

Power Amplifier

0.5-2.5GHz /65dB Gain/50 dBm Psat

Model: TLPA0.5G2.5G-65-50

TLPA0.5G2.5G-65-50 is a power amplifier with a typical small signal gain of 65 dB and a nominal Psat of 50 dBm across the frequency range of 0.5 to 2.5 GHz. The DC power requirement for the amplifier is +28 VDC/14 A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Wide Band: 0.5-2.5GHz
- Gain: 65dB Typ
- Output Power Psat: 50dBm Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Cellular
- PCN
- GSM
- ISM
- Lab Test

电气特性 Electrical Characteristics:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|--------------------------------------|------|---------|-----|----------|
| 频率范围 Frequency range | | 0.5-2.5 | | GHz |
| 小信号增益 Small Signal Gain | 62 | 65 | | dB |
| 增益平坦度 Gain Flatness | | ±3 | ±4 | dB |
| 增益调节范围(VVA) Gain Adjustment Range | 25 | 30 | | dB |
| 噪声系数 Noise Figure | | 10 | 15 | dB |
| 线性输出功率 Output P1dB | 45 | 46 | | dBm |
| 饱和输出功率 Output Psat | 49.5 | 50 | | dBm |
| 功放使能/关闭时间 PA Enable/ Disable Time | | 5 | | us |
| 输入驻波 Input VSWR | | 1.5 | 2.0 | :1 |
| 输出驻波 Output VSWR | | | | :1 |
| 直流电压 DC Voltage | | 28 | 30 | V DC |

静态电流

机械特性 Mechanical Specifications:

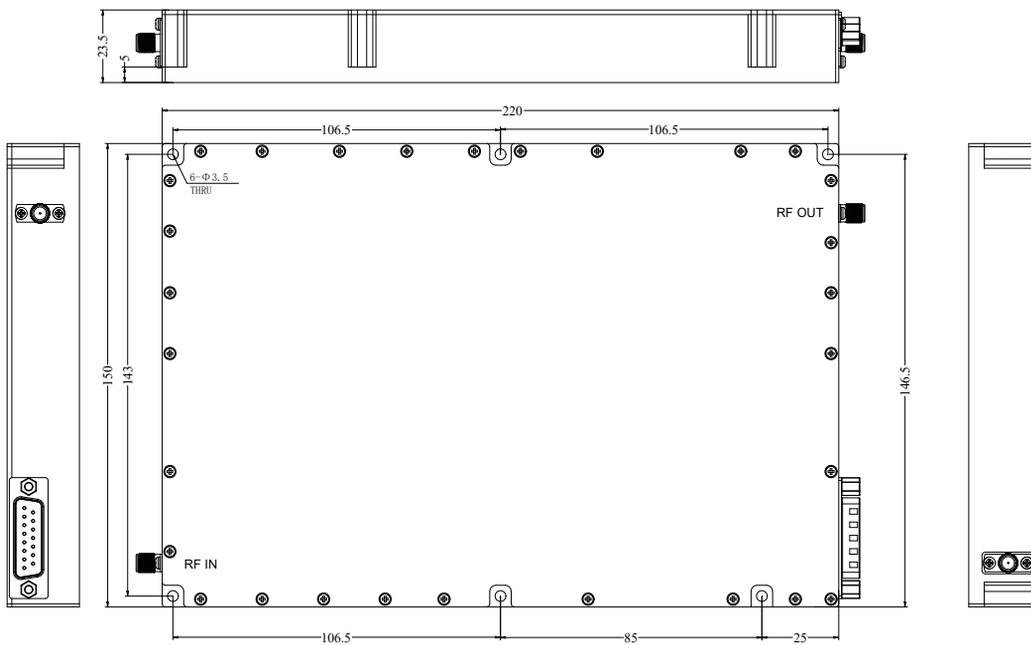
| 参数 Parameter | 指标 Value | 单位 Units |
|---------------------------------|-----------------------|----------|
| 输入/输出接口 Input /Output Connector | SMA Female/SMA Female | |
| 直流偏置 DC Bias | D-SUB-15PIN | |
| 尺寸 Size | 220*150*23.5 | mm |
| 重量 Weight | 1200 | g |

绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter | 指标 Value |
|------------------------------|----------------------|
| 供电偏置电压 Supply Bias Voltage | +30 V |
| 输入功率 RF Input Power | +10 dBm |
| ESD灵敏度 ESD sensitivity (HBm) | Class 0, passed 150V |

外形图 Outline Drawing:

Unit:mm



直流供电接口 DC Supply Connector(D-SUB15):

| Pin # | Name | Function |
|-------|------------------|--|
| 1 | VCC | +26.0-30.0VDC |
| 2 | VCC | +26.0-30.0VDC |
| 3 | VCC | +26.0-30.0VDC |
| 4 | GND | Ground |
| 5 | GND | Ground |
| 6 | RX | RS-232 Input |
| 7 | TX | RS-232 Output |
| 8 | EN | Amplifier Enable: TTL High (5V) (Internally Pulled-High) |
| 9 | RESET | Resets PA when logic LOW is applied and released (Internally Pulled-High) |
| 10 | VVA | 0-5V DC |
| 11 | Over Temperature | When the temperature of the case exceeds 85 °C, the power amplifier will turn off and this pin will be pulled high. If the temperature of case drops to 70 °C, the power amplifier will return to normal operation, and this pin will be pulled low. |
| 12 | Over VSWR | VSWR FAULT:(TTL High= Fault, TTL Low =Normal) |
| 13 | Over Input | Input FAULT:(TTL High= Fault, TTL Low =Normal) |
| 14 | VCC | +26.0-30.0VDC |
| 15 | VCC | +26.0-30.0VDC |
| 16 | GND | Ground |
| 17 | GND | Ground |
| 18 | GND | Ground |
| 19 | NC | Not connected |
| 20 | NC | Not connected |
| 21 | NC | Not connected |
| 22 | NC | Not connected |
| 23 | NC | Not connected |
| 24 | Over Current | Current FAULT:(TTL High= Fault, TTL Low =Normal) |
| 25 | Over Voltage | Voltage FAULT:(TTL High= Fault, TTL Low =Normal) |

温度环境 Environmental Conditions:

| 参数 Parameter | Min | Typ | Max | 单位 Units |
|------------------------------------|---|-----|-----|----------|
| 操作温度 Operating Temperature* | -20 | | +50 | °C |
| 存储温度 Non-operating Temperature* | -30 | | +60 | °C |
| 相对湿度 Relative humidity | | 95 | | % |
| 海拔 Altitude | 10,000 | | | feet |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis | | | |
| 冲击 Shock(non operating) | 20G for 11msc half sin wave,3 axis both directions | | | |

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

订货信息 Ordering Information:

| 标准型号 Base Number | 描述 Description | 版本号 Revision |
|-----------------------|--|--------------|
| TLPA0.5G2.5G-65-50 | Power amplifier 0.5-2.5GHz,Gain:65dB,Psat:50dBm, +28V DC,Without Heatsink | Rev.1.0 |
| TLPA0.5G2.5G-65-50-HS | Power amplifier 0.5-2.5GHz,Gain:65dB,Psat:50dBm, +28V DC,With Heatsink | Rev.1.0 |