

Power Amplifier

1-2GHz/50dB Gain/50dBm Psat

Model: TLPA1G2G-50-50

TLPA1G2G-50-50 is a power amplifier with a minimum small signal gain of 50 dB and a nominal Psat of 50 dBm across the frequency range of 1 to 2 GHz. The DC power requirement for the amplifier is +28 VDC/12 A. The input port configuration offers coax adapter structure with SMA female and output port configuration offers coax adapter structure with N Female.

Features:

- Frequency range: 1-2GHz
- Gain: 50dB Min
- Output Power Psat: 50dBm Typ
- 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	1		2	GHz
小信号增益 Small Signal Gain	50	53		dB
增益平坦度 Gain Flatness		±1	±2	dB
线性输出功率 Output P1dB	45	46		dBm
饱和输出功率 Output Psat	49.5	50		dBm
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage		28	30	V DC
静态电流 Static Current		3		A
饱和电流 Saturation Current		12	13	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/N Female	
直流供电接口 DC Supply Connector	D-SUB15	
尺寸 Size	200*130*24(Without heatsink)	mm
重量 Weight	1200	g

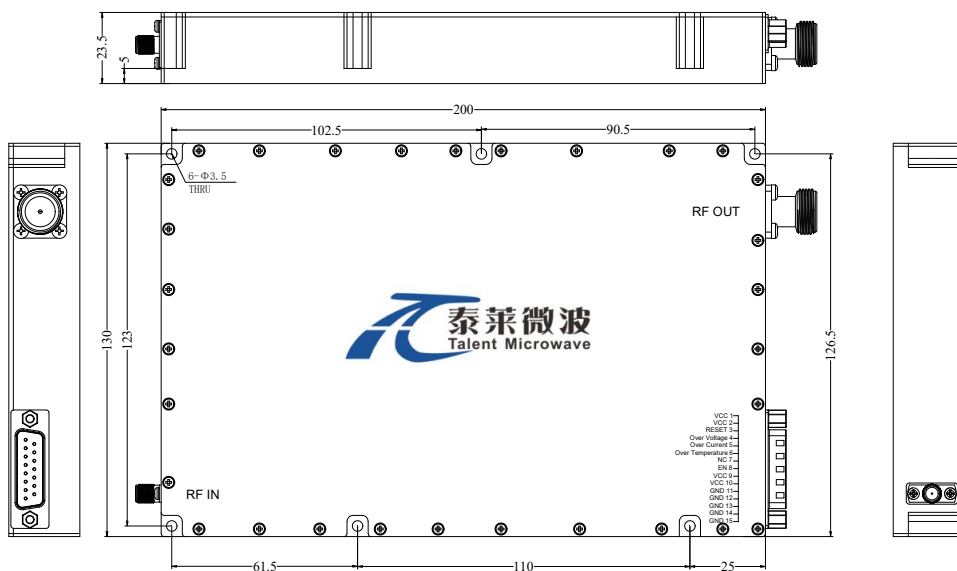
绝对最大值 Absolute Maximum Ratings:

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



外形图 Outline Drawing:

