

## 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:

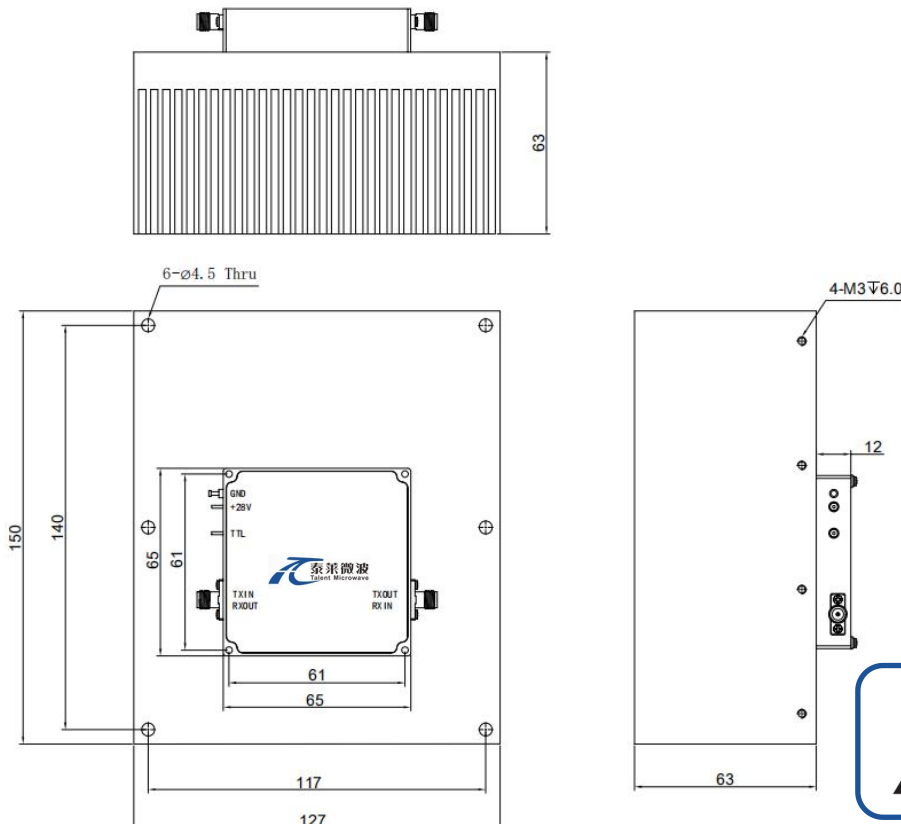
Parameter	Value	Units
Input /Output Connector	SMA Female/SMA Female	
DC Bias	Solder Pin	
Size	65*65*12(Without heatsink) 127*150*75(With heatsink)	mm

### Absolute Maximum Ratings:

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

### Outline Drawing:

Unit:mm



### 真值表 Truth Table

功能 Function	TTL
RX	0
TX	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:

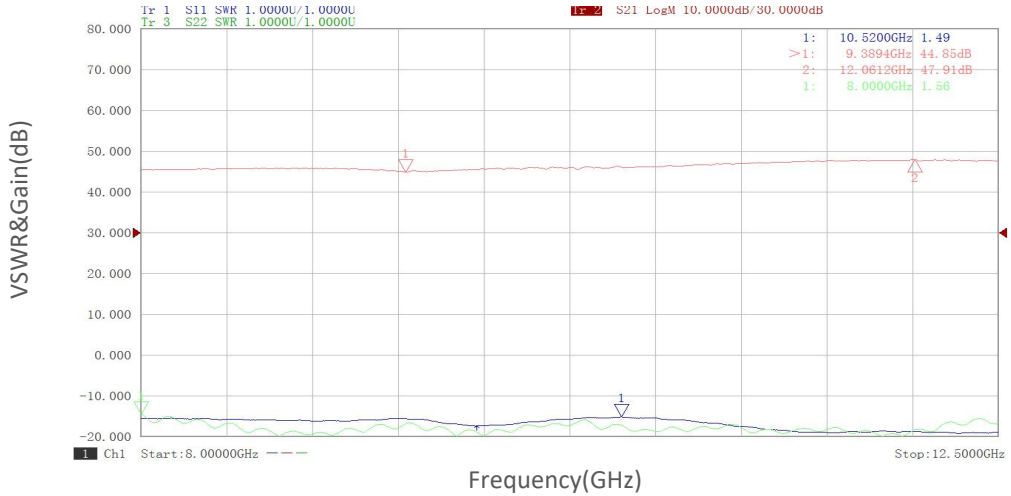
Parameter	Advantages
Protection function	Over voltage

