

## Power Amplifier

0.1-250MHz /50dB Gain/50 dBm Psat

Model: TLPA100K250M-50-50

TLPA100K250M-50-50 is a power amplifier with small signal gain of 50 dB and Psat of 50 dBm across the frequency range of 0.1 to 250 MHz. The DC power requirement for the amplifier is +28 VDC/1.8 A. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Ultra Wide Band: 0.1-250MHz
- Gain: 50dB Min
- Output Power Psat: 50dBm 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	0.1-250			MHz
小信号增益 Small Signal Gain	50	52		dB
增益平坦度 Gain Flatness		±3	±5	dB
饱和输出功率 Output Psat	50	51		dBm
谐波抑制 Harmonic@Pout=50dBm		-12		dBc
输入驻波 Input VSWR		1.5	2	:1
直流电压 DC Voltage	26	28	30	V DC
直流电流 DC Supply Current		1.8	18	A
阻抗 Impedance	50			Ohms

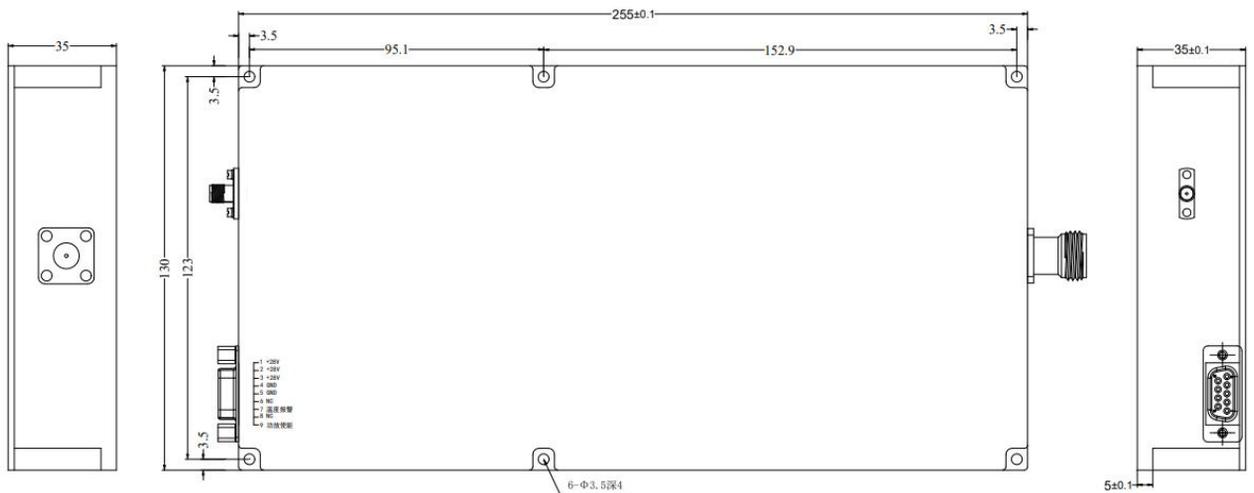
## 机械特性 Mechanical Specifications:

参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	SMA Female/SMA Female	
直流供电 DC Supply	DB9	
尺寸 Size	255*130*35(Without Heatsink) 292*200*97(With Heatsink)	mm
重量 Weight	500	g

## 绝对最大值 Absolute Maximum Ratings:

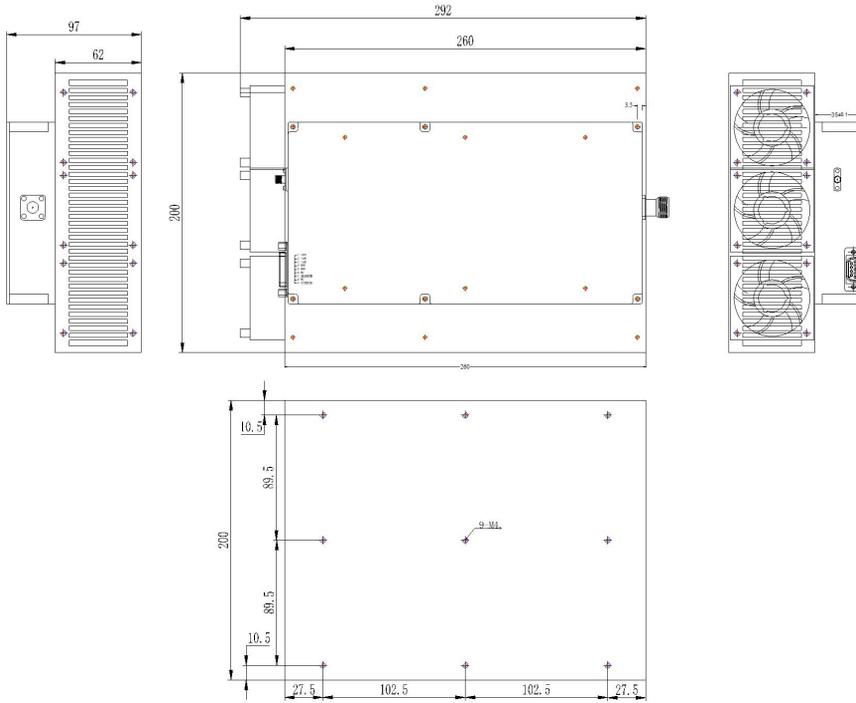
参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+30 V
输入功率 RF Input Power	+5 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

