

## Power Amplifier

100MHz-2GHz/20dB Gain/27dBm P1dB

Model: TLPA100M2G-20-30

TLPA100M2G-20-30 is a power amplifier with a minimum small signal gain of 20 dB and a minimum P1dB of 27 dBm across the frequency range of 100MHz to 2 GHz. The DC power requirement for the amplifier is +12 VDC/700 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range:100MHz-2GHz
- Gain: 20dB Min
- Output Power P1dB: 27dBm 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	100MHz		2GHz	
小信号增益 Small Signal Gain	20	22		dB
增益平坦度 Gain Flatness		±0.5	±0.75	dB
线性输出功率 Output P1dB	27	28		dBm
谐波 Harmonics		-20		dBc
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		+12	+13	V DC
直流电流 DC Supply Current		700	1000	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	120*70*15	mm
重量 Weight	200	g

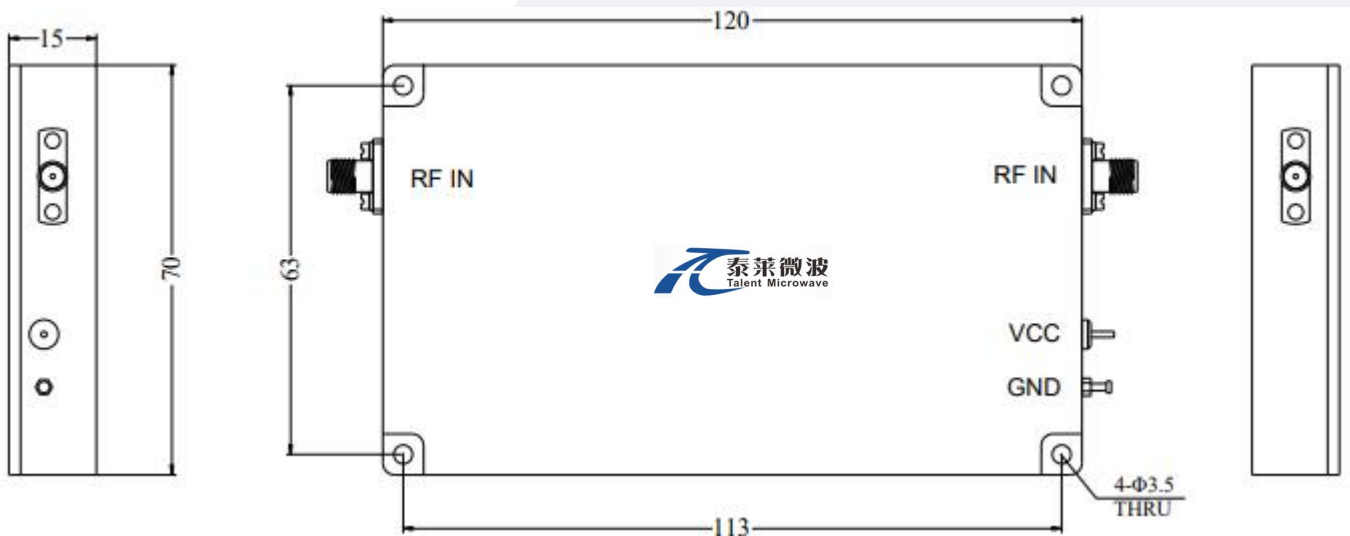
## 绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+13 V
输入功率 RF Input Power	+16 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)	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			

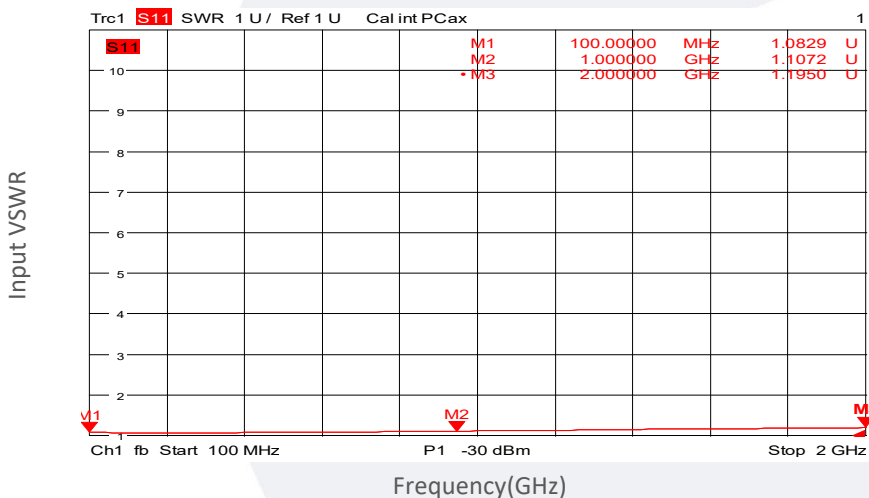
\*Note: For a wider temperature range, please consult the manufacturer.

