

## Power Amplifier

100KHz-400MHz/52dB Gain/52dBm Psat

Model: TLPA100K400M-52-52

TLPA100K400M-52-52 is a power amplifier with a typical small signal gain of 52 dB and a nominal Psat of 52 dBm across the frequency range of 100KHz to 400 MHz. The DC power requirement for the amplifier is +28 VDC/10 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: 100KHz-400MHz
- Gain: 52dB Typ
- Output Power Psat: 52dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	100KHz		400MHz	
Small Signal Gain	49	52		dB
Gain Flatness		±3	±5	dB
Output P1dB	49	50		dBm
Output Psat	50	52		dBm
Harmonic@Pout=50dBm		-12		dBc
Input VSWR		1.5	2.0	:1
DC Voltage	+26	+28	+30	V DC
DC Supply Current		10	20	A
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/N Female	
DC Power Supply Connector	DB9	
Size	255*130*35	mm
Weight	2500	g

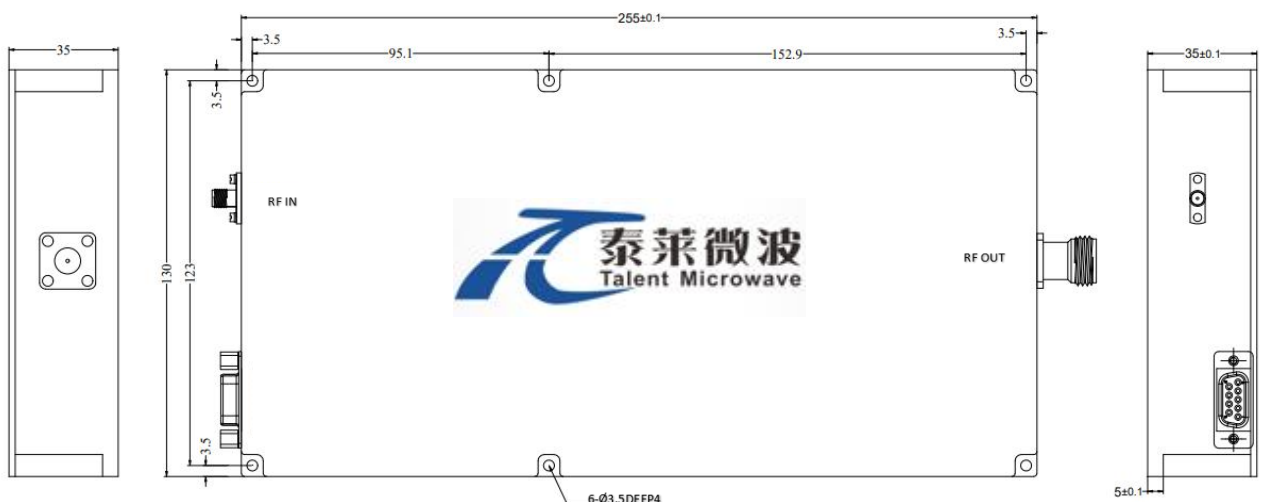
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+30 V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V



### Outline Drawing:

Unit:mm



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



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

## DC Supply Connector(DSUB-9 Female):

Pin	Name	Function
1	+28V	+26.0-30.0VDC
2	+28V	+26.0-30.0VDC
3	+28V	+26.0-30.0VDC
4	GND	Ground
5	GND	Ground
6	NC	Not connected
7	Over Temperature	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
9	EN	Amplifier Enable: TTL High (5V) (Internally Pulled-High) Amplifier Disable: Short to ground

## Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-20		+50	°C
Non-operating Temperature*	-30		+60	°C
Relative humidity		95		%
Altitude		10,000		feet
Shock / Vibration(MIL-STD-810F)		20g,11ms,saw-tooth		
Shock(non operating)		20G for 11msc half sin wave,3 axis both directions		

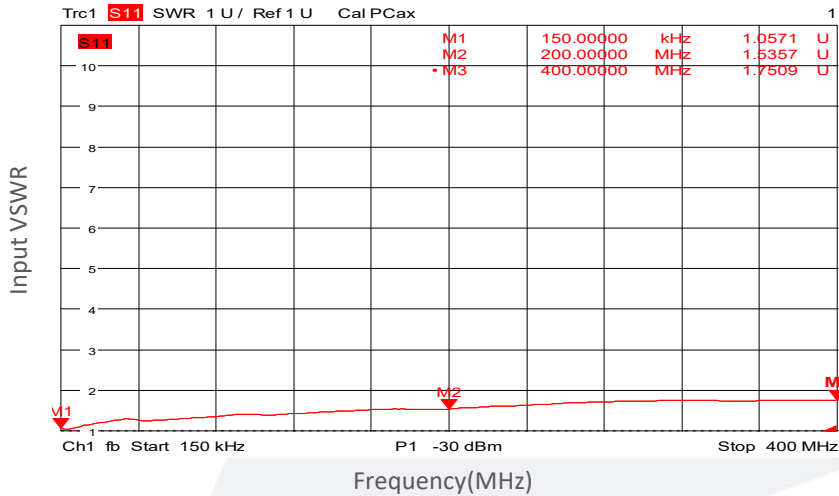
\*Note: For a wider temperature range, please consult the manufacturer.

**Ordering Information:**

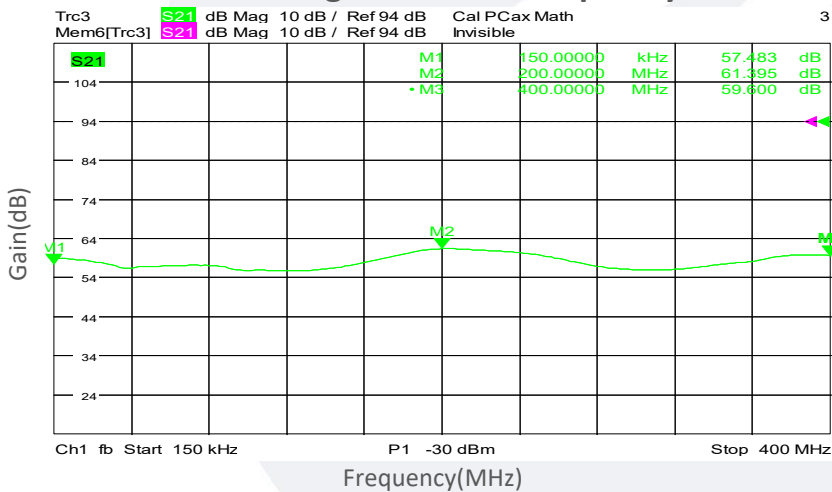
Base Number	Description	Revision
TLPA100K400M-52-52	Power amplifier 100KHz-400MHz, Gain:52dB,Psat:52dBm,+28V DC,Without Heatsink	Rev.1.1
TLPA100K400M-52-52-HS	Power amplifier 100KHz-400MHz, Gain:52dB,Psat:52dBm,+28V DC,With Heatsink	Rev.1.1

**Typical Performance Data:**

**Input VSWR vs Frequency**



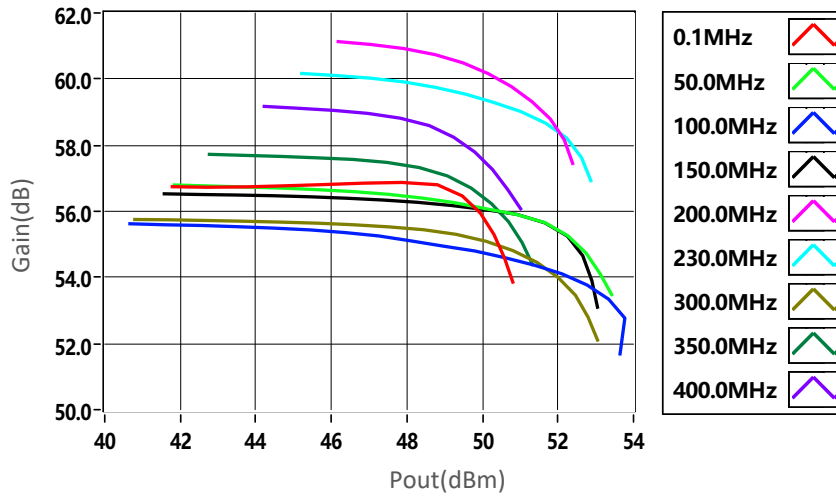
**Small Signal Gain vs Frequency**



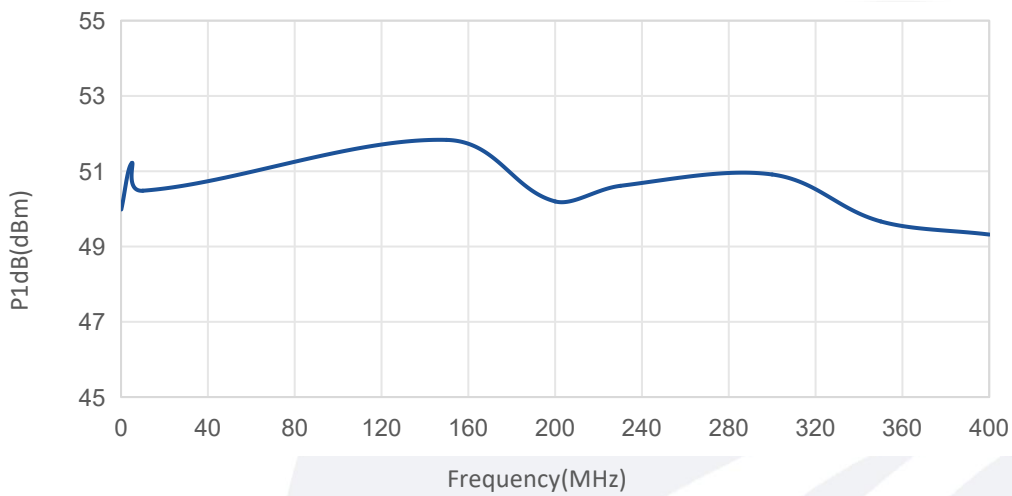
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

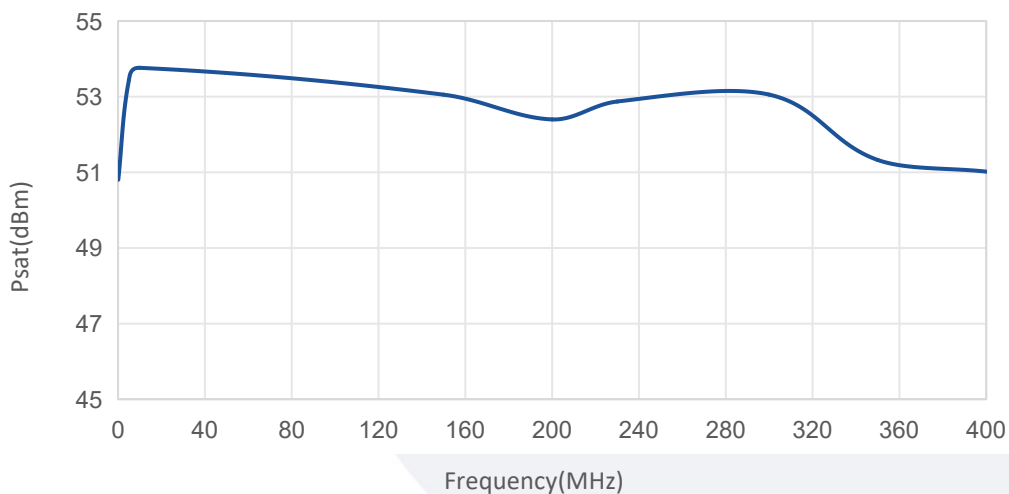
**Gain vs Output Power**



**P1dB vs Frequency**



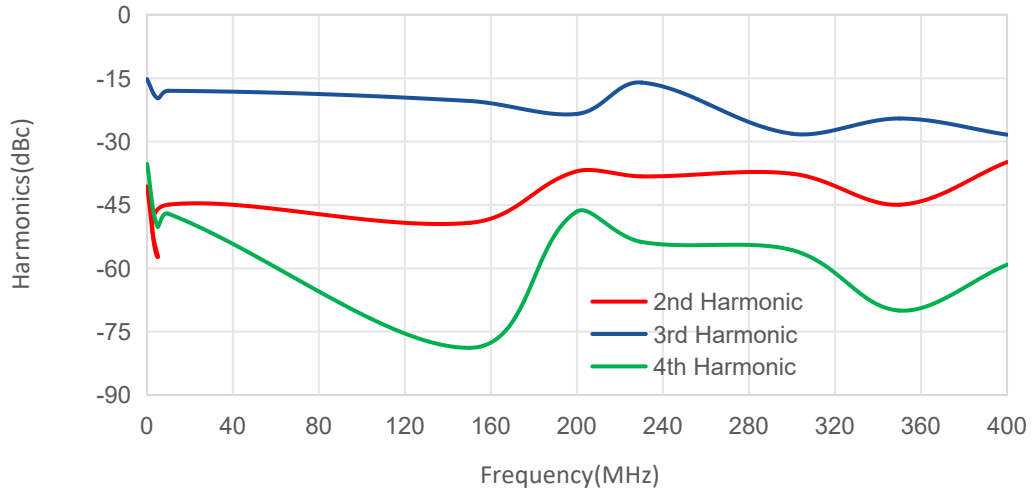
**Psat vs Frequency**



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**Typical Performance Data:**

**Harmonics vs Frequency**



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