

## Power Amplifier

0.01-18GHz/31dB Gain/25dBm Psat

Model: TLPA0.01G18G-31-25

TLPA0.01G18G-31-25 is a power amplifier with a typical power gain of 31 dB and a minimum Psat of 25 dBm across the frequency range of 0.01 to 18 GHz. The DC power requirement for the amplifier is +12 VDC/240 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 0.01-18GHz
- Gain: 31dB Typ
- Output Power Psat: 25dBm Min
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### 电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	0.01		18	GHz
功率增益 Power Gain	27	31		dB
增益平坦度 Gain Flatness		±2.5		dB
线性输出功率 Output P1dB		25		dBm
饱和输出功率 Output Psat	25	27		dBm
噪声系数 Noise Figure		2.5		dB
输入驻波 Input VSWR		2.0	2.5	:1
输出驻波 Output VSWR		1.8	2.4	:1
直流电压 DC Voltage		+12		V DC
直流电流 DC Supply Current		240		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	SMA Female/SMA Female	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	44*52*13	mm

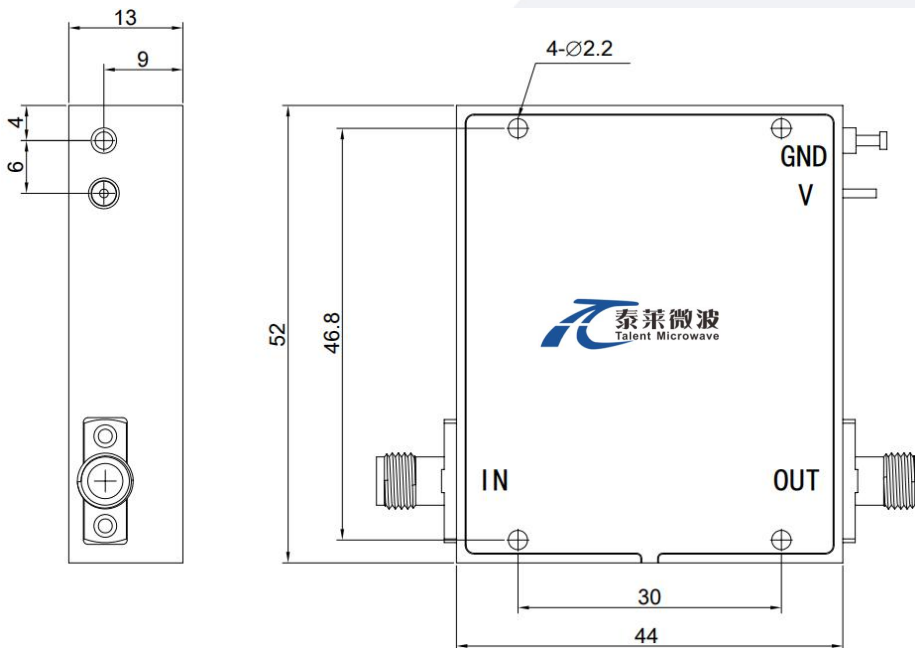
## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+12 V
输入功率 RF Input Power	+10 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*	-40		+60	°C
存储温度 Non-operating Temperature*	-50		+70	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth			
冲击 Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

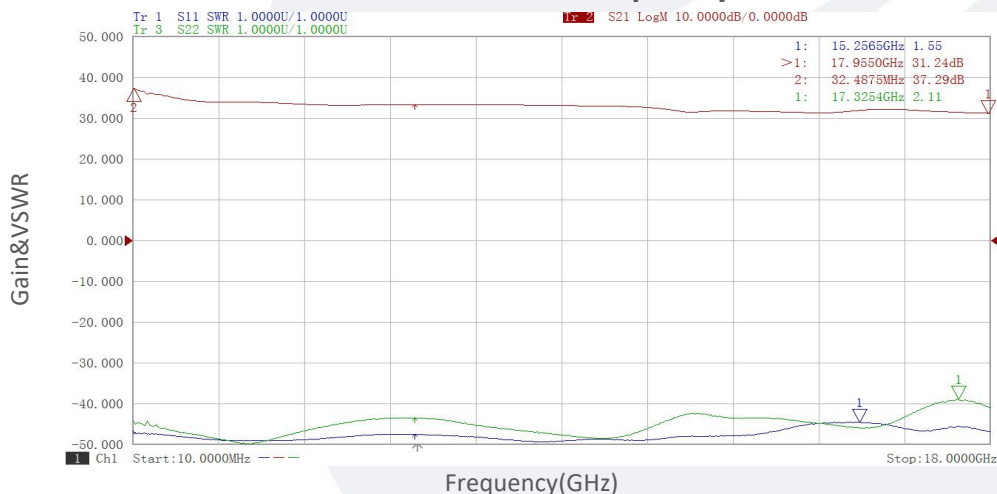
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA0.01G18G-31-25	Power amplifier 0.01-18GHz, Gain:31dB,Psat:25dBm,+12V DC,Without Heatsink	Rev.1.2
TLPA0.01G18G-31-25-HS	Power amplifier 0.01-18GHz, Gain:31dB,Psat:25dBm,+12V DC,With Heatsink	Rev.1.2

