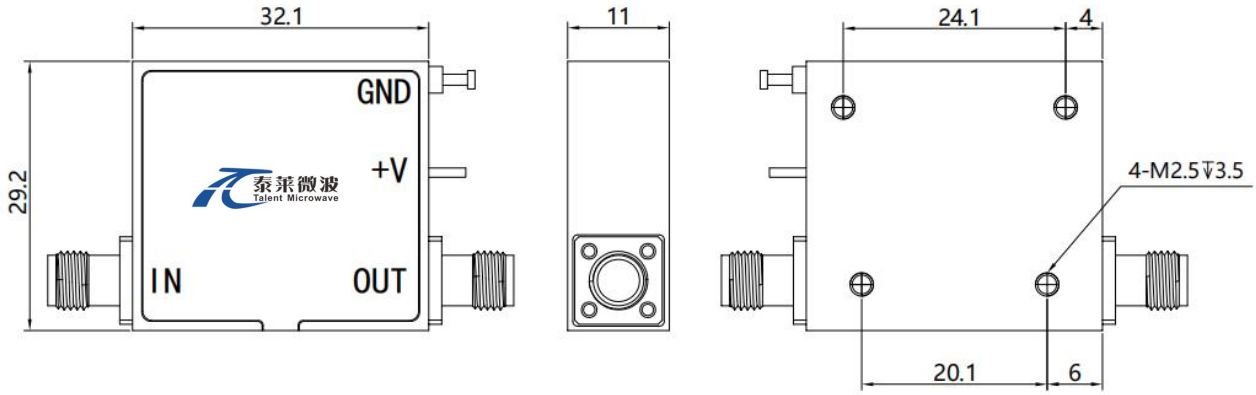
| 参数 Parameter | 指标 Value |
|---|---|
| 供电偏置电压 Supply Bias Voltage | +15 V |
| 输入功率 RF Input Power | +15 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |



Simple 220V System
Available SAC option

## 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 | | +85 | ℃ |
| 存储温度 Non-operating Temperature | -55 | | +125 | ℃ |
| 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 | | | |

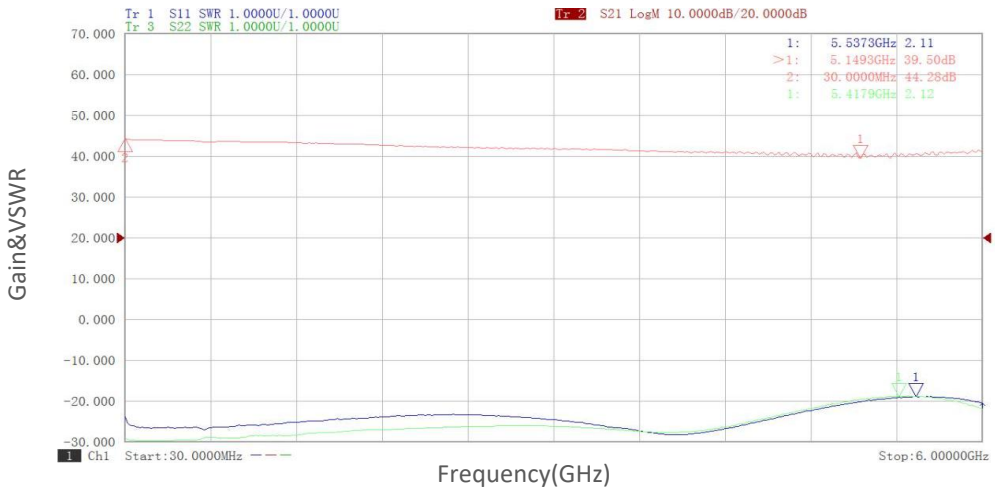
## 订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|---|---|---|
| TLLA0.03G6G-38-20 | Low Noise Amplifier, 0.03-6GHz, Noise Figure:2dB, Gain:38 dB,P1dB:13dBm,+12V DC,Without Heatsink | Rev.1.1 |
| TLLA0.03G6G-38-20-HS | Low Noise Amplifier, 0.03-6GHz, Noise Figure:2dB, Gain:38 dB,P1dB:13dBm,+12V DC,With Heatsink | Rev.1.1 |

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## 典型曲线 Typical Performance Data:

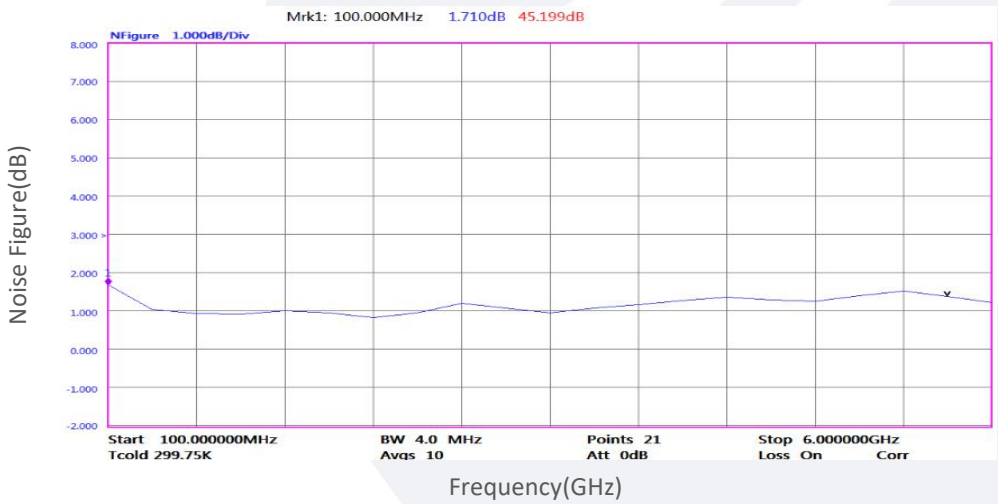
### Gain&VSWR vs Frequency




### Noise Figure vs Frequency



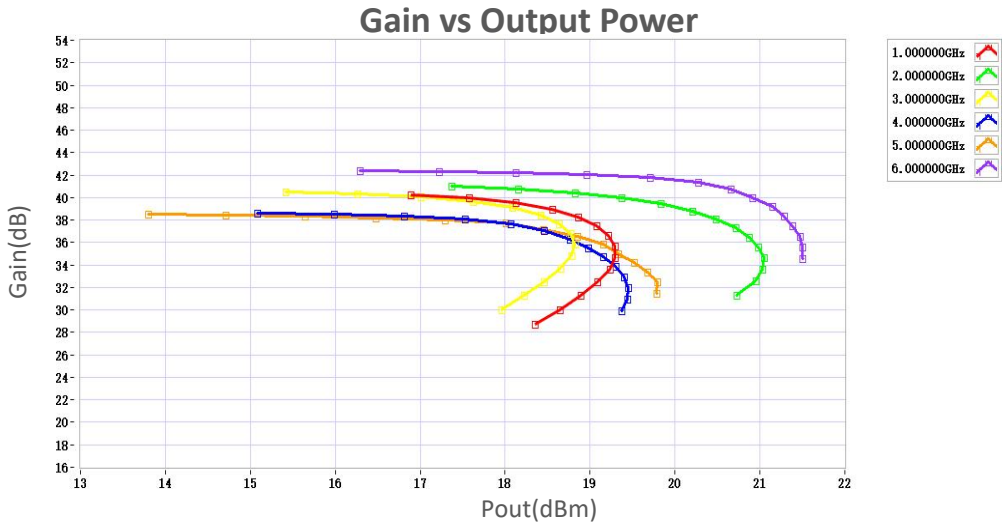

### Noise Figure vs Frequency

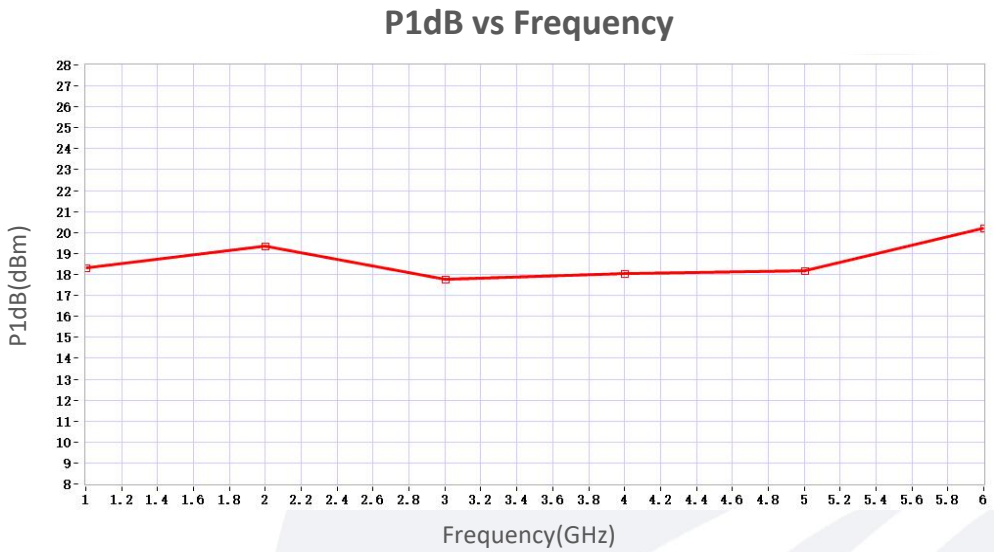