## 外形图 Outline Drawing: Unit:mm



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

外形图 Outline Drawing: Unit:mm



直流供电接口 DC Supply Connector (DSUB-9 Female):

引脚 Pin	名称 Name	功能 Function
1	+28V	Power supply positive,+26.0-30.0VDC
2	+28V	Power supply positive,+26.0-30.0VDC
3	+28V	Power supply positive,+26.0-30.0VDC
4	GND	Power supply negative
5	GND	Power supply negative
6	NC	Not connected
7	Over TEM	When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
8	NC	Not connected

### 温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-20		+50	°C
存储温度 Non-operating Temperature*	-30		+60	°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			

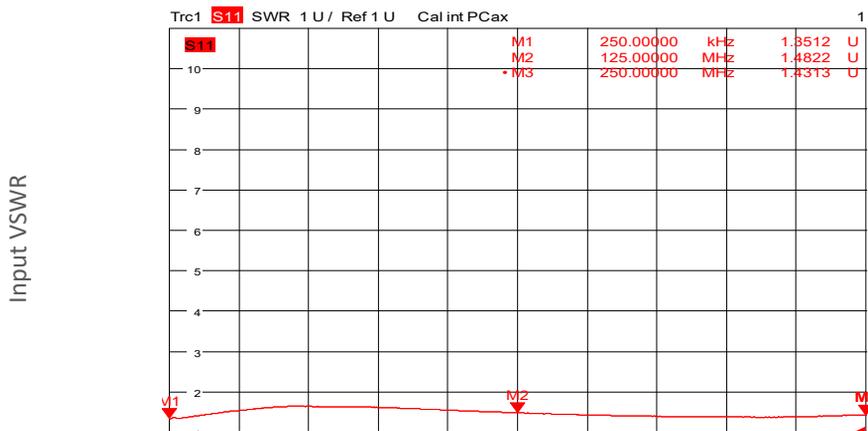
\*Note: For a wider temperature range, please consult the manufacturer.

### 订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA100K250M-50-50	Power amplifier 0.1-250MHz,Gain:50dB,Psat:50dBm, +28V DC,Without Heatsink	Rev.1.1
TLPA100K250M-50-50-HS	Power amplifier 0.1-250MHz,Gain:50dB,Psat:50dBm, +28V DC,With Heatsink	Rev.1.1

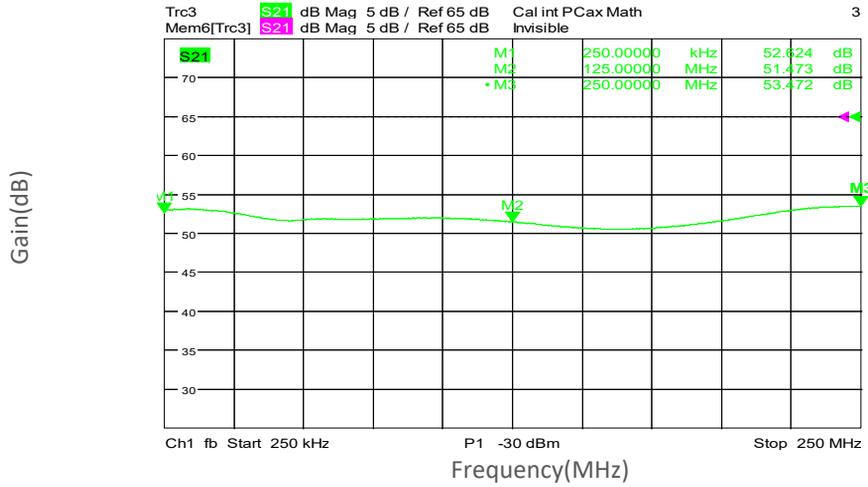
### 典型曲线 Typical Performance Data:

