泰莱微波
Talent Microwave

Suzhou Talent Microwave,Inc
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Power Amplifier

10-500MHz /53dB Gain/53 dBm Psat

Model: TLPA10M500M-53-53

TLPA10M500M-53-53 is a power amplifier with a typical small signal gain of 53 dB and a nominal Psat of 53 dBm across the frequency range of 10 to 500 MHz. The DC power requirement for the amplifier is +36 VDC/3 A. The input and output port configuration offers coax adapter structure with SMA female and N female .

Features:

- Frequency range: 10-500MHz
- Gain: 53dB Typ
- Output Power : 53dBm 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	10		500	MHz
小信号增益 Small Signal Gain	50	53		dB
增益平坦度 Gain Flatness		±2	±3	dB
线性输出功率 Output P1dB	49	50		dBm
饱和输出功率 Output Psat	51.5	53		dBm
输入驻波 Input VSWR		1.5	2.0	:1
直流电压 DC Voltage	34	36	38	V DC
静态电流 Static Current		3		A
饱和电流 Saturation current		20	22	A
阻抗 Impedance		50		Ohms

*Performance may degrade below 300 MHz. Please refer to below typical test plots

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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	
直流偏置 DC Bias	D-SUB-9Pin	
尺寸 Size	180*115*25(Without heatsink) 290.2*200*87(With heatsink)	mm
重量 Weight(不含散热器)	1000	g

绝对最大值 Absolute Maximum Ratings:

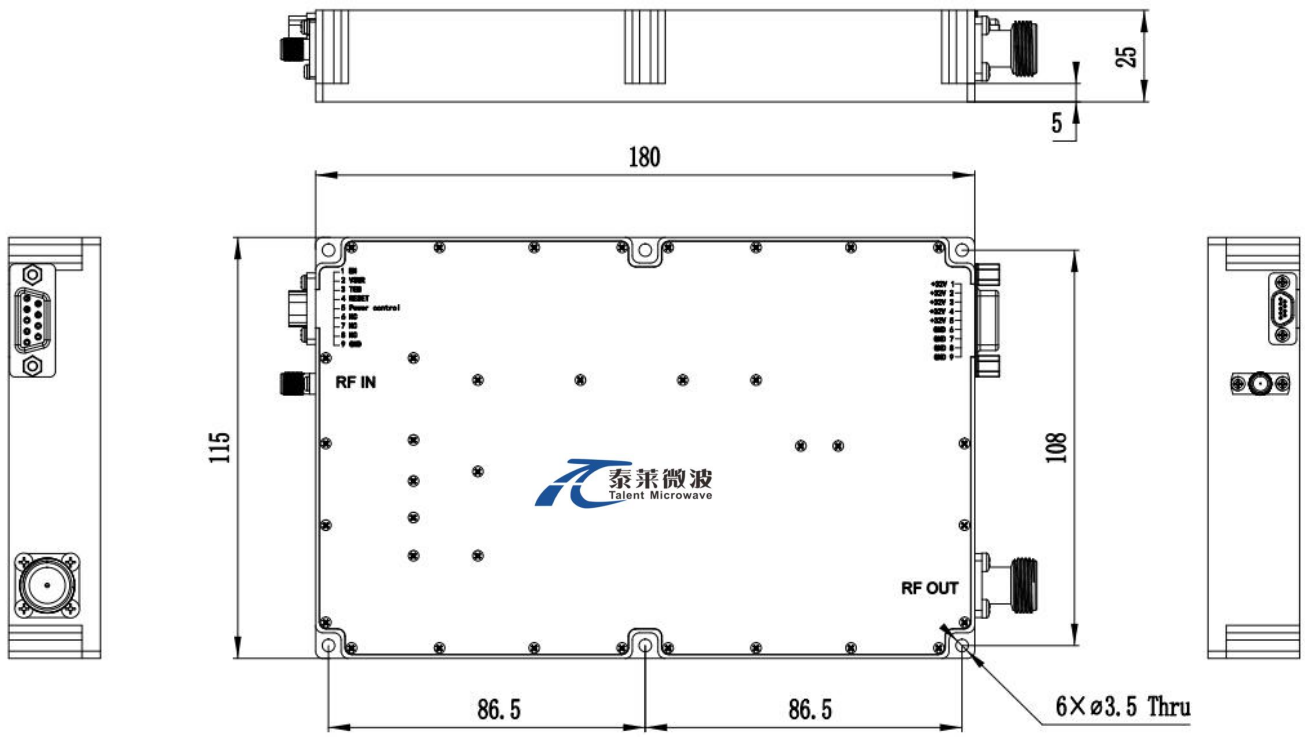
参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+38 V
输入功率 RF Input Power	5dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V



