

Power Amplifier

100KHz-200MHz/43dB Gain/44dBm Psat

Model: TLPA100K200M-43-44

TLPA100K200M-43-44 is a power amplifier with a typical small signal gain of 43 dB and a nominal Psat of 44 dBm across the frequency range of 100KHz to 200 MHz. The DC power requirement for the amplifier is +24 VDC/6 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 100KHz-200MHz
- Gain: 43dB Typ
- Output Power Psat: 44dBm Typ
- Good Power and Gain Flatness
- 44 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	100KHz		200MHz	
小信号增益 Small Signal Gain	40	43		dB
增益平坦度 Gain Flatness		±1.3	±1.6	dB
线性输出功率 Output P1dB	42	43		dBm
饱和输出功率 Output Psat	43	44		dBm
噪声系数 Noise Figure		9		dB
输入驻波 Input VSWR			2.0	:1
直流电压 DC Voltage		24	28	V DC
直流电流 DC Supply Current		6		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	
直流供电接口 DC Power Supply Connector	DSUB-9Pin	
尺寸 Size	154*94*20(Without Heatsink) 264*140*82(With Heatsink)	mm
重量 Weight	150	g

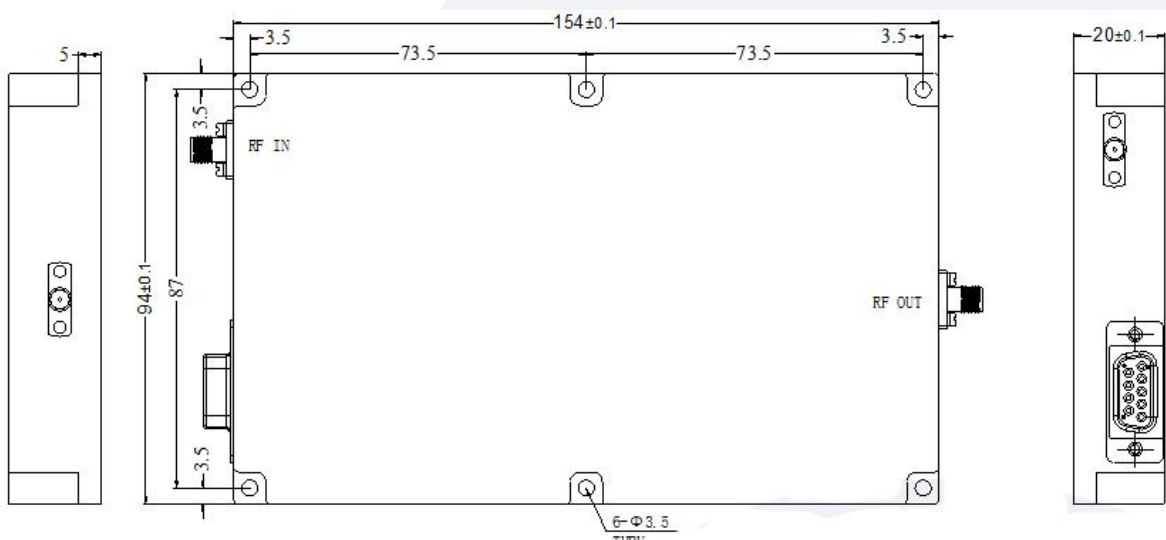
绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+28 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



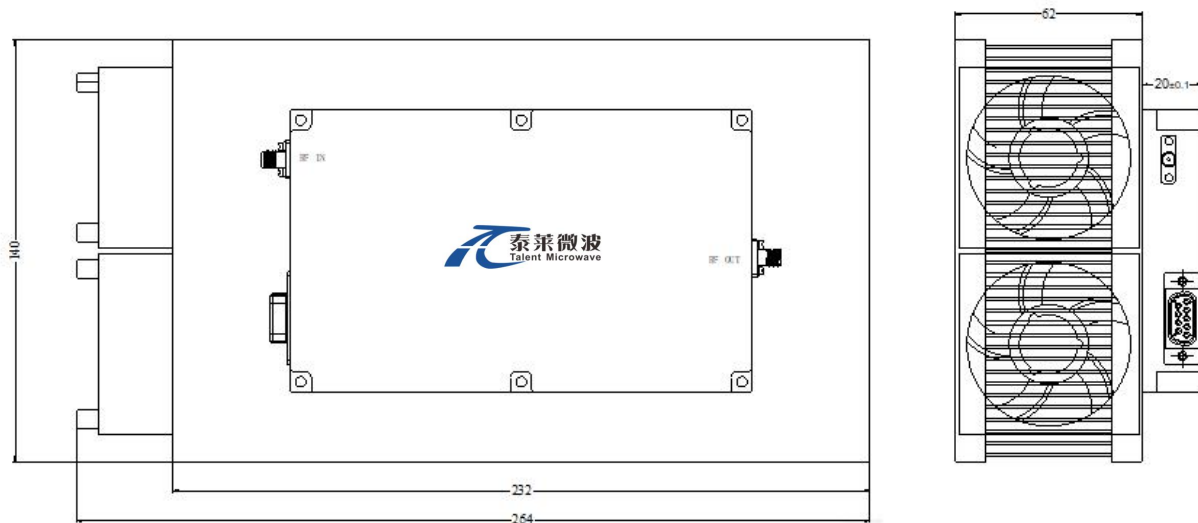
*****Heat Sink Required During Operation**