Input VSWR vs Frequency

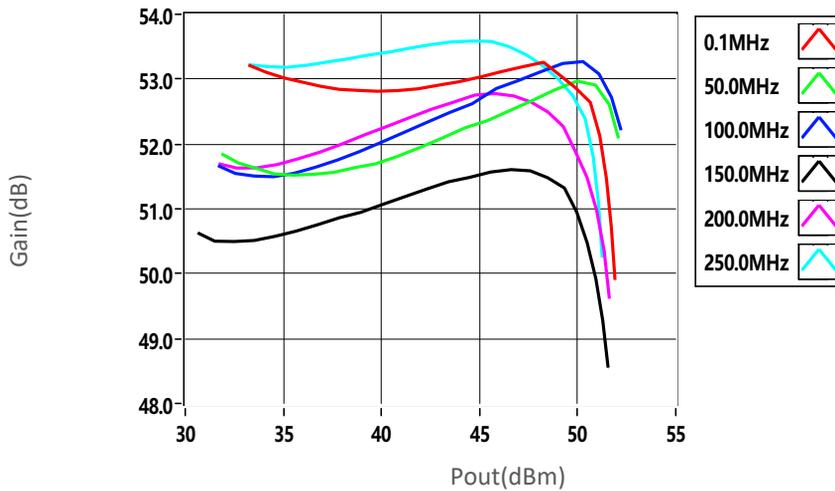


## 典型曲线 Typical Performance Data:

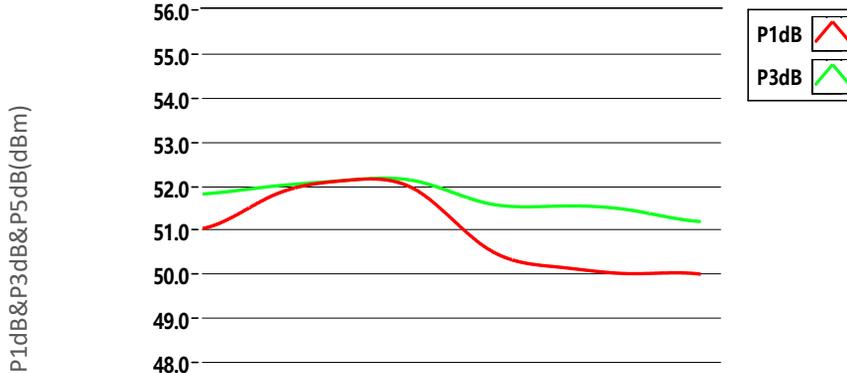
### Small Signal Gain vs Frequency



### Gain vs Output Power

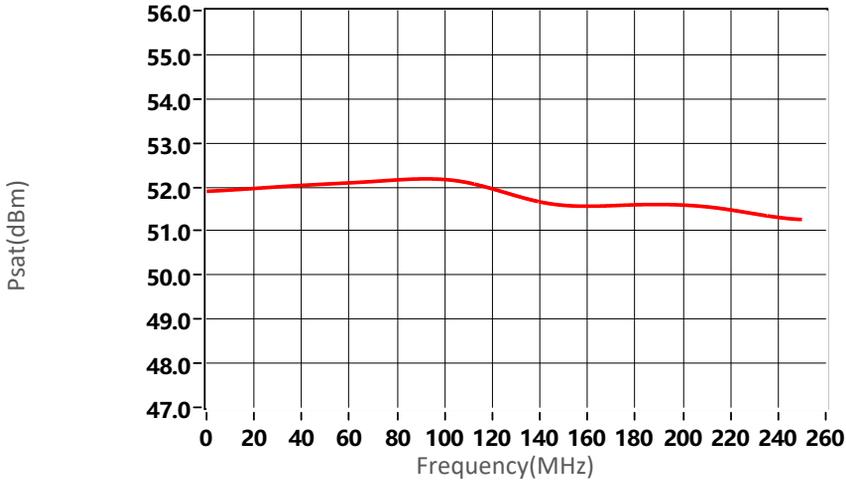


### PndB vs Frequency

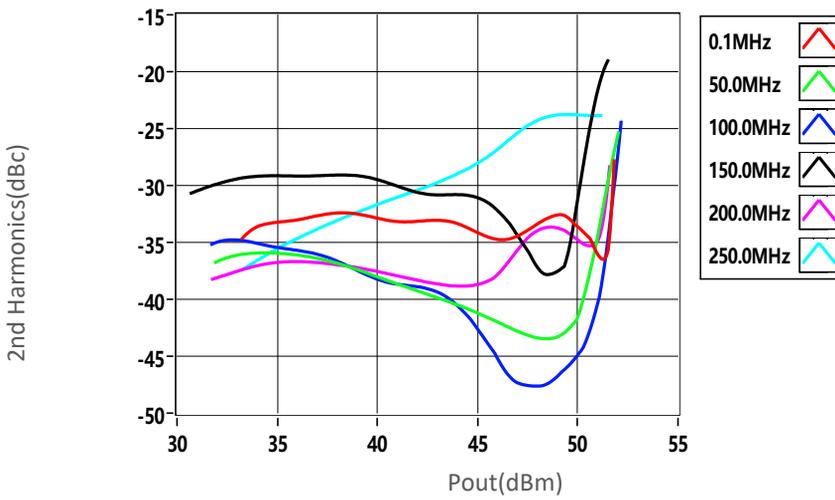


## 典型曲线 Typical Performance Data:

### P<sub>sat</sub> vs Frequency



### 2nd Harmonics vs Output Power



### 3rd Harmonics vs Output Power