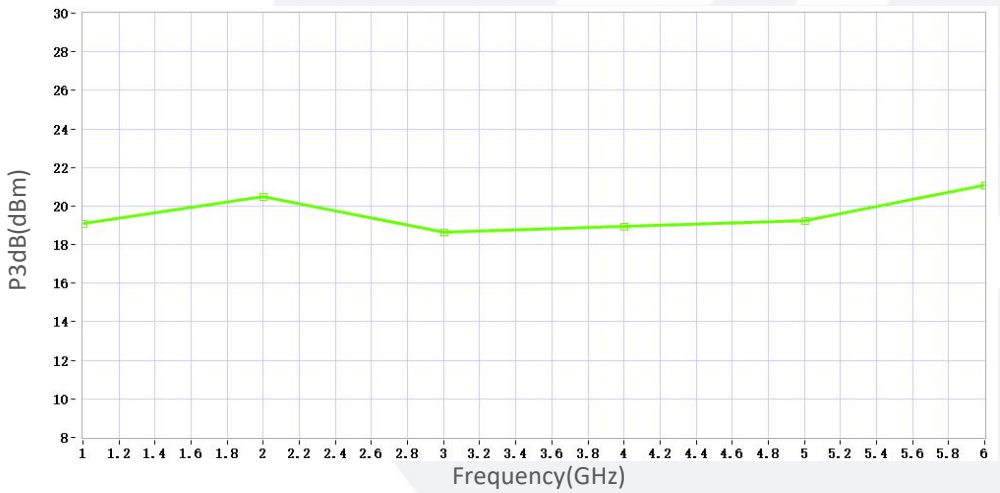

Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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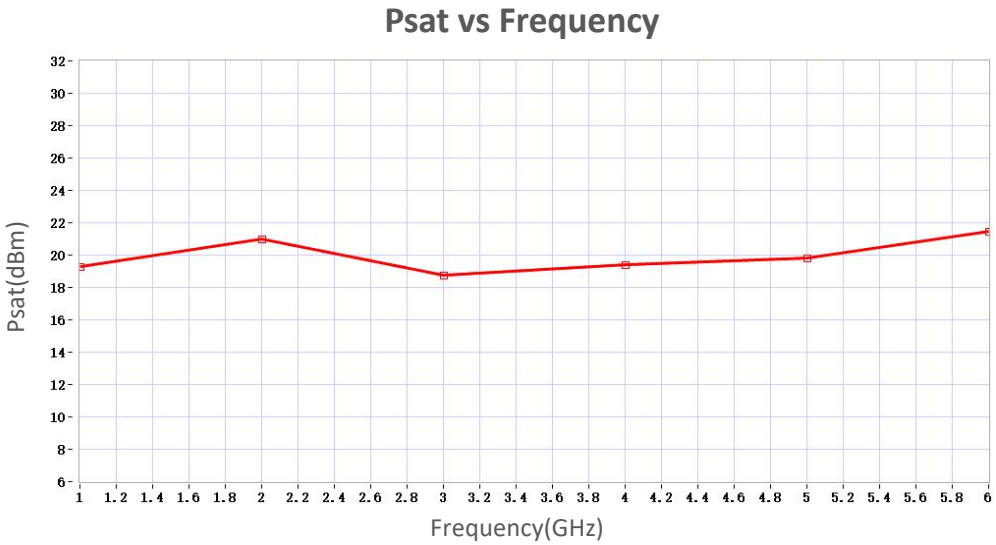




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