## 典型曲线 Typical Performance Data:

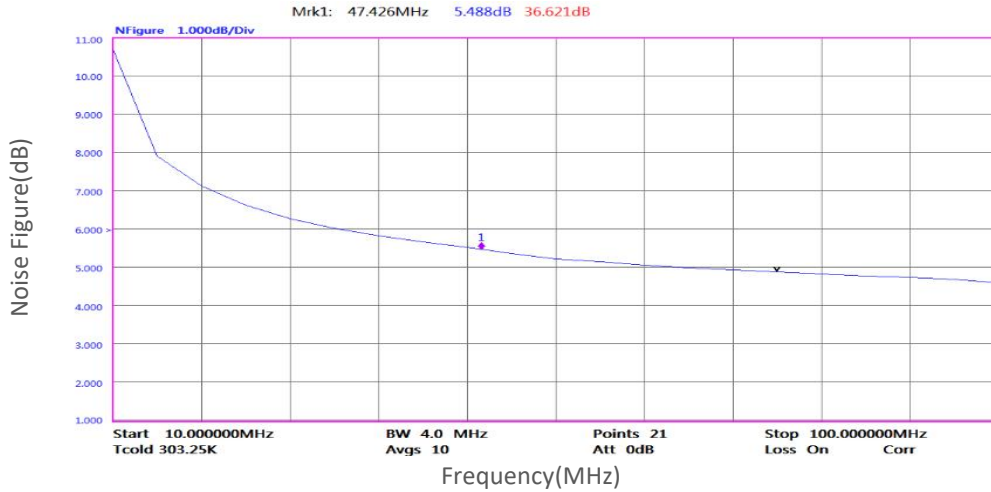
### Gain&VSWR vs Frequency



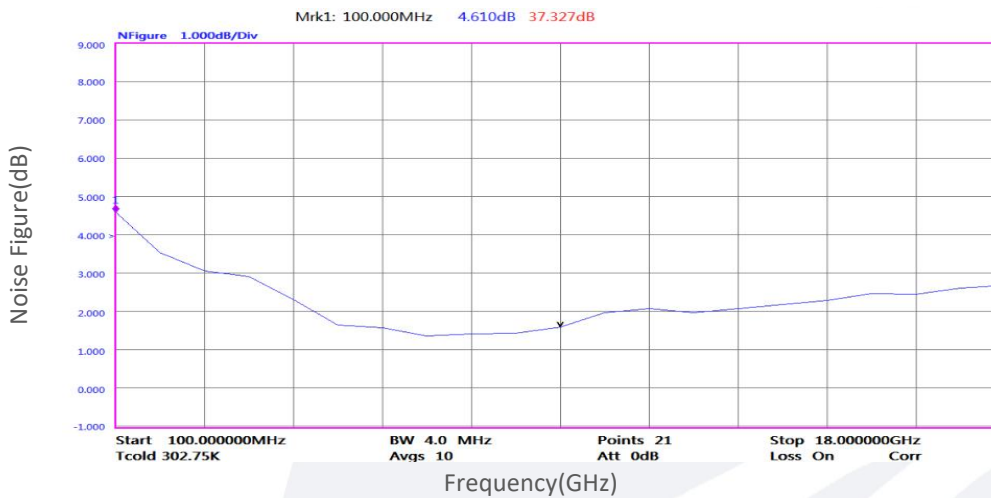
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

