

**Model:TLPA20G50G-35-23**

**Power Amplifier**  
**20-50GHz,Gain:35dB,P1dB:23dBm**

**Feature:**

- Ultra Wide Band: 20-50GHz
- Gain: 35 dB Typ
- P1 Output Power: 23 dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

**Electrical Specifications:**

| Parameter         | Min   | Typ  | Max | Units |
|-------------------|-------|------|-----|-------|
| Frequency range   | 20-50 |      |     | GHz   |
| Small Signal Gain |       | 35   |     | dB    |
| Gain Flatness     |       | ±2.5 |     | dB    |
| Output P1dB       |       | 23   |     | dBm   |
| Input VSWR        |       | 2.0  |     | :1    |
| Output VSWR       |       | 2.0  |     | :1    |
| DC Voltage        | +12   |      |     | V DC  |
| DC Supply Current | 0.4   |      |     | A     |
| Impedance         | 50    |      |     | Ohms  |

**Mechanical Specifications:**

| Parameter              | Value                     | Units |
|------------------------|---------------------------|-------|
| nput /Output Connector | 2.4mm Female/2.4mm Female |       |
| DC Bias                | Solder Pin                |       |
| Size                   | 38*58.5*12.5              | mm    |
| Weight                 | 200                       | g     |

**Absolute Maximum Ratings:**

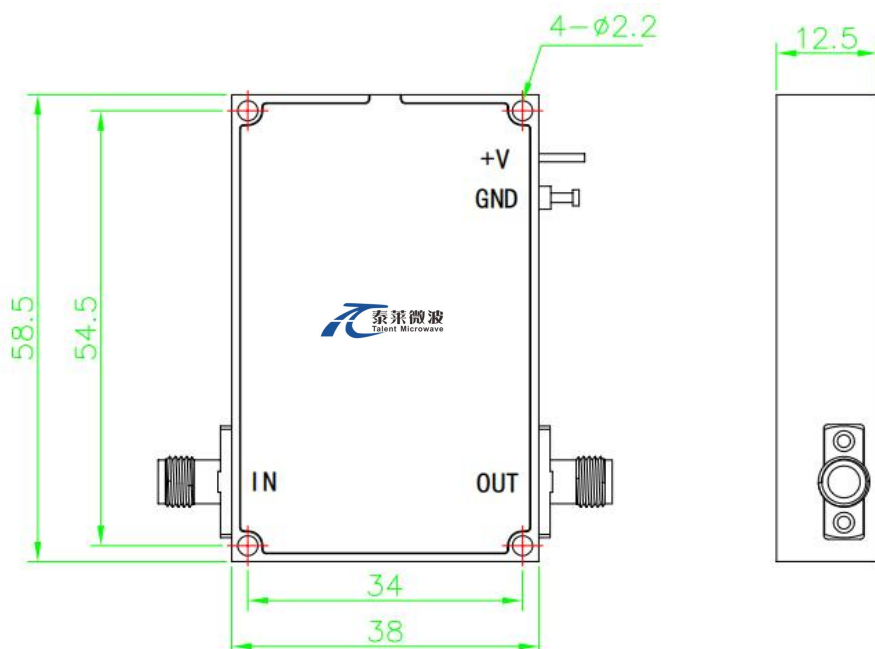
| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | +18 V                |
| RF Input Power        | +15 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |



**Available 220V System  
Benchtop Amplifier**

## Outline Drawing:

Unit: mm



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



OBSERVE PRECAUTIONS  
ELECTROSTATIC SENSITIVE  
DEVICES

## 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 |     |     |       |

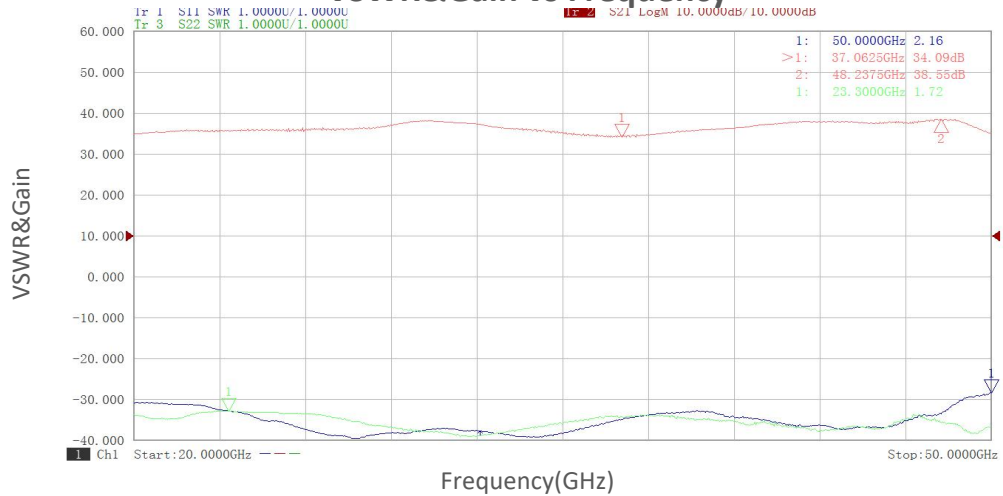
\*Note: For a wider temperature range, please consult the manufacturer.

## Ordering Information:

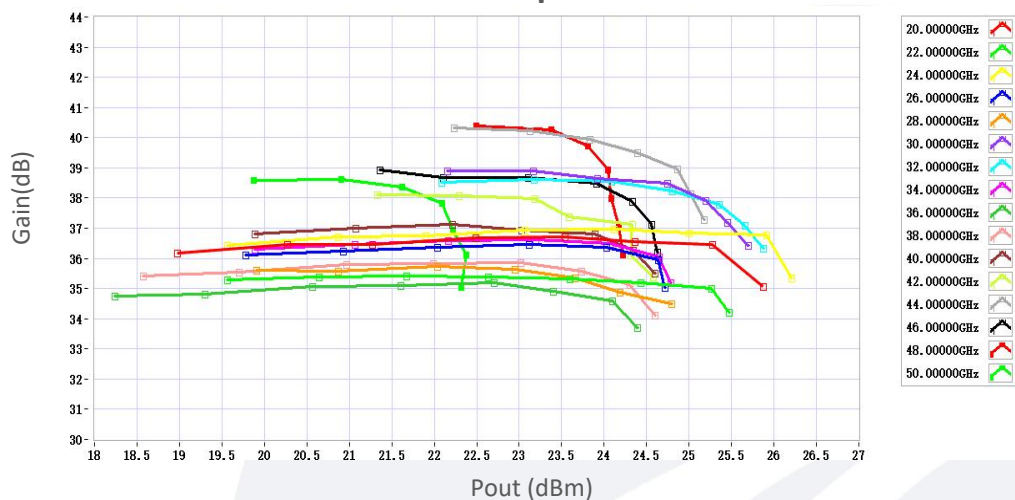
| Part Number         | Description                                                                | Revision |
|---------------------|----------------------------------------------------------------------------|----------|
| TLPA20G50G-35-23    | Power amplifier 20-50GHz,Gain:35dB,Psat:23dBm,<br>+12V DC,Without Heatsink | Rev.1.1  |
| TLPA20G50G-35-23-HS | Power amplifier 20-50GHz,Gain:35dB,Psat:23dBm,<br>+12V DC,With Heatsink    | Rev.1.1  |

## Typical Performance Data:

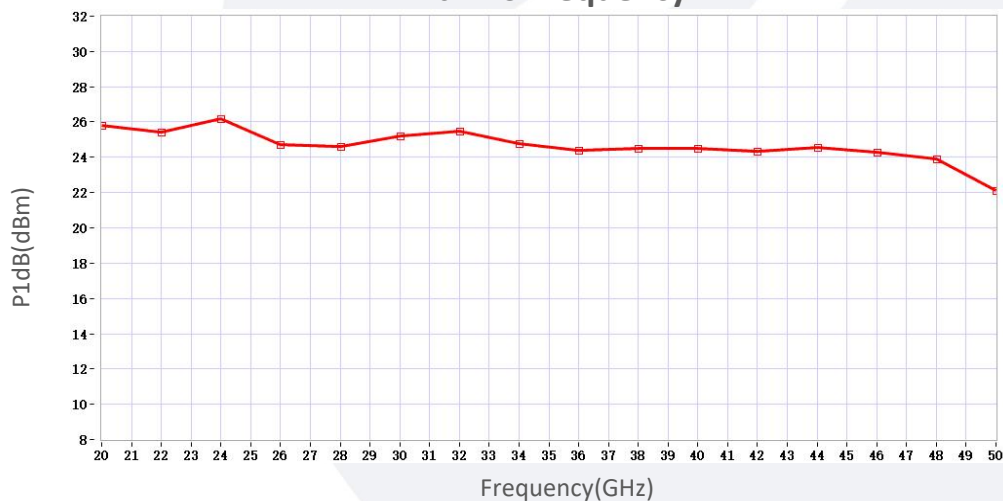
### VSWR&Gain vs Frequency



### 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.