

Model:TLPA10M500M-53-53
Power Amplifier
10-500MHz,Gain:53dB,Psat:53dBm
Feature:

- Ultra Wide Band: 10-500MHz
- Gain: 53 dB Min
- Psat Output Power: 53 dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Electrical Specifications:

Parameter	Min	Typ	Max	Units
Frequency range	10-500			MHz
Gain	53	55		dB
Gain Flatness		±2	±3	dB
Output P1dB		50		dBm
Output Psat	51.5	53		dBm
Input VSWR		1.5	2.0	:1
DC Voltage	+34	+36	+38	V DC
DC Supply Current		20		A
Impedance	50			Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	D-SUB-9	
Size	180*115*25	mm
Weight	250	g

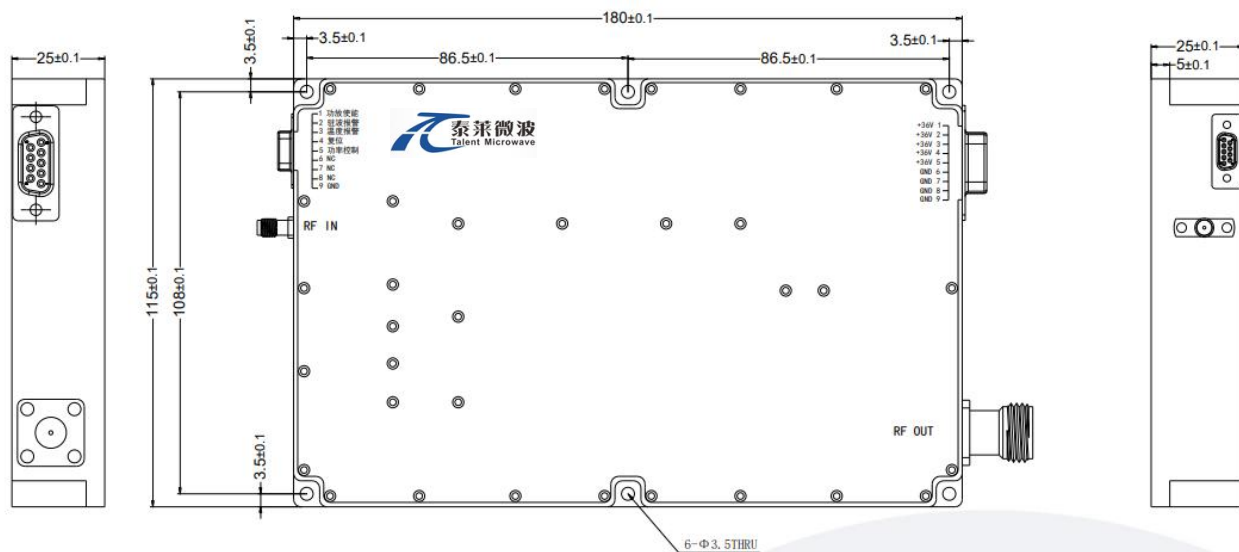
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+38 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V


**Available 220V System
Benchtop Amplifier**

Outline Drawing:

Unit: mm



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

J30J,9-Pin,Female:



OBSERVE PRECAUTIONS
ELECTROSTATIC SENSITIVE
DEVICES

Pin	Identification	Type	Function specification
1	+36V	Input	Power supply positive +28.0-33.0VDC
2	+36V	Input	Power supply positive +28.0-33.0VDC
3	+36V	Input	Power supply positive +28.0-33.0VDC
4	+36V	Input	Power supply positive +28.0-33.0VDC
5	+36V	Input	Power supply positive +28.0-33.0VDC
6	GND	Input	Power supply negative
7	GND	Input	Power supply negative
8	GND	Input	Power supply negative
9	GND	Input	Power supply negative

D-SUB,9-Pin,Female:

Pin	Identification	Type	Function specification
1	Power amplifier enable	Input	A high (or suspended) level turns on the power amplifier, and a low level turns it off
2	Over VSWR	Output	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 Temp	Output	When the temperature of the power amplifier housing is greater than 70° C, the power amplifier is closed and this pin will output a high level. When the temperature of the power shell is reduced to 60°C, the power amplifier returns to normal operation, and this pin will output a low level.
4	Reset	Input	When the power amplifier triggers standing wave protection, the power amplifier will shut down and enter a state lock. Giving this pin a low pulse of 10us will restart the power amplifier. Only standing wave protection can be reset.
5	APC	Input	Voltage controlled attenuation control voltage input, 0-7V, attenuation of 30dB-0dB. 2-7V, attenuation of 10dB-0dB.。
6	NC		No internal connection
7	NC		No internal connection
8	NC		No internal connection
9	GND	Input	Ground