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

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

引脚 Pin	名称 Name	功能 Function
1	+24V	Power supply positive,+26.0-30.0VDC
2	+24V	Power supply positive,+26.0-30.0VDC
3	+24V	Power supply positive,+26.0-30.0VDC
4	GND	Ground
5	GND	Ground
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 80 °C, the power amplifier will return to normal operation, and this pin will be pulled low.
8	NC	Not connected
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

温度环境 Environmental Conditions:

参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-40		+50	°C
存储温度 Non-operating Temperature*	-50		+60	°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			

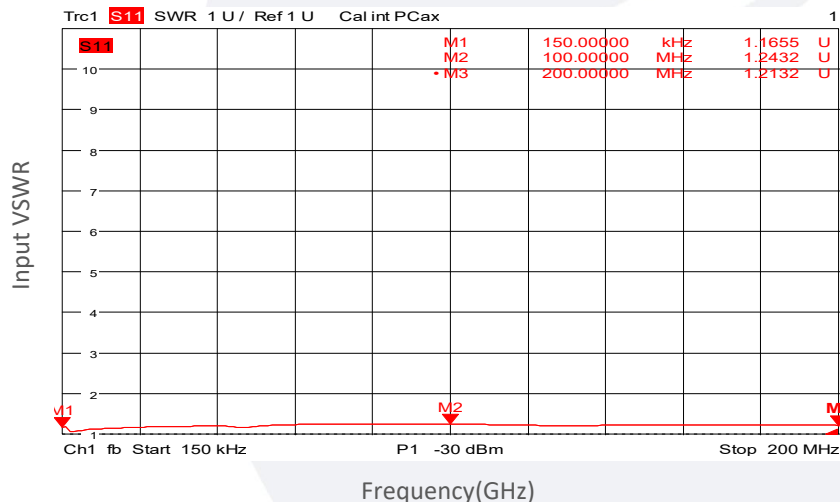
*Note: For a wider temperature range, please consult the manufacturer.

订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 Revision
TLPA100K200M-43-44	Power amplifier 100KHz-200MHz, Gain:43dB,Psat:44dBm,+24V DC,Without Heatsink	Rev.1.1
TLPA100K200M-43-44-HS	Power amplifier 100KHz-200MHz, Gain:43dB,Psat:44dBm,+24V DC,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