## Ordering Information:

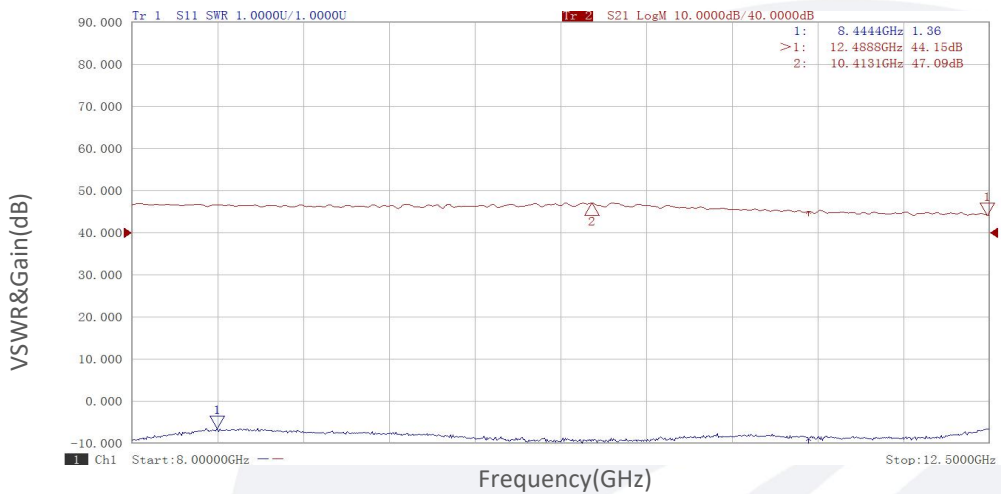
Base Number	Description	Revision
TLBPA8G12.5G-40-35-28	X-band Bidirectional Amplifier, 8-12.5GHz, Gain: 40dB, Output P-1 dB (RX): 15dBm, Output P-1 dB (TX): 26dBm,+28V DC	Rev.1.1

**Typical Performance Data:**

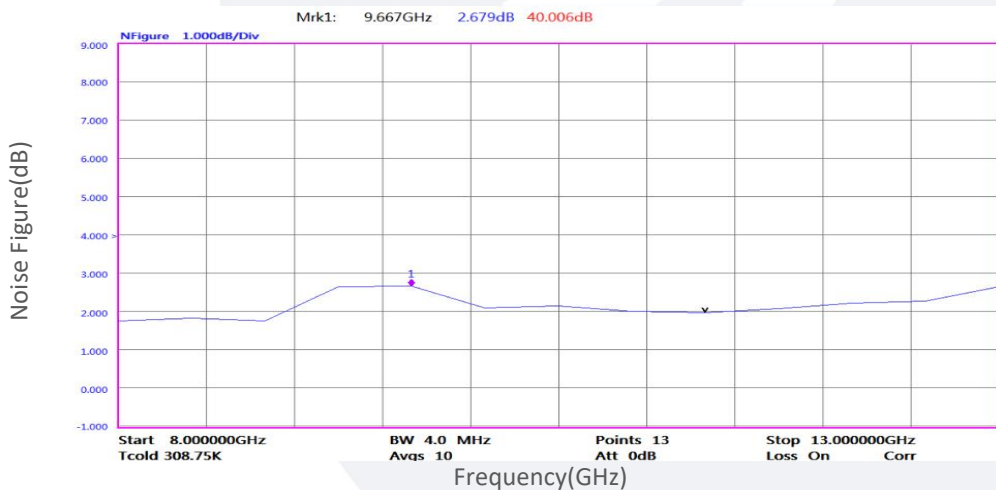
**RX VSWR&Gain vs Frequency**



**TX VSWR&Gain vs Frequency