

## Power Amplifier

20-50GHz/23dB Gain/23dBm Psat

Model: TLPA20G50G-23-23

TLPA20G50G-23-23 is a power amplifier with a typical small signal gain of 23 dB and a nominal Psat of 23 dBm across the frequency range of 20 to 50 GHz. The DC power requirement for the amplifier is +6 VDC/420 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

### Features:

- Frequency range: 20-50GHz
- Gain: 23dB Typ
- Output Power Psat: 23dBm 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	20		50	GHz
Small Signal Gain	20	23		dB
Gain Flatness		±3		dB
Output P1dB	20.5	21		dBm
Output Psat	21	23		dBm
VSWR		2.3		:1
DC Voltage	5	6	8	V DC
DC Supply Current		420		mA
Impedance	50			Ohms

### Mechanical Specifications:

Parameter	Value	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
DC Bias	Solder Pin	
Size	44.8*29.2*11	mm

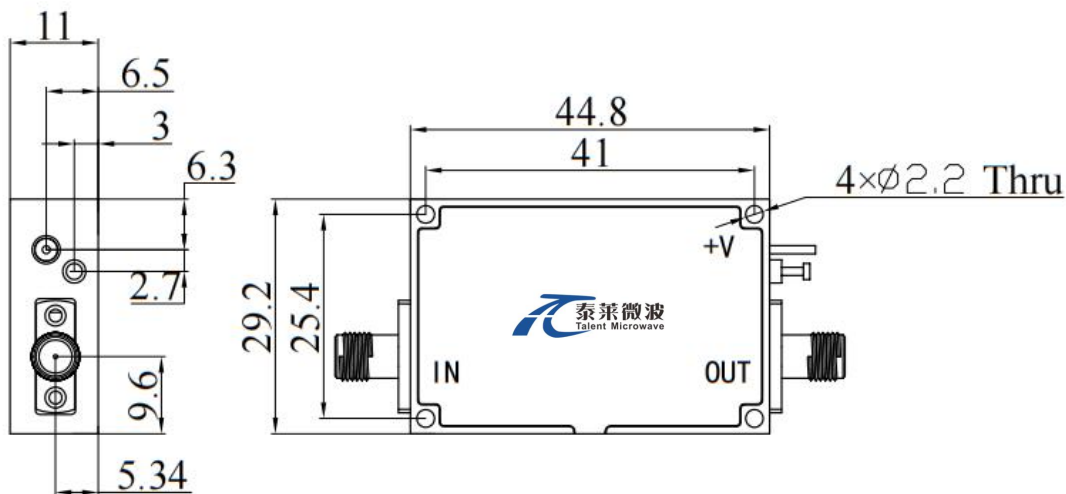
### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+8 V
RF Input Power	+13 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

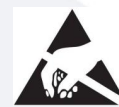


### Outline Drawing:

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)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
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
TLPA20G50G-23-23	Power amplifier 20-50GHz, Gain:23dB,Psat:23dBm,+6V DC,Without Heatsink	Rev.1.0
TLPA20G50G-23-23-HS	Power amplifier 20-50GHz, Gain:23dB,Psat:23dBm,+6V DC,With Heatsink	Rev.1.0