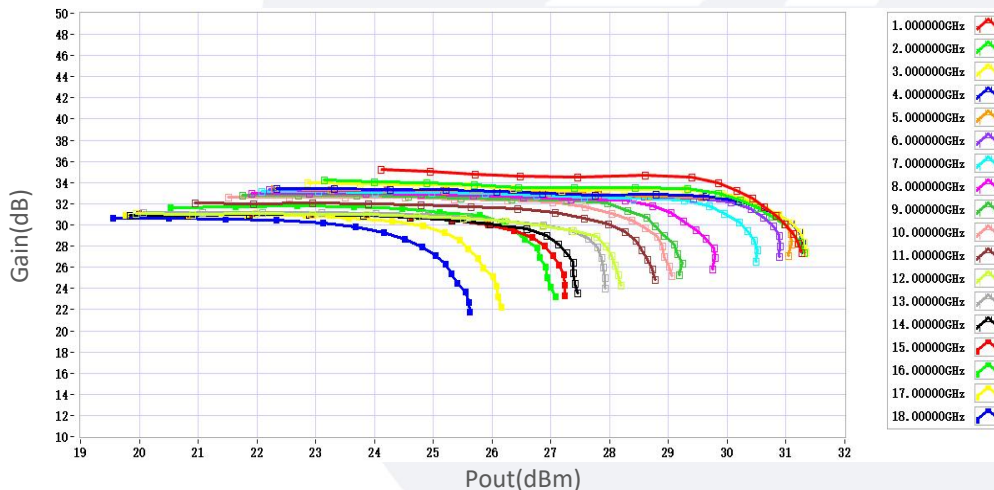
Noise Figure vs Frequency



Noise Figure vs Frequency



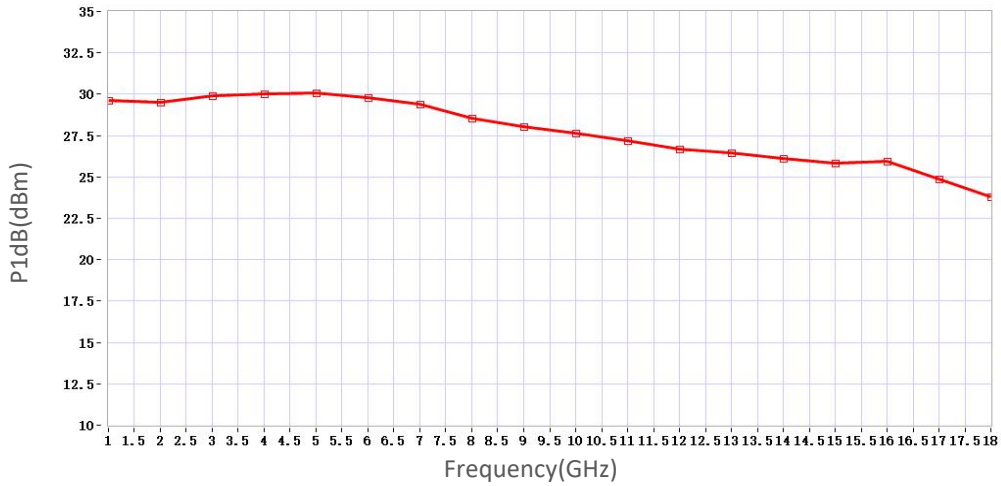
Gain vs Output Power



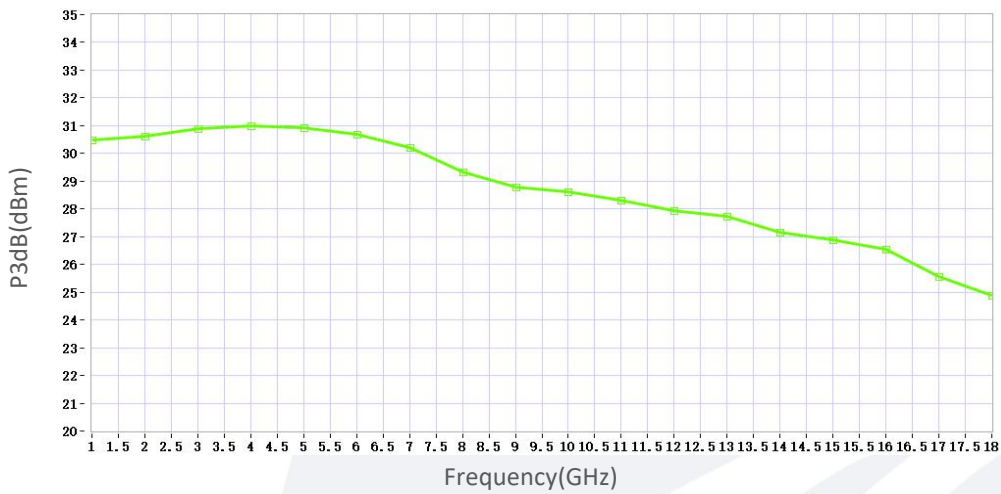
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

