

## Power Amplifier

0.5-6GHz/35dB Gain/30dBm Psat

Model: TLPA0.5G6G-35-30

TLPA0.5G6G-35-30 is a power amplifier with a typical small signal gain of 35 dB and a minimum Psat of 30 dBm across the frequency range of 0.5 to 6 GHz. The DC power requirement for the amplifier is +12 VDC/280 mA. The input and output port configuration offers coax adapter structure with SMA female.

### Features:

- Frequency range: 0.5-6GHz
- Gain: 35dB Typ
- Output Power Psat: 30dBm Min
- 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   | 0.5 |      | 6   | GHz   |
| Small Signal Gain |     | 35   |     | dB    |
| Gain Flatness     |     | ±2.5 |     | dB    |
| Output P1dB       | 28  |      |     | dBm   |
| Output Psat       | 30  |      |     | dBm   |
| Input VSWR        |     | 2    | 2.2 | :1    |
| DC Voltage        |     | +12  |     | V DC  |
| DC Supply Current |     | 280  |     | mA    |
| Impedance         |     | 50   |     | Ohms  |

## Mechanical Specifications:

| Parameter               | Value                 | Units |
|-------------------------|-----------------------|-------|
| Input /Output Connector | SMA Female/SMA Female |       |
| DC Bias                 | Solder Pin            |       |
| Size                    | 100*70*12             | mm    |

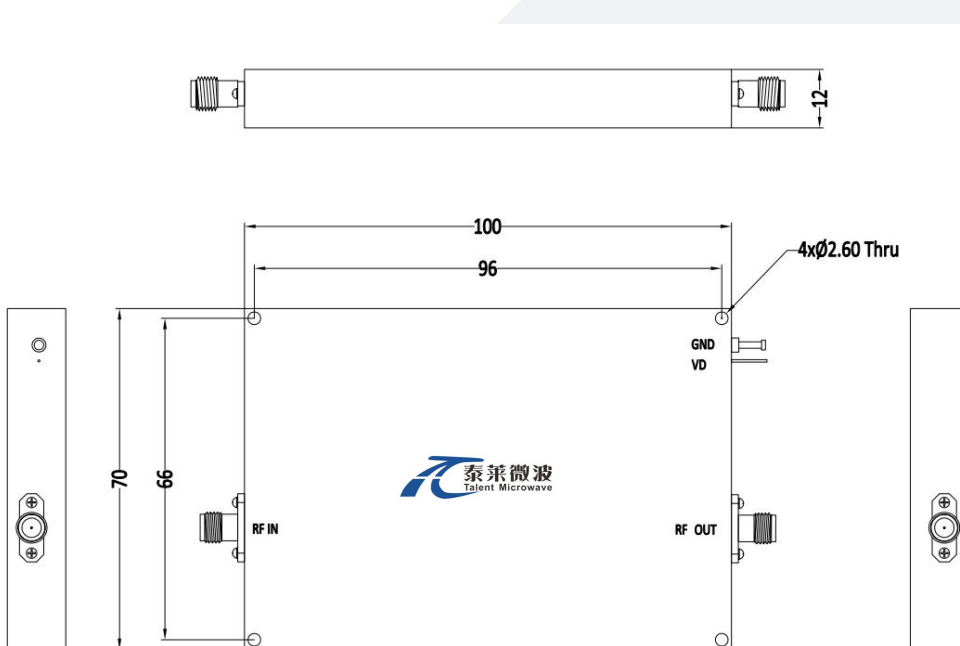
## Absolute Maximum Ratings:

| Parameter             | Value                |
|-----------------------|----------------------|
| Supply Bias Voltage   | TBD                  |
| RF Input Power        | 0 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                        | 50,000  |     |     | 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  |     |     |       |

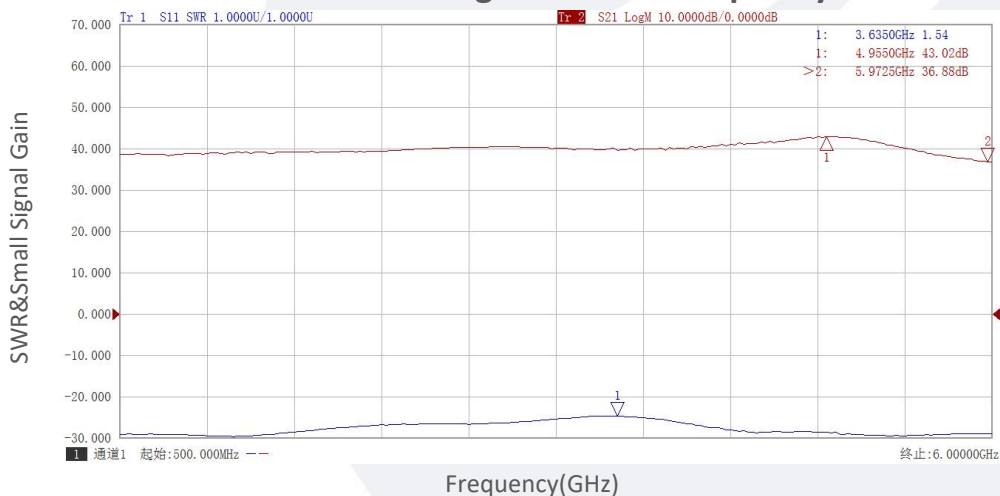
\*Note: For a wider temperature range, please consult the manufacturer.