### Typical Performance Data:

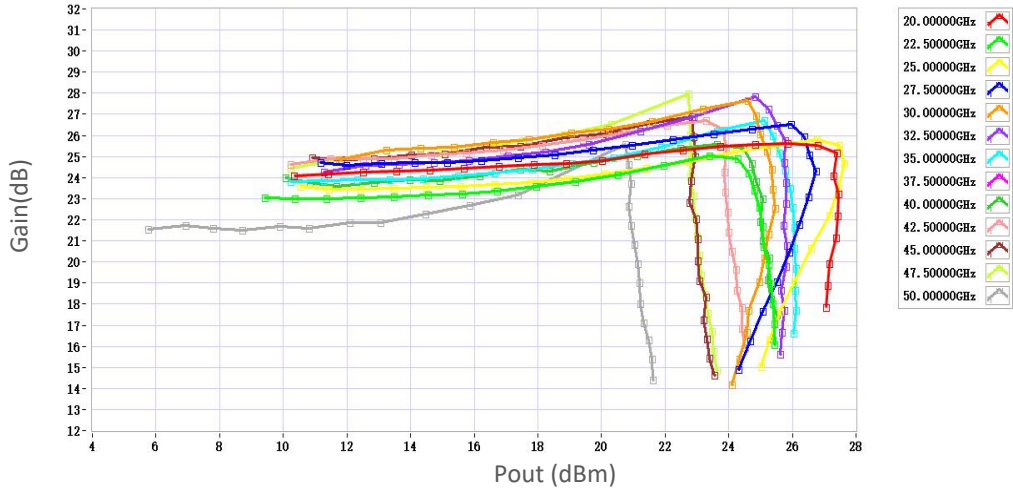
#### VSWR&Gain vs Frequency



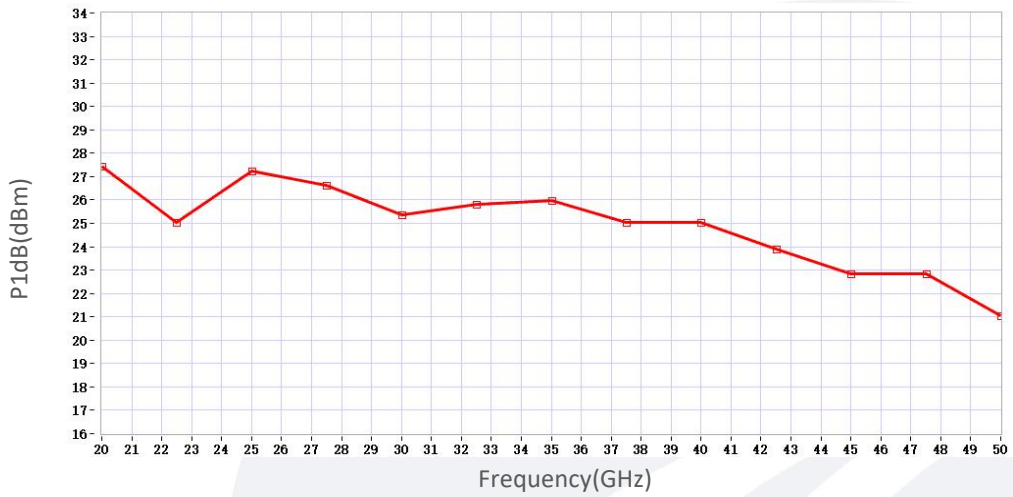
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

## Typical Performance Data:

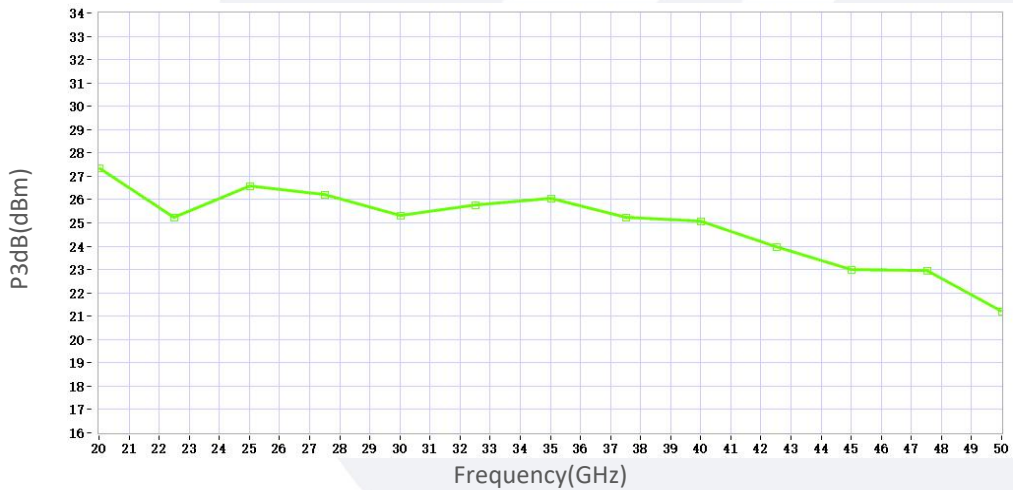
### Gain vs Output Power



### P1dB vs Frequency



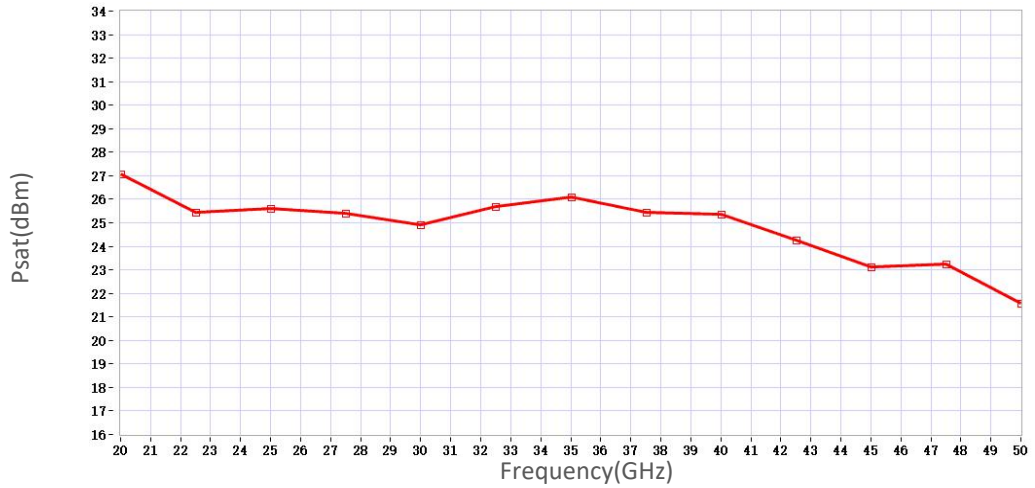
### P3dB vs Frequency



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## Typical Performance Data:

### Psat vs Frequency



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