Unit:mm



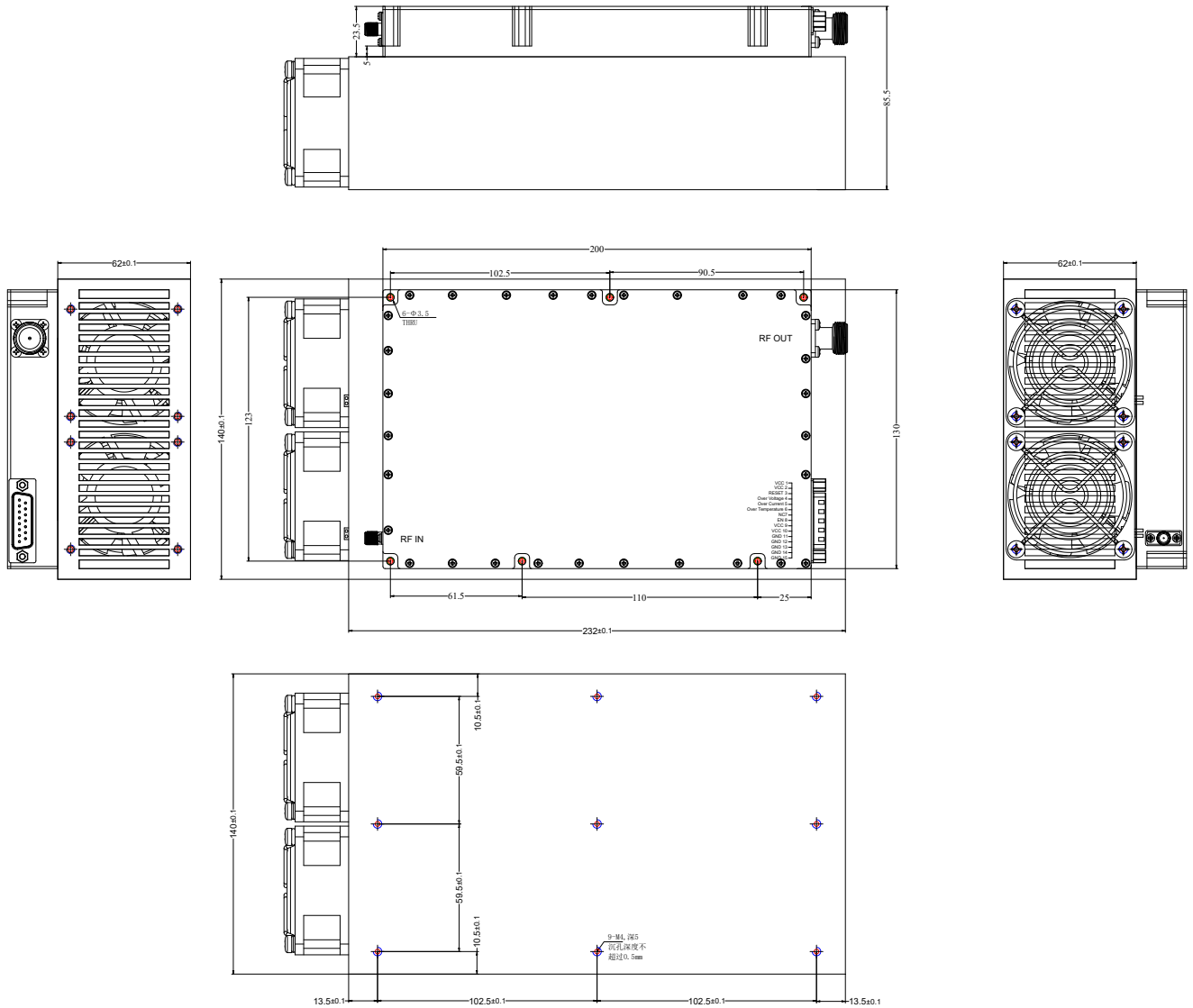
*****Heat Sink Required During Operation**



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

外形图 Outline Drawing:

Unit:mm



直流供电接口 DC Supply Connector (DSUB-15 Female):

引脚 Pin	名称 Name	功能 Function
1	VCC	Power supply positive, +26.0-30.0VDC
2	VCC	Power supply positive, +26.0-30.0VDC
3	RESET	Resets PA when logic LOW is applied and released (Internally Pulled-High)
4	Over Voltage	Voltage FAULT:(TTL High= Fault, TTL Low =Normal)

直流供电接口 DC Supply Connector (DSUB-15 Female):

引脚 Pin	名称 Name	功能 Function
5	Over Current	Current FAULT:(TTL High= Fault, TTL Low =Normal)
6	Over Temperature	When the temperature of the case exceeds 75 °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.
7	NC	Not connected
8	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High)
9	VCC	Power supply positive,+26.0-30.0VDC
10	VCC	Power supply positive,+26.0-30.0VDC
11~15	GND	Ground