## 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA100M2G-20-30	Power amplifier 100MHz-2GHz, Gain:20dB,P1dB:27dBm,+12V DC,Without Heatsink.	Rev.1.1
TLPA100M2G-20-30-HS	Power amplifier 100MHz-2GHz, Gain:20dB,P1dB:27dBm,+12V DC,With Heatsink.	Rev.1.1

## 典型曲线 Typical Performance Data:

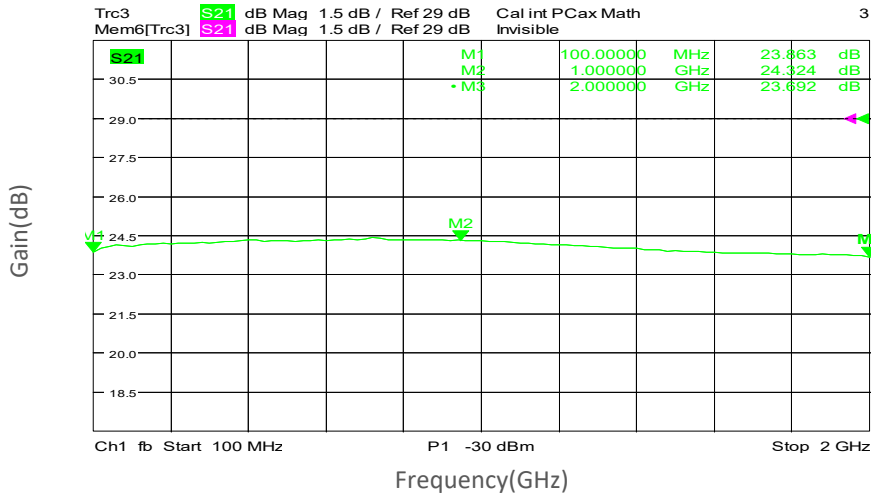
### Input VSWR vs Frequency



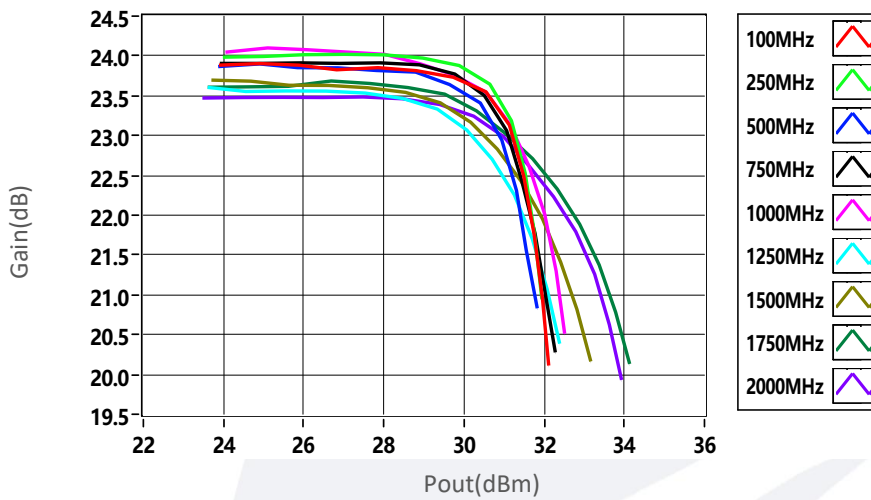
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## 典型曲线 Typical Performance Data:

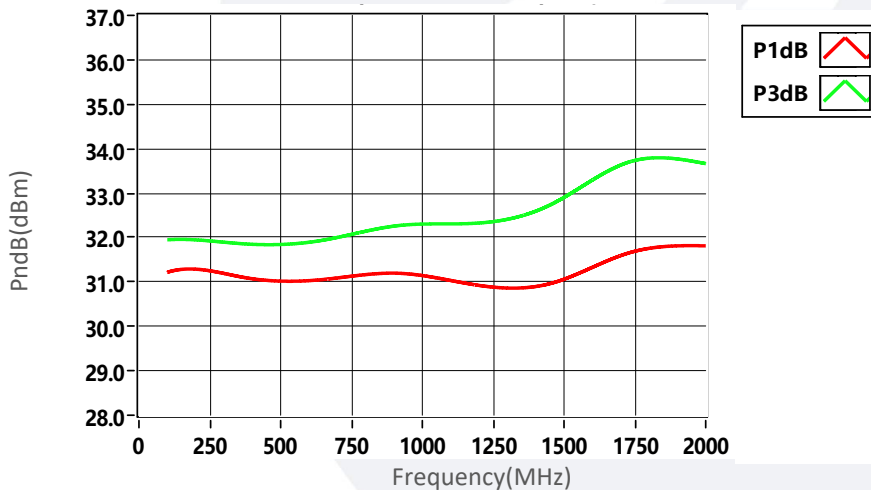
### Gain vs Frequency



### Gain vs Output Power



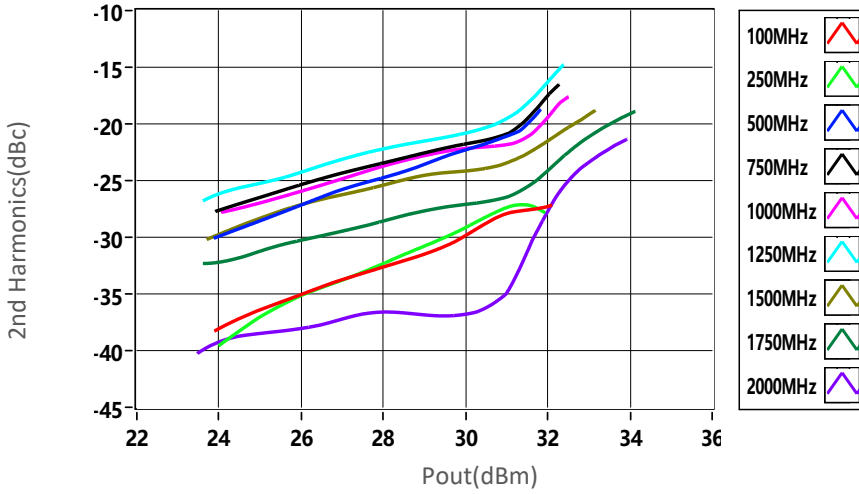
### PndB vs Frequency



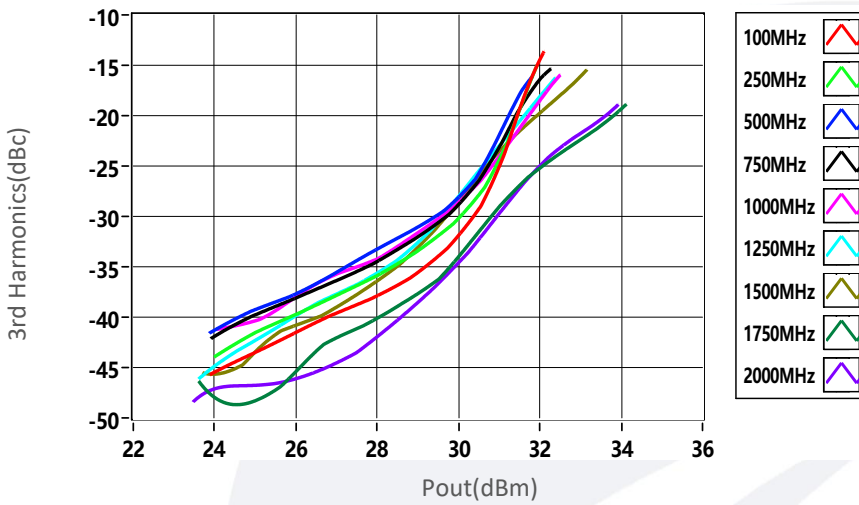
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**典型曲线 Typical Performance Data:**

**2nd Harmonics VS Output Power**



**3rd Harmonics 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.