

Power Amplifier

50-500MHz/50dB Gain/33dBm P1dB

Model: TLP50M500M-50-33

TLP50M500M-50-33 is a power amplifier with a minimum small signal gain of 50 dB and a nominal Psat of 35 dBm across the frequency range of 50 to 500 MHz. The DC power requirement for the amplifier is +15 VDC/1 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Frequency range: 50-500MHz
- Gain: 50dB Min
- Output Power Psat: 35dBm 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	50		500	MHz
Small Signal Gain	50	52		dB
Gain Flatness		±2	±3	dB
Noise Figure		4	5	dB
Output P1dB	33	34		dBm
Output Psat	34	35		dBm
Input VSWR		1.5	2.0	:1
DC Voltage		+15		V DC
DC Supply Current		1		A
Impedance		50		Ohms

Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	90*48*15	mm
Weight	150	g

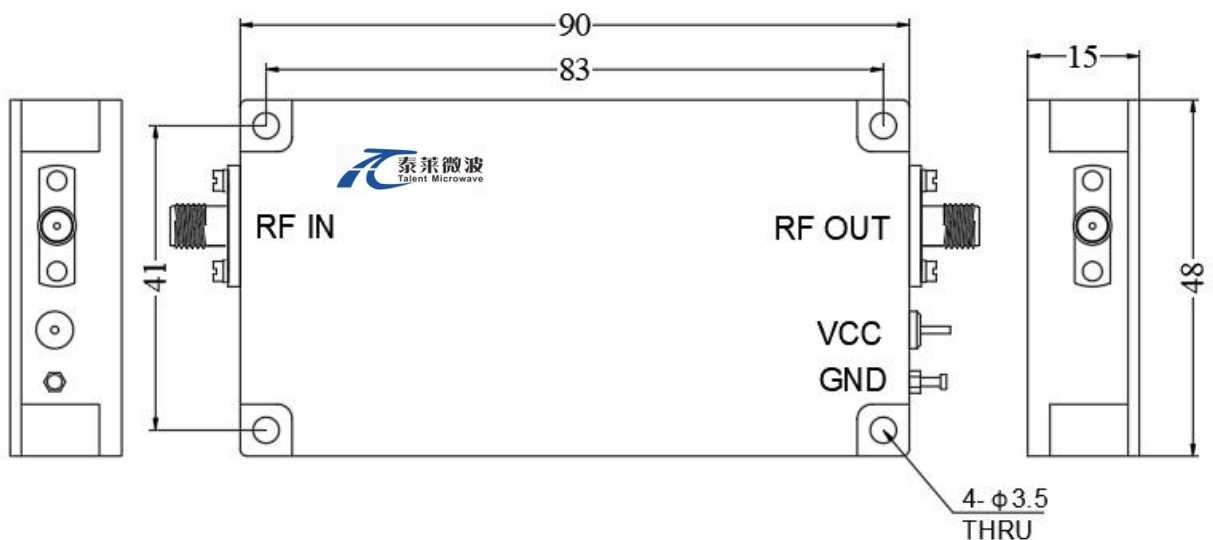
Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+18 V
RF Input Power	-15 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.

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°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			

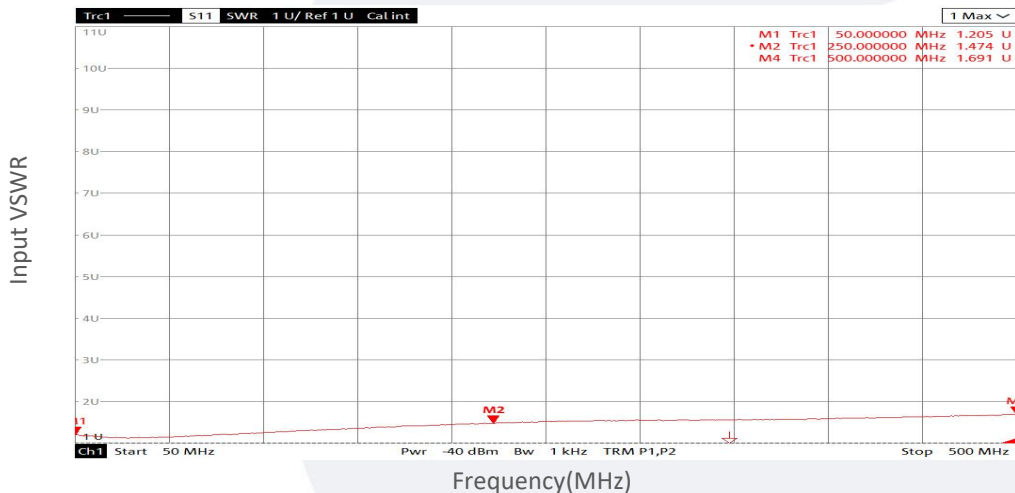
*Note: For a wider temperature range, please consult the manufacturer.