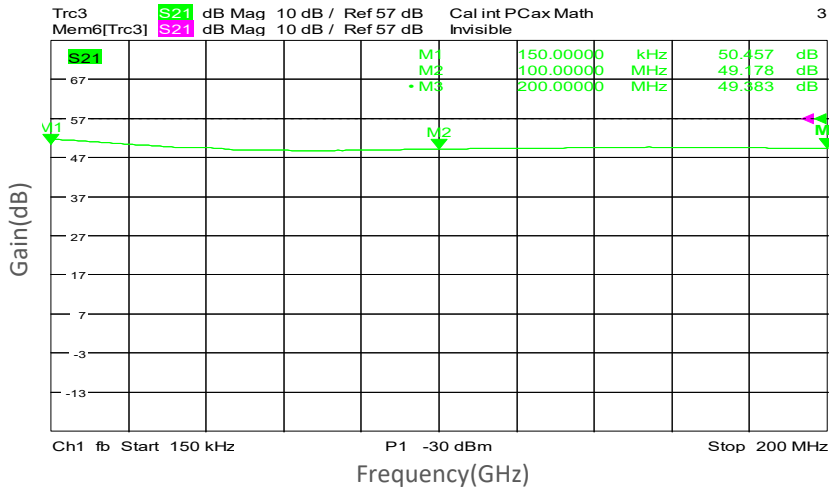
Input VSWR vs Frequency



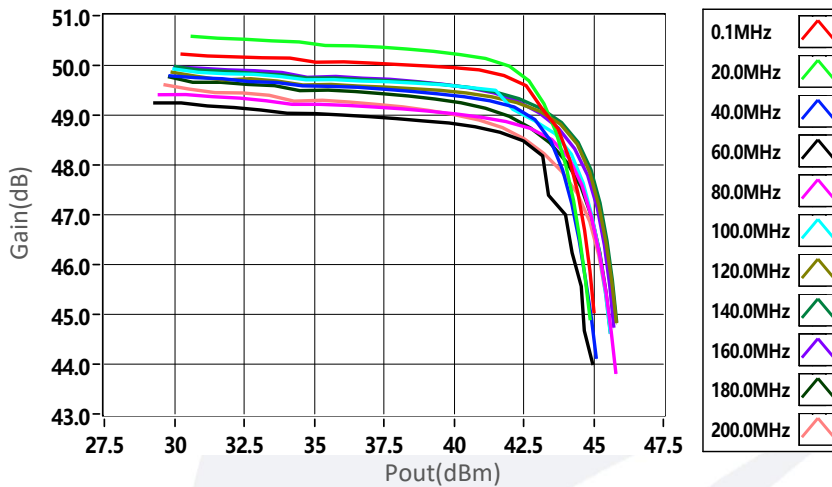
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

典型曲线 Typical Performance Data:

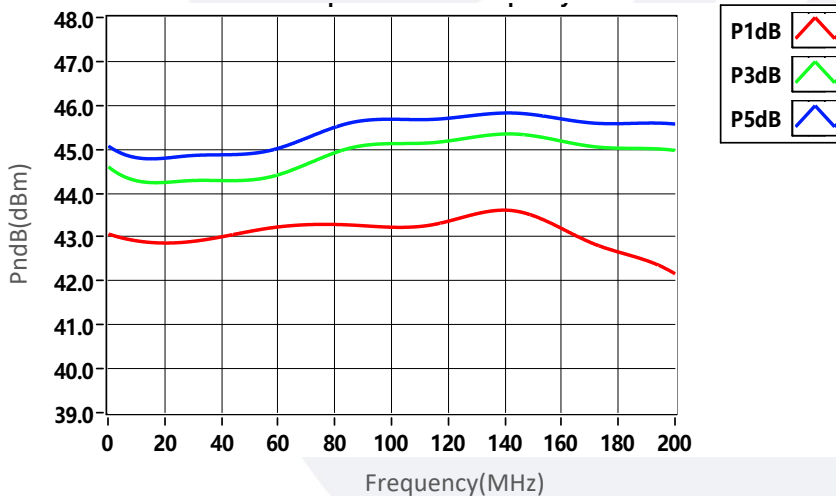
Small Signal Gain vs Frequency



Gain vs Output Power



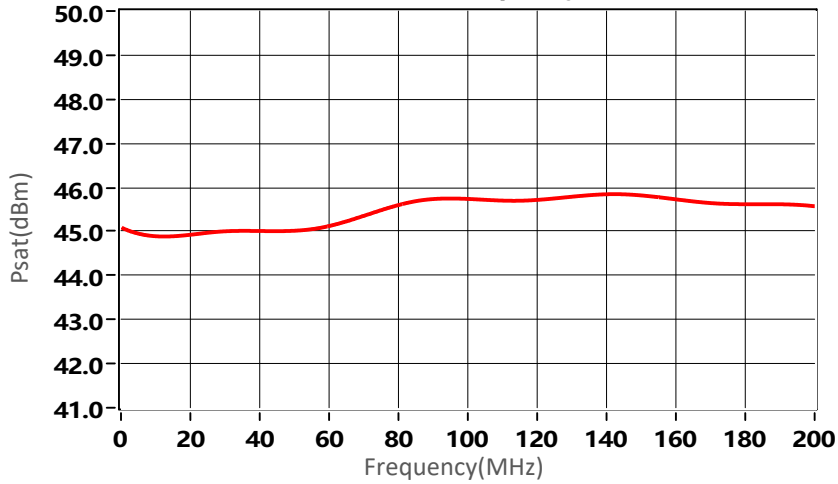
PndB vs Frequency



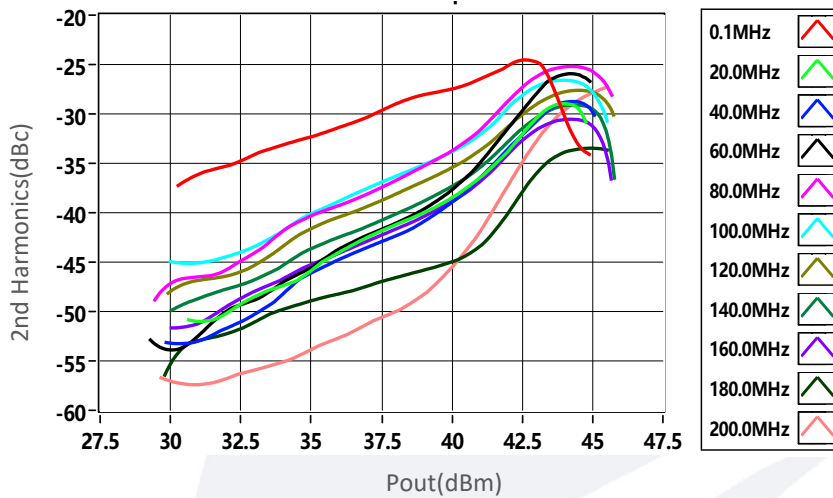
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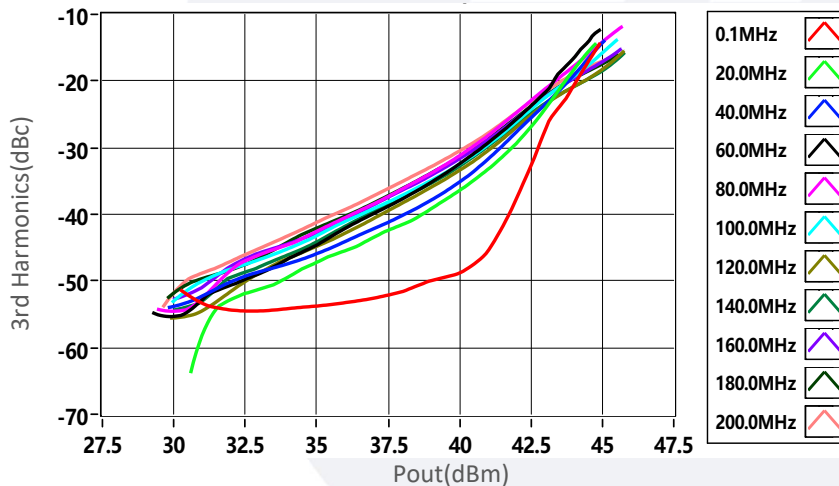
P_{sat} vs Frequency



2nd Harmonics vs Output Power

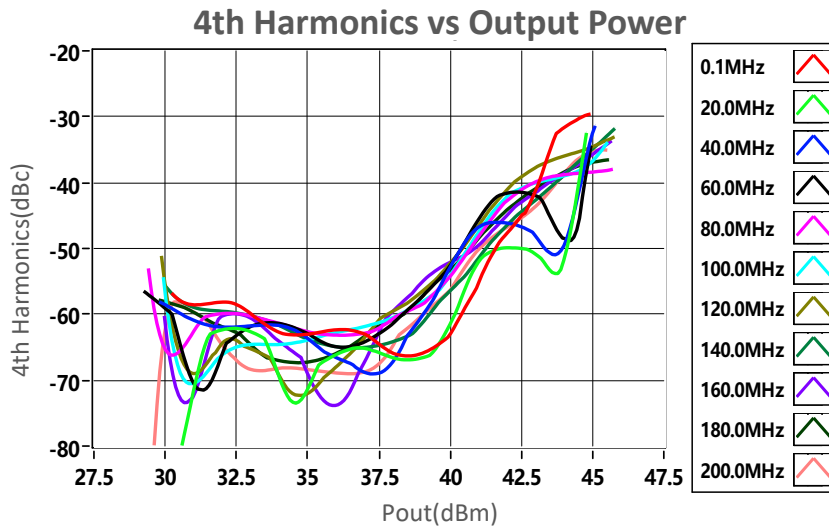


3rd Harmonics vs Output Power



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