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			

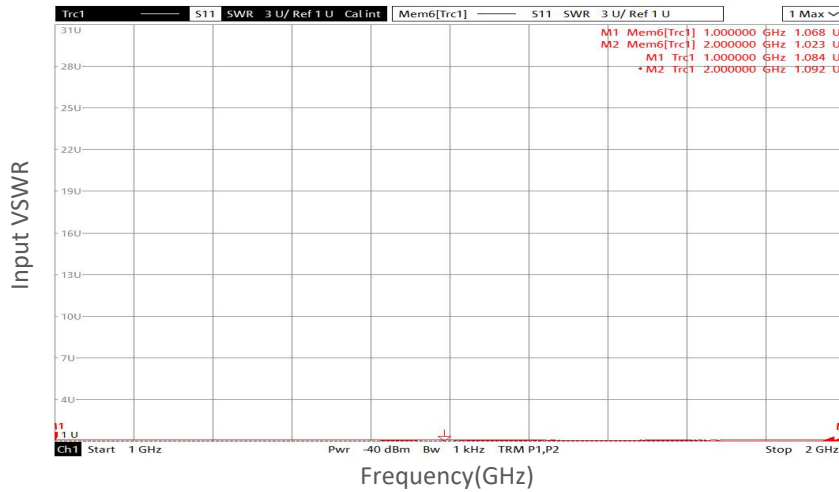
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

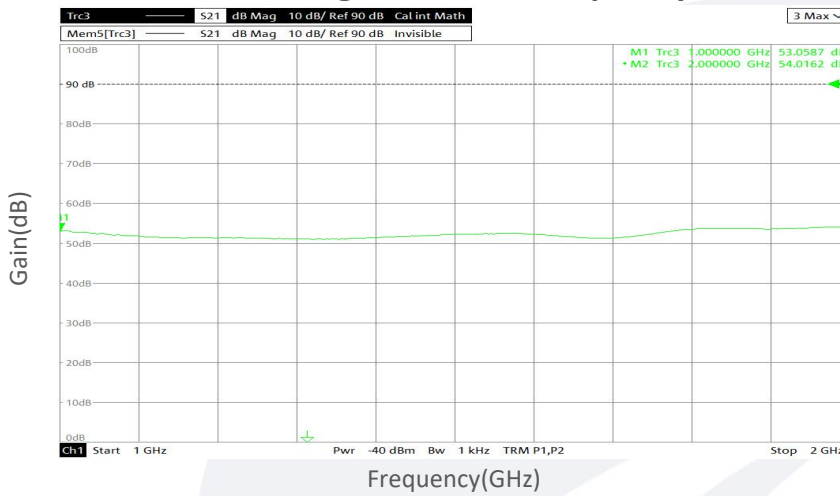
标准型号 Base Number	描述 Description	版本号 Revision
TLPA1G2G-50-50	Power amplifier 1-2GHz, Gain:50dB,Psat:50dBm,+28V DC,Without Heatsink	Rev.2.0
TLPA1G2G-50-50-HS	Power amplifier 1-2GHz, Gain:50dB,Psat:50dBm,+28V DC,With Heatsink	Rev.2.0

典型曲线 Typical Performance Data:

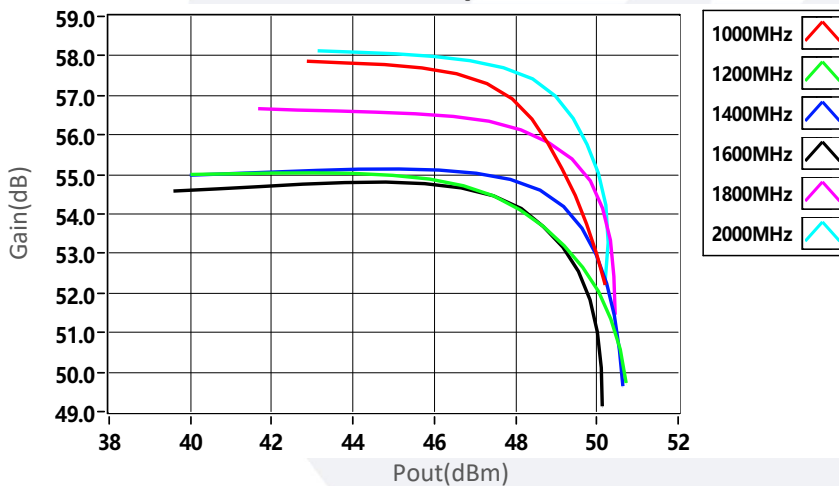
Input VSWR vs Frequency



Small Signal Gain vs Frequency



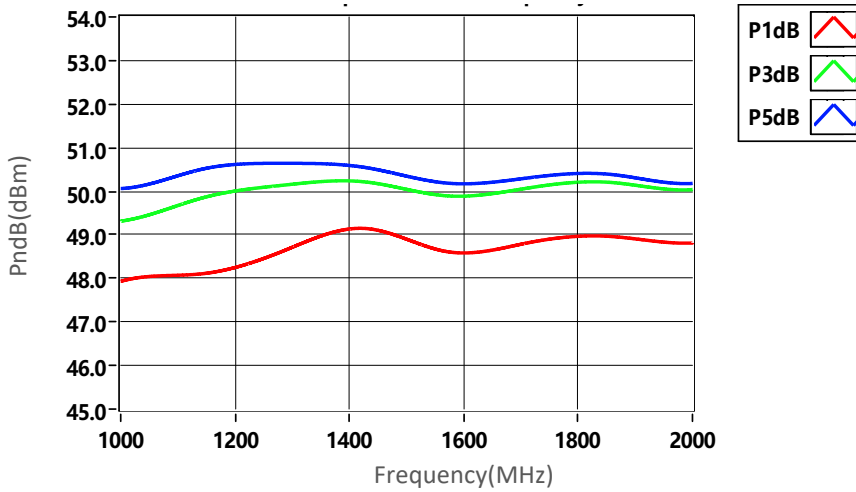
Gain vs Output Power



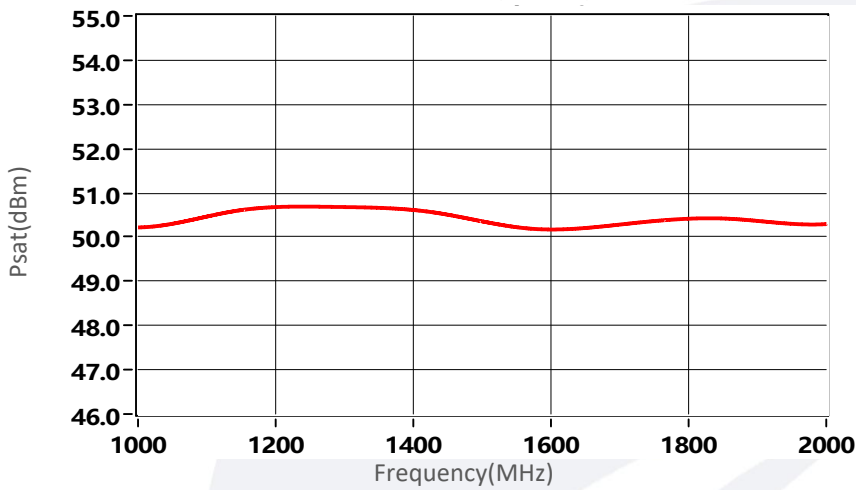
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

