

## Power Amplifier

50KHz-20GHz/32dB Gain/22dBm P1dB

Model: TLPA50K20G-32-22

TLPA50K20G-32-22 is a power amplifier with a typical small signal gain of 32 dB and a nominal P1dB of 22 dBm across the frequency range of 50 KHz to 20 GHz. The DC power requirement for the amplifier is +12 VDC/240 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 50KHz-20GHz
- Gain: 32dB Typ
- Output Power P1dB: 22dBm 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	50KHz-20GHz			
Small Signal Gain		32		dB
Gain Flatness		±2		dB
Output P1dB	20	22		dBm
Noise Figure		3		dB
Input VSWR		2.2		:1
Output VSWR		2.2		:1
DC Voltage	+10	+12	+13	V DC
DC Supply Current		240		mA
Impedance		50		Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	44*36*11	mm

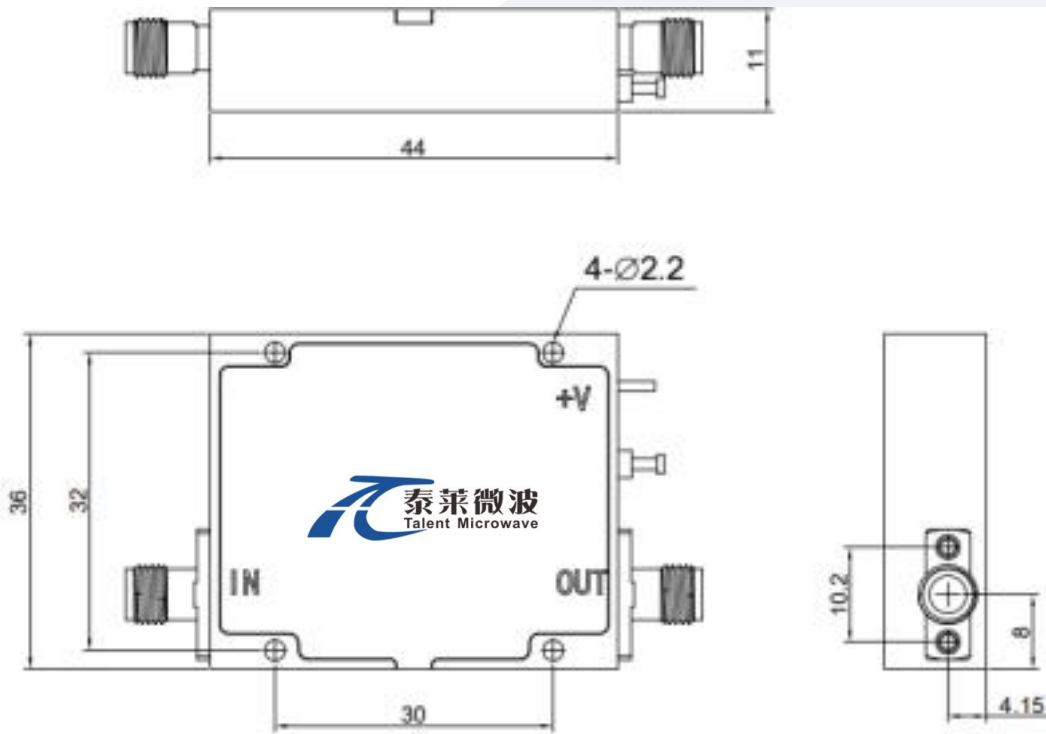
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+13 V
RF Input Power	+10 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:

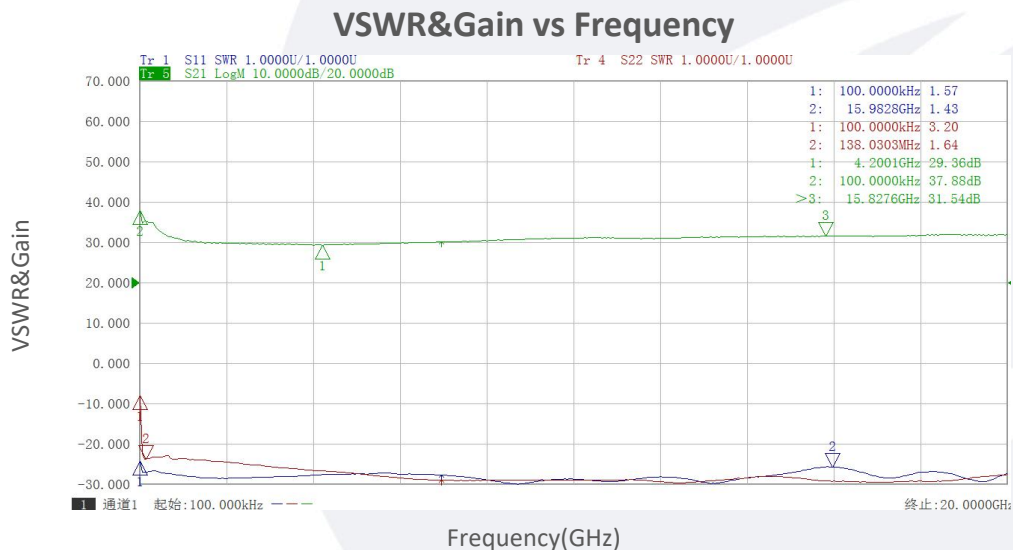
Parameter	Min	Typ	Max	Units
Operating Temperature*	-40		+60	°C
Non-operating Temperature*	-50		+70	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	20g,11ms,saw-tooth			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