Environmental Conditions:

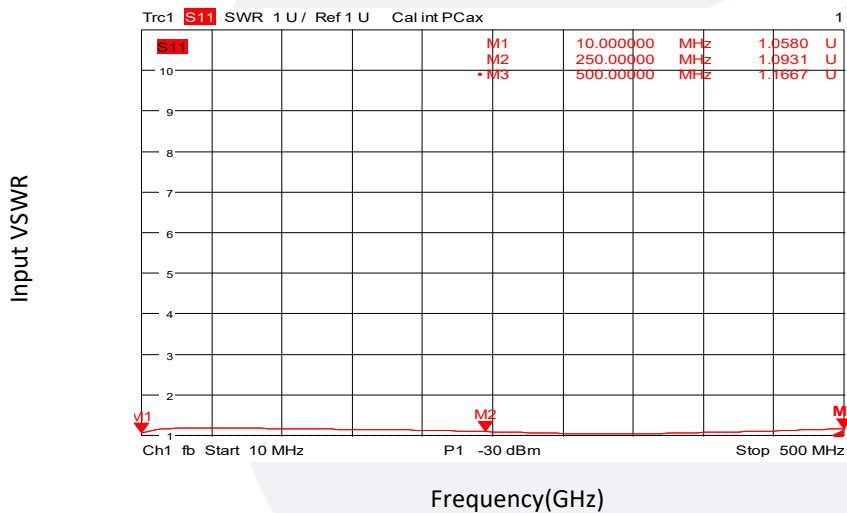
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+70	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	30,000			feet
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Part Number	Description	Revision
TLPA10M500M-53-53	Power amplifier 10-500MHz,Gain:53dB,Psat:53dBm, +28V DC,Without Heatsink	Rev.1.1
TLPA10M500M-53-53- HS	Power amplifier 10-500MHz,Gain:53dB,Psat:53dBm, +28V DC,With Heatsink	Rev.1.1

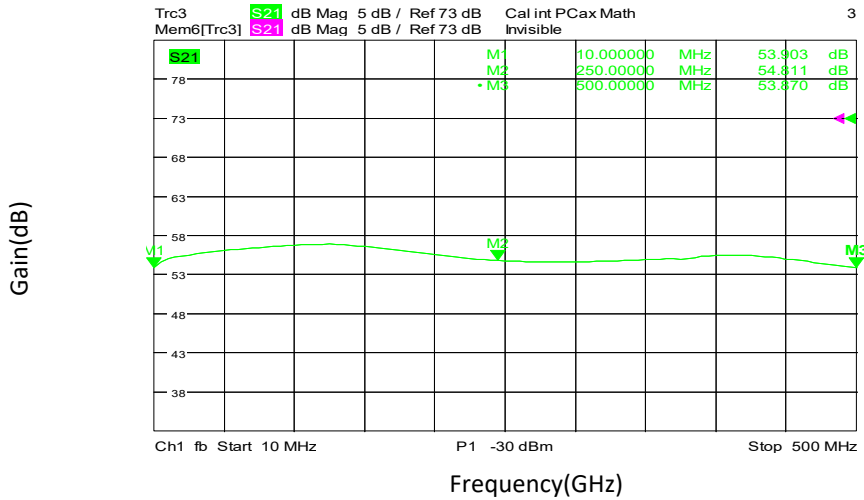
Typical Performance Data:

Input VSWR vs Frequency

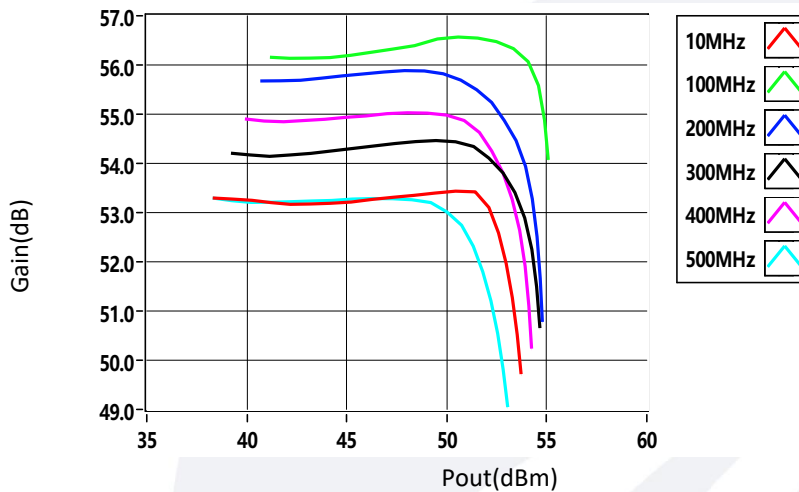


Typical Performance Data:

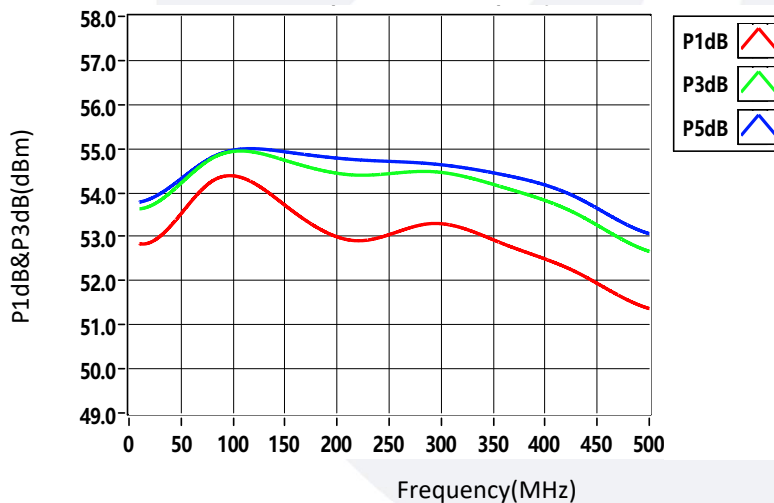
Gain vs Frequency



Gain vs Output Power

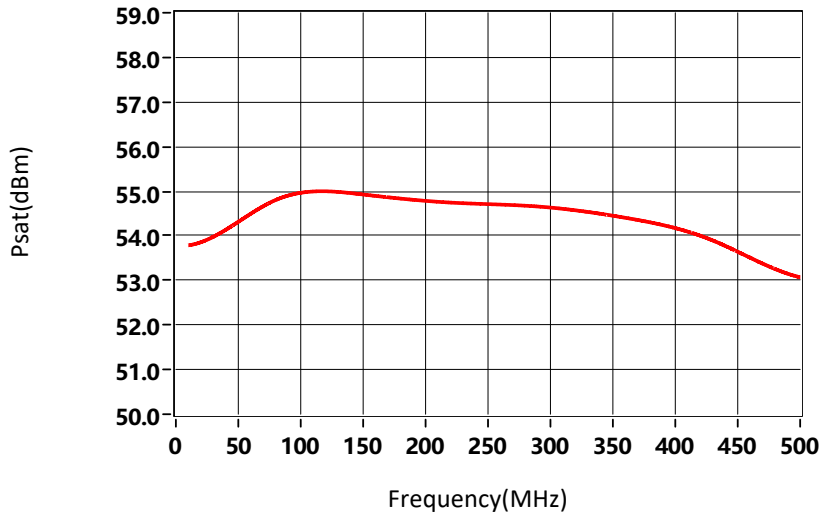


P1dB&P3dB vs Frequency

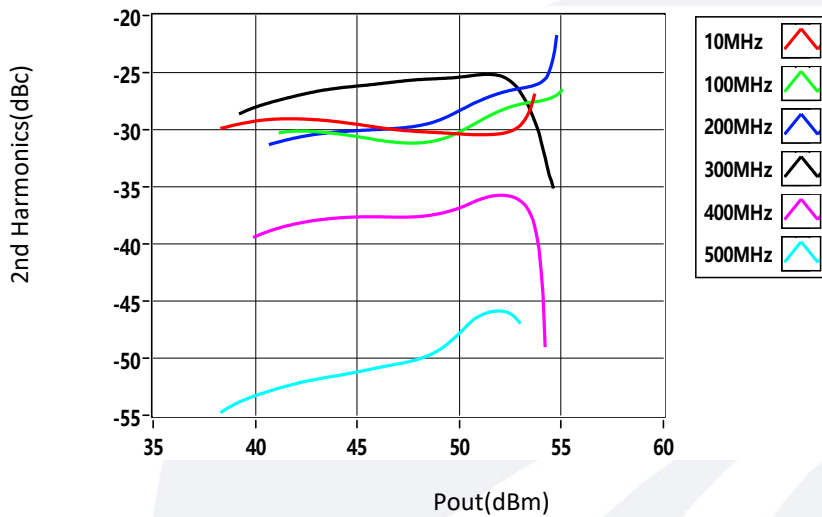


Typical Performance Data:

Psat VS Frequency



2nd Harmonics VS Output Power



3rd Harmonics VS Output Power

