

X-band Bidirectional Amplifier 8-12.5GHz/40dB Gain/26 dBm P1dB(TX)

Model: TLBPA8G12.5G-40-35-28

TLBPA8G12.5G-40-35-28 is a X-band bidirectional amplifier with typical small signal gain of 40 dB and noise figure of 3.5dB across the frequency range of 8 to 12.5 GHz. The DC power requirement for the amplifier is +28 V DC/0.8A. The input and output port configuration offers coax adapter structure with SMA female.

Features:

- Gain: 40dB Typ.
- Noise Figure(RX): 3.5dB Max.
- 50 Ohm Matched Input / Output
- Bidirectional amplification (shared channel for Tx/Rx)
- Protection: over voltage protection

Applications:

- Communication systems
- Test and Measurement

Electrical Characteristics:

| Parameter | Min | Typ | Max | Units |
|--------------------|--------------------------------------|-----|------|-------|
| Frequency range | 8 | | 12.5 | GHz |
| Gain (RX) | | 40 | | dB |
| Noise Figure (RX) | | | 3.5 | dB |
| Output P-1 dB (RX) | 15 | | | dBm |
| Gain (TX) | | 40 | | dB |
| Output P-1 dB (TX) | 26 | | | dBm |
| Output Psat (TX) | 28 | | | dBm |
| Input/Output VSWR | | 2.0 | | :1 |
| DC Voltage | | +28 | | V DC |
| DC Supply Current | | | 0.8 | A |
| Impedance | 50 | | | Ohms |
| Control Mode | Pulsed Control (High: 3.3V; Low: 0V) | | | |

Mechanical Specifications:

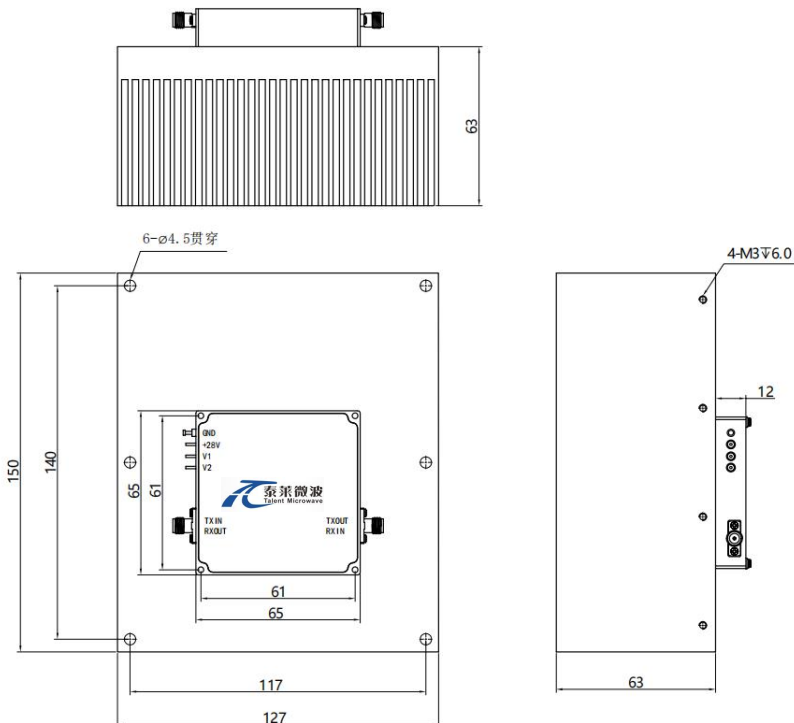
| Parameter | Value | Units |
|-------------------------|---|-------|
| Input /Output Connector | SMA Female/SMA Female | |
| DC Bias | Solder Pin | |
| Size | 65*65*12(Without heatsink) 127*150*75(With heatsink) | mm |

Absolute Maximum Ratings:

| Parameter | Value |
|-----------------------|----------------------|
| Supply Bias Voltage | +32V |
| RF Input Power | +15dBm |
| ESD sensitivity (HBm) | Class 0, passed 150V |

Outline Drawing:

Unit:mm



| Truth Table | | |
|-------------|------|------|
| Function | TTL1 | TTL2 |
| RX | 1 | 0 |
| TX | 0 | 1 |



ESD Protection: Strictly adhere to ESD precautions to prevent electrostatic damage.

Environmental Conditions:

| Parameter | Min | Typ | Max | Units |
|---------------------------------|---|-----|------|-------|
| Operating Temperature | -45 | | +85 | °C |
| Non-operating Temperature | -55 | | +125 | °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 | | | |

Key Features:

| Parameter | Advantages |
|---------------------|--------------|
| Protection function | Over voltage |

Ordering Information:

| Base Number | Description | Revision |
|-----------------------|---|----------|
| TLBPA8G12.5G-40-35-28 | X-band Bidirectional Amplifier, 8-12.5GHz, Gain: 40dB, Output P-1 dB (RX): 15dBm, Output P-1 dB (TX): 26dBm,+28V DC | Rev.1.1 |