Ordering Information:

Base Number	Description	Revision
TLPA50M500M-50-33	Power amplifier 50-500MHz, Gain:50dB,Psat:35dBm,+15V DC,Without Heatsink	Rev.1.0
TLPA50M500M-50-33-HS	Power amplifier 50-500MHz, Gain:50dB,Psat:35dBm,+15V DC,With Heatsink	Rev.1.0

Typical Performance Data:

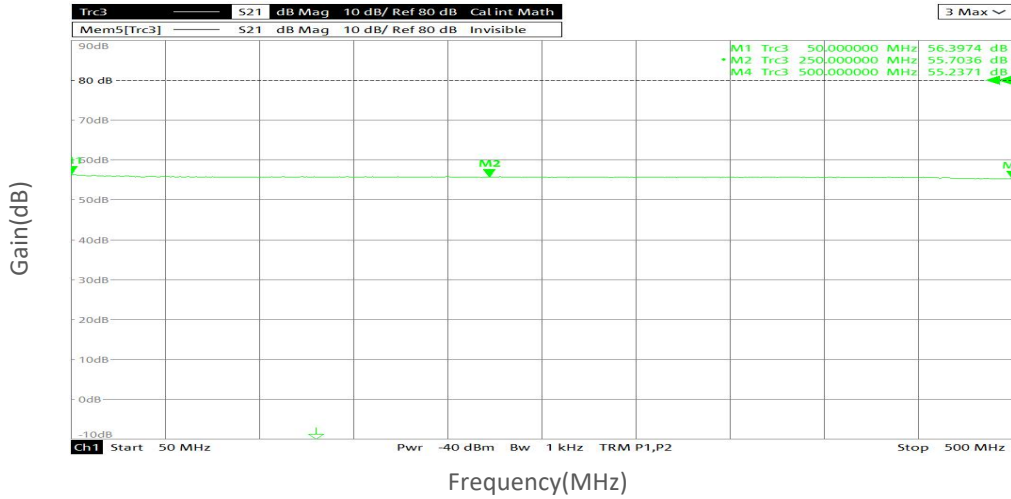
Input VSWR vs Frequency



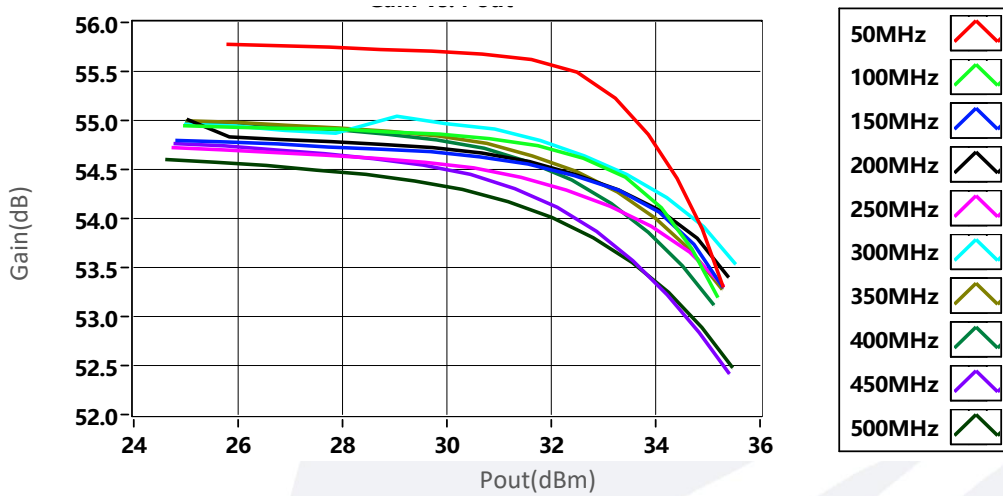
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