### Ordering Information:

| Base Number         | Description  | Revision |
|---------------------|--|----------|
| TLPA0.5G6G-35-30    | Power amplifier 0.5-6GHz,<br>Gain:35dB,Psat:30dBm,+12V DC,Without Heatsink | Rev.1.1  |
| TLPA0.5G6G-35-30-HS | Power amplifier 0.5-6GHz,<br>Gain:35dB,Psat:30dBm,+12V DC,With Heatsink    | Rev.1.1  |

### Typical Performance Data:

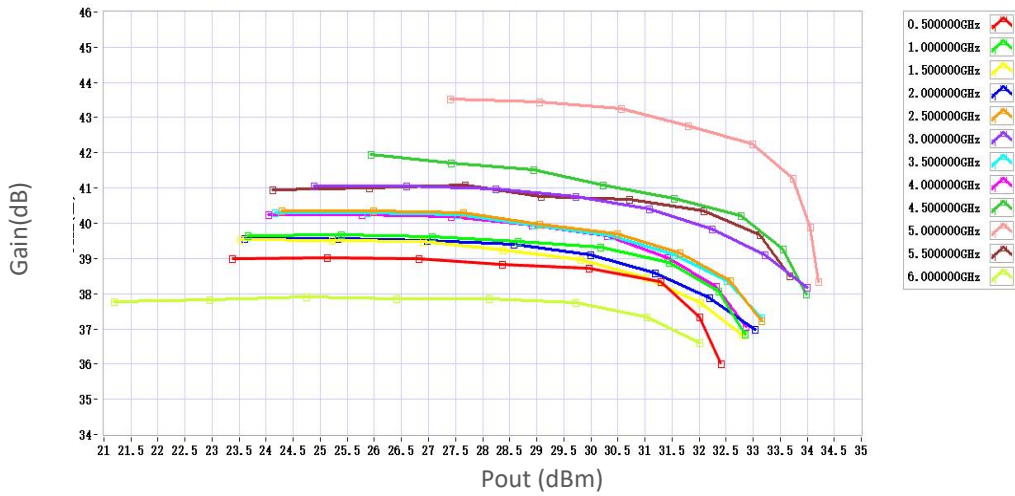
#### VSWR&Small Signal Gain vs Frequency



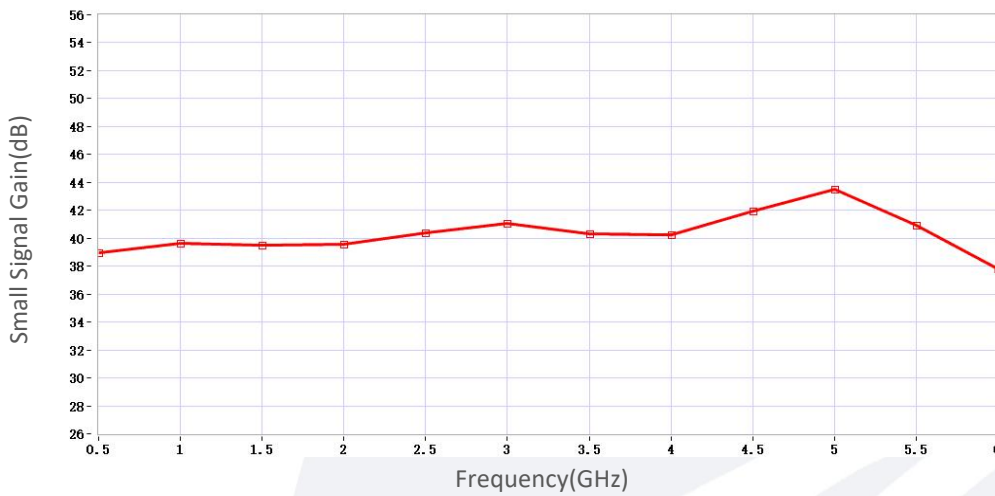
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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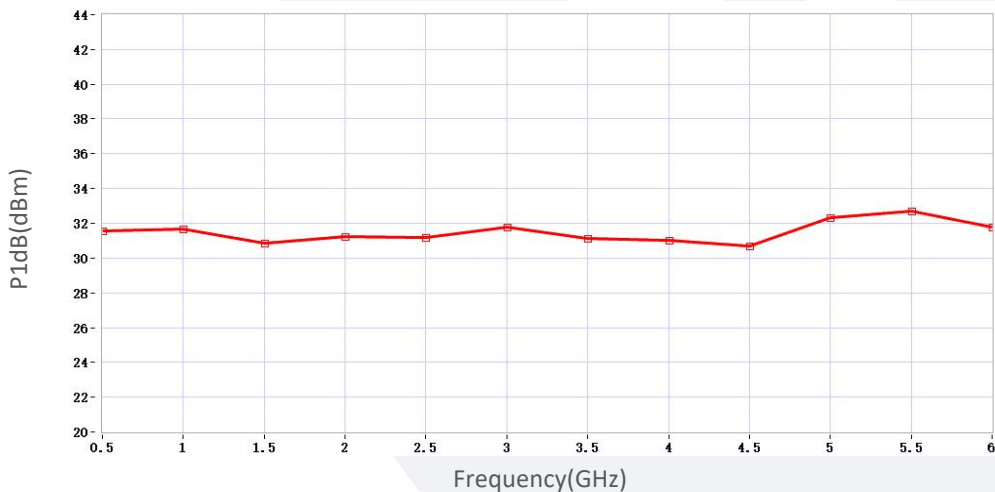
### Gain vs Output Power



### Small Signal Gain vs Frequency



### P1dB vs Frequency



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