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

### Ordering Information:

Base Number	Description	Revision
TLPA50K20G-32-22	Power amplifier 50KHz-20GHz, Gain:32dB,P1dB:22dBm,+12V DC,Without Heatsink	Rev.1.1
TLPA50K20G-32-22-HS	Power amplifier 50KHz-20GHz, Gain:32dB,P1dB:22dBm,+12V DC,With Heatsink	Rev.1.1

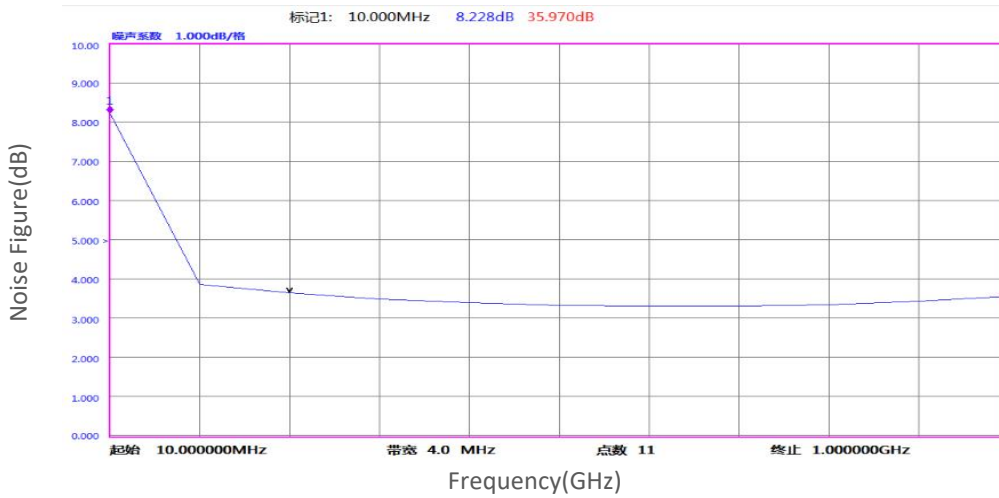
### Typical Performance Data:



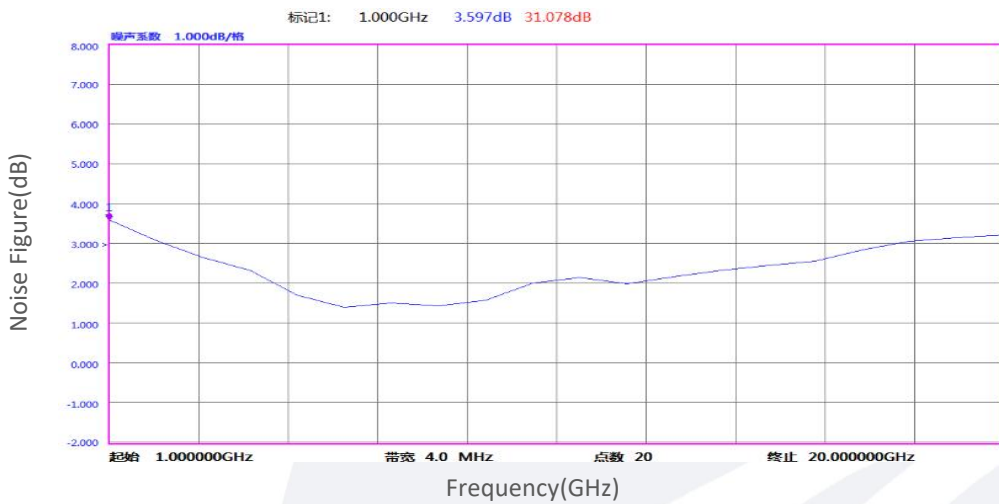
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

**Noise Figure vs Frequency**



**Noise Figure vs Frequency**



**P1dB vs Frequency**



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