Simple 220V System
Available SAC option

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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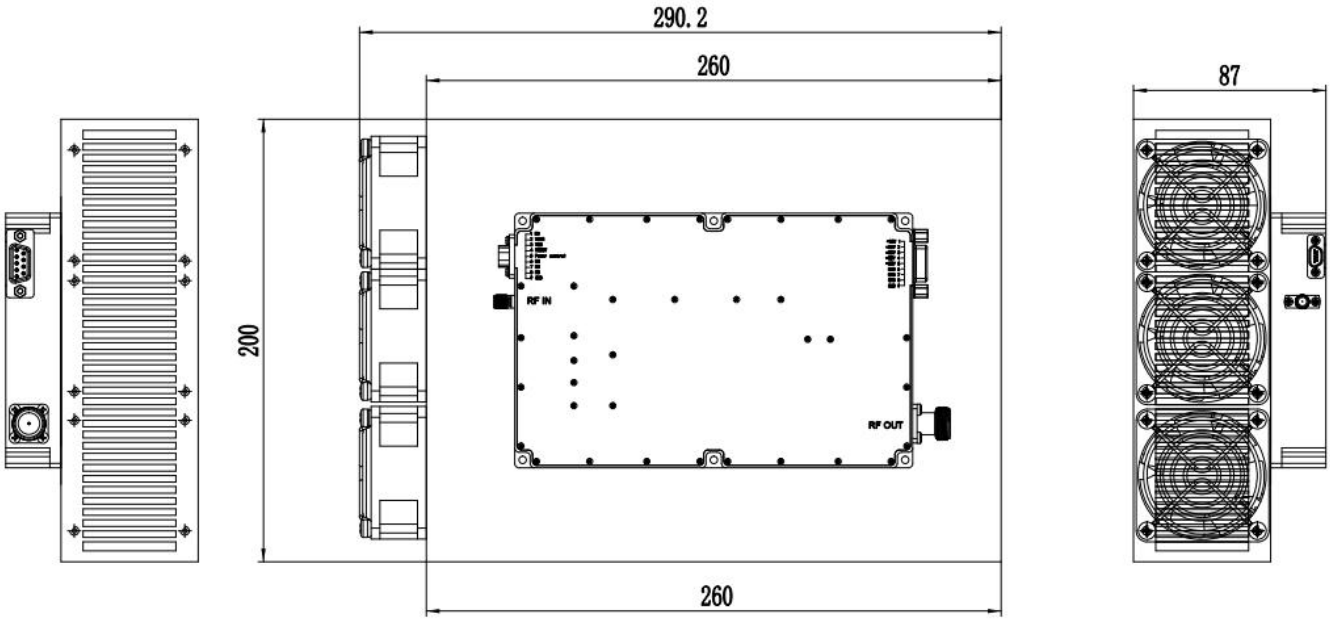

ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

风扇供电 Fan power supply	
Red line	Power supply positive,+24.0-28.0VDC DC current: 0.3A
Black line	Ground

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直流供电接口 DC Supply Connector（D-SUB9 Female):

引脚 Pin	名称 Name	功能 Function
1~5	+36V	Power supply positive,+34.0-36.0VDC
6~9	GND	Ground

控制接口 Control Connector（J30J-9ZKP Female):

引脚 Pin	名称 Name	功能 Function
1	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground
2	Over VSWR	When the external standing wave of the power amplifier output is greater than 5, the power amplifier is turned off, and this pin will output a high level. When the external standing wave is less than 5, this pin outputs a low level.
3	Over TEM	When the temperature of the case exceeds 70 ℃, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 60 ℃, the power amplifier will return to normal operation, and this pin will be pulled low.
4	Reset	When the power amplifier triggers VSWR protection, the power amplifier willshut down and enter a state lock. Giving this pin a low pulse of 10ms will restart the power amplifier. Only VSWR protection can be reset.
5	Power control	The control voltage input terminal of the voltage-controlled attenuation ranges from 0 to 7V, with an attenuation range of 30dB to 0dB. From 2 to 7V, the attenuation is The reduction is from 10 dB to 0 dB.
6~8	NC	Not Connected
9	GND	Ground

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温度环境 Environmental Conditions:

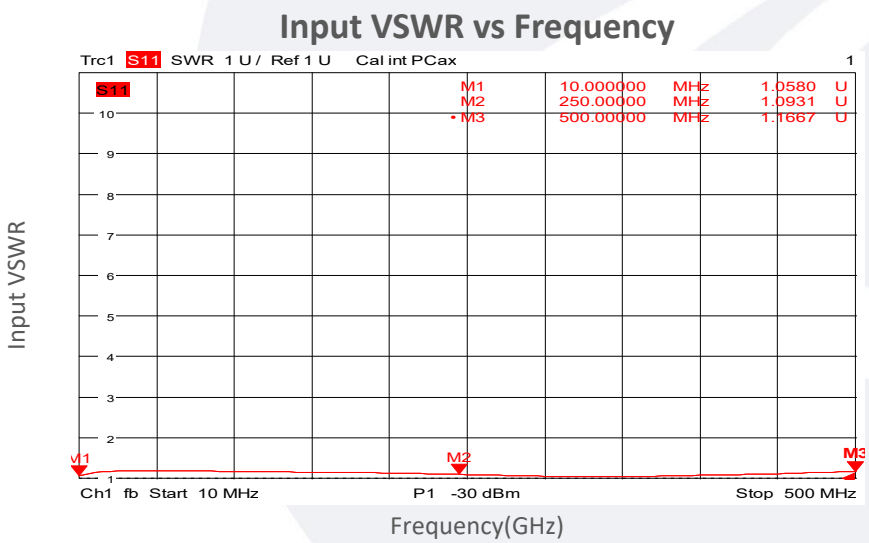
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature*	-45		+75	℃
存储温度 Non-operating Temperature*	-55		+125	℃
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc 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
TLPA10M500M-53-53	Power amplifier 10-500MHz,Gain:53dB,Psat:53dBm, +36V DC,Without Heatsink	Rev.1.2
TLPA10M500M-53-53-HS	Power amplifier 10-500MHz,Gain:53dB,Psat:53dBm, +36V DC,With Heatsink	Rev.1.2

典型曲线 Typical Performance Data:



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.

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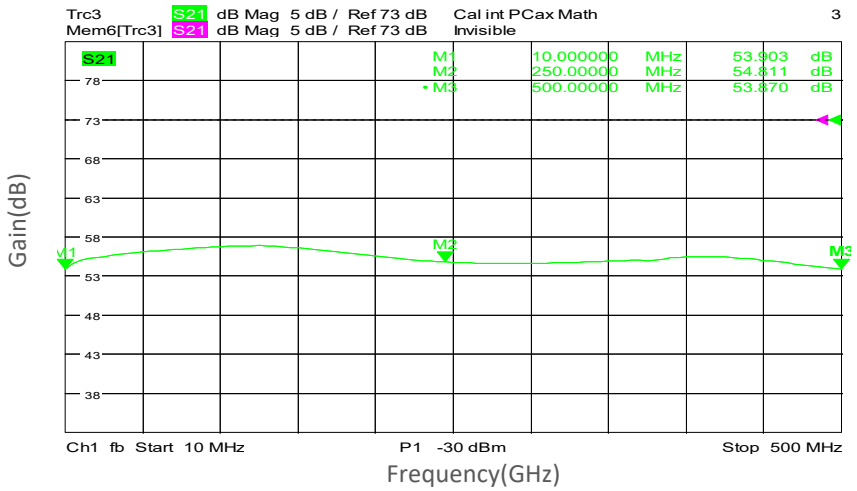
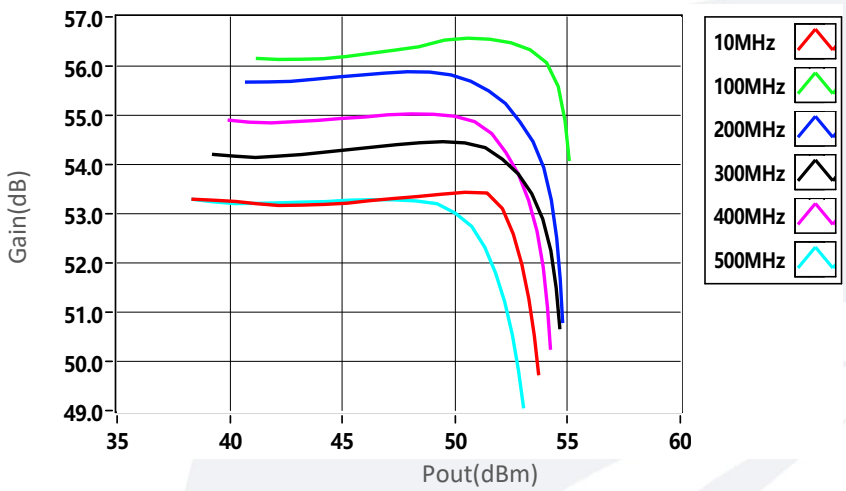
典型曲线 Typical Performance Data:

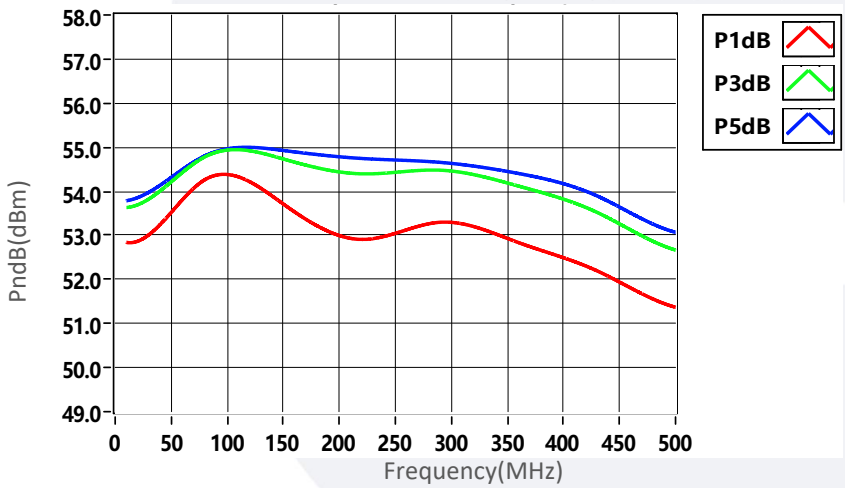
Small Signal Gain vs Frequency



Gain vs Output Power



PndB vs Frequency



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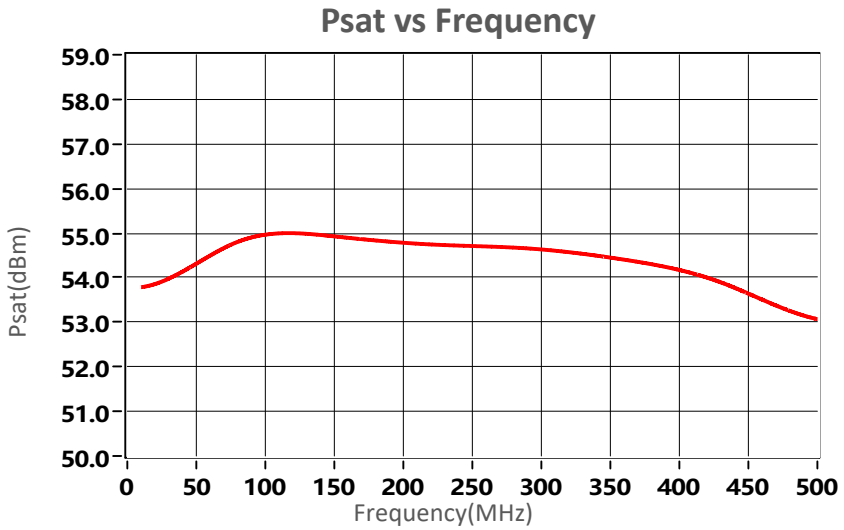

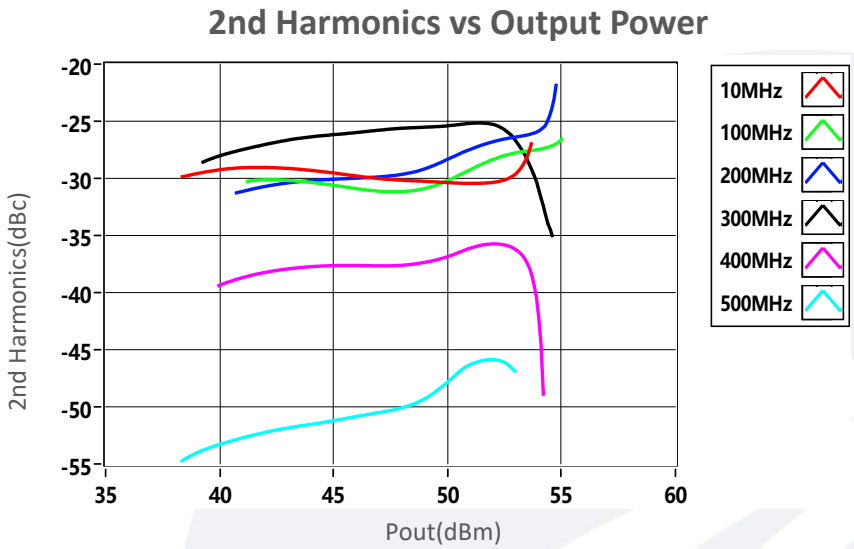

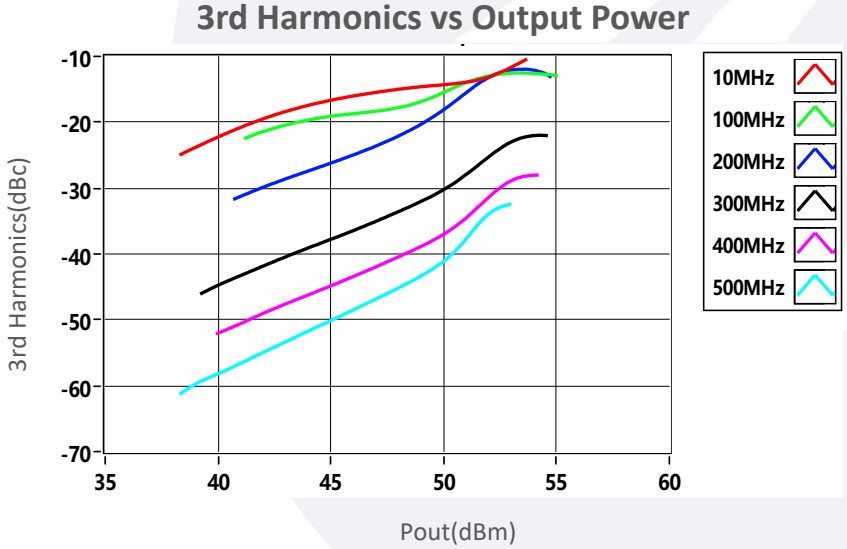

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