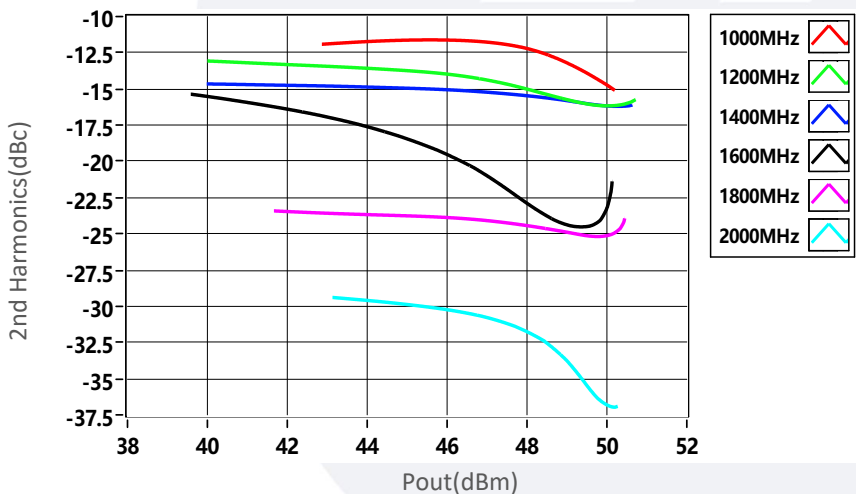
PndB vs Frequency



Psat vs Frequency



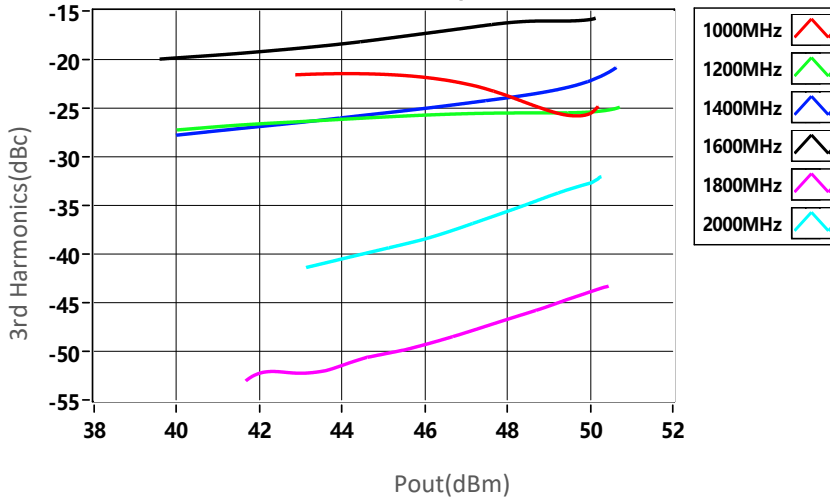
2nd Harmonics vs Output Power



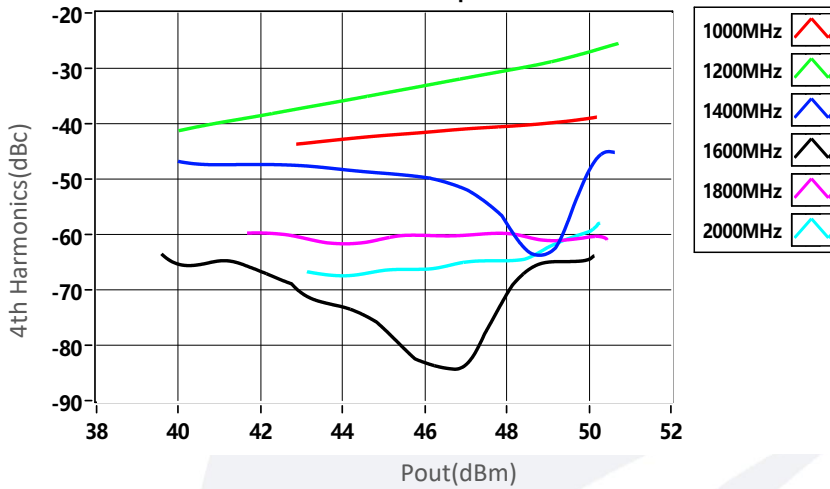
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

3rd Harmonics vs Output Power



4th Harmonics vs Output Power



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