### P1dB vs Frequency



### P3dB vs Frequency



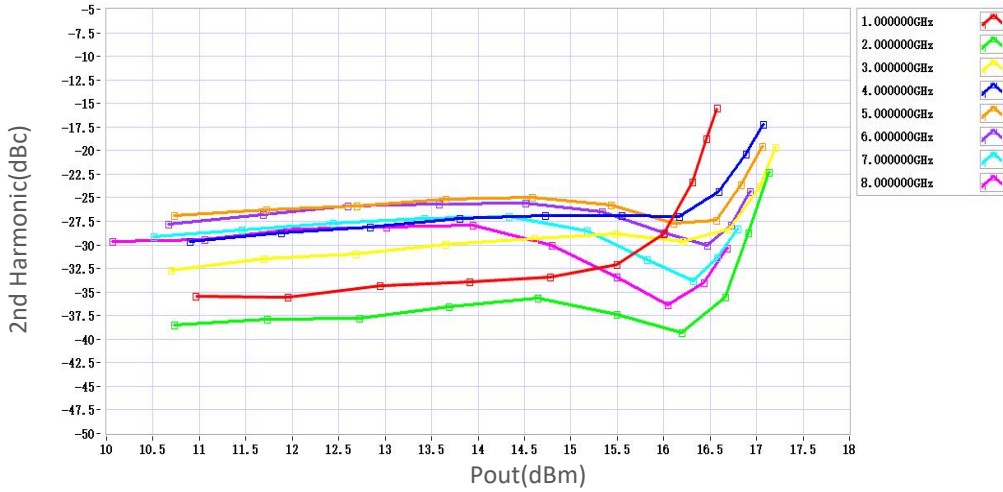
### Psat vs Frequency



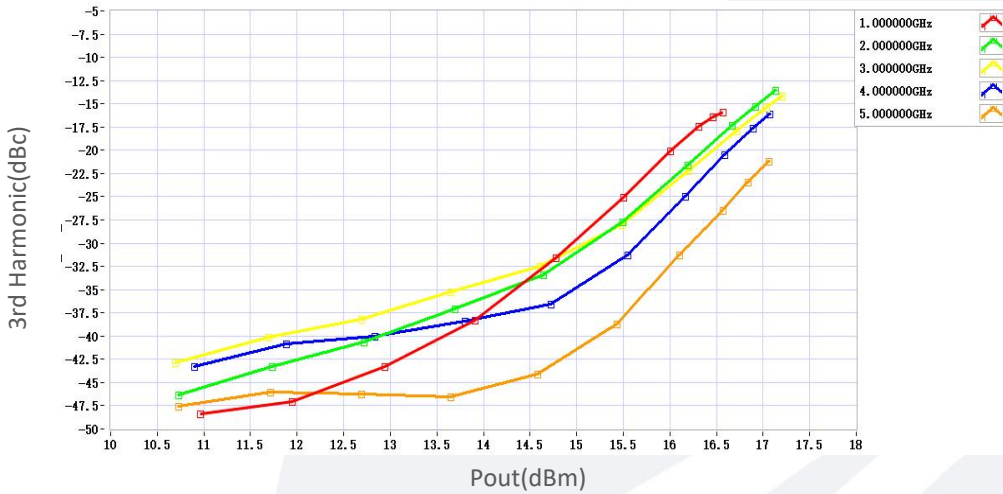
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典型曲线 Typical Performance Data:

2nd Harmonic vs Output Power



3rd Harmonic vs Output Power



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