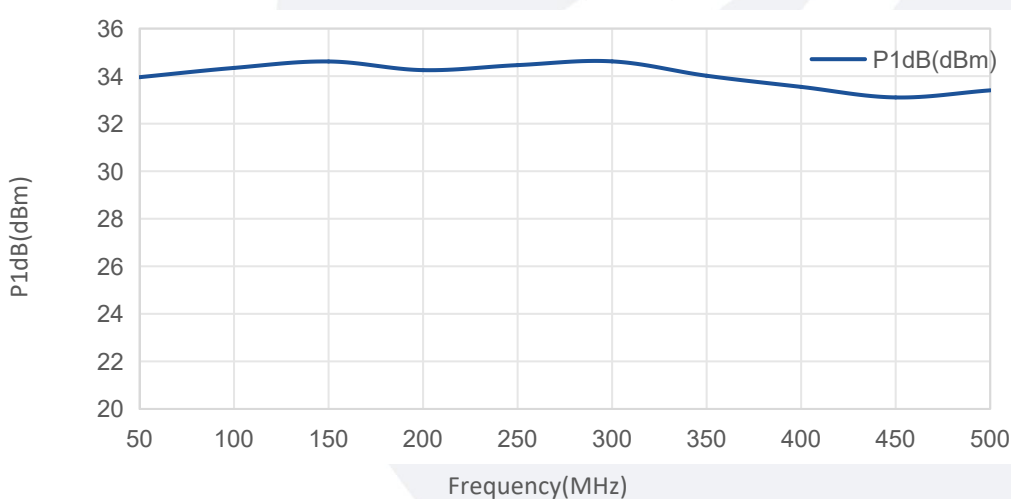
Gain vs Frequency



Gain vs Output Power



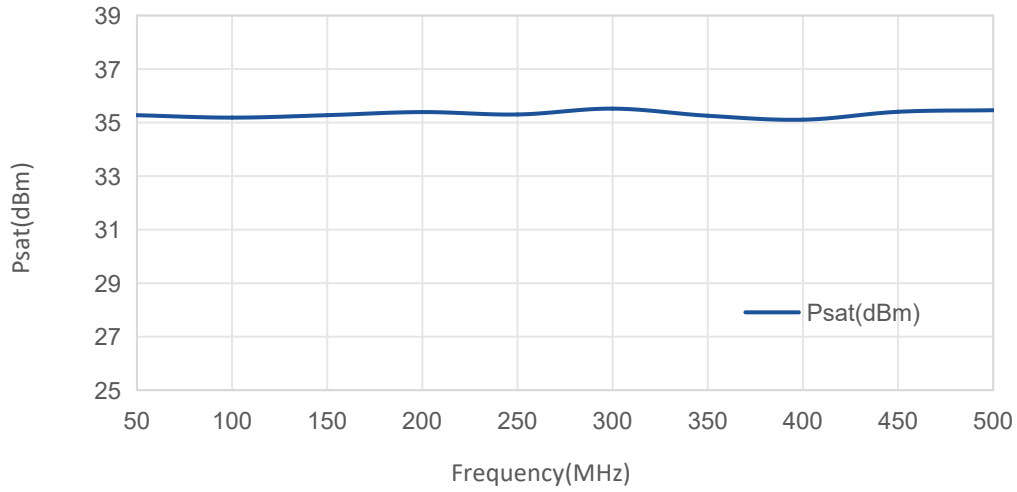
P1dB vs Frequency



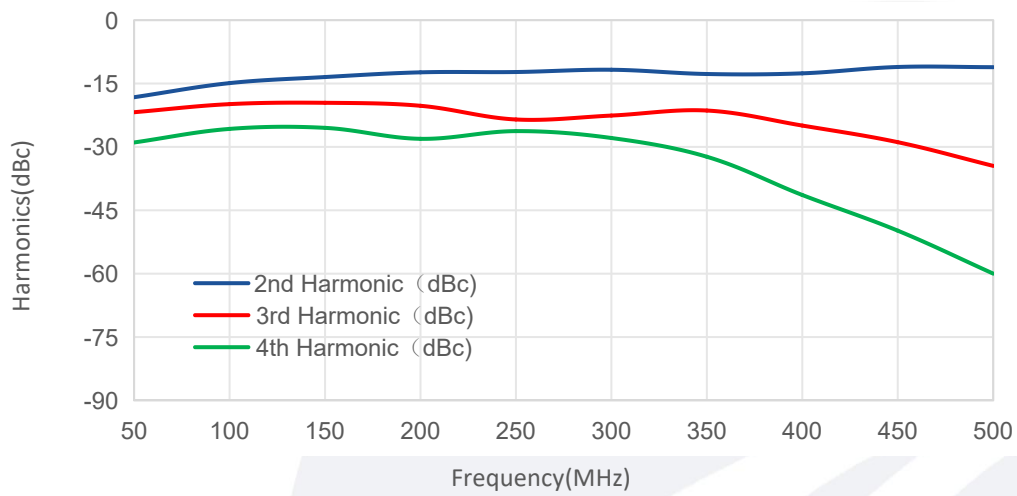
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

Psat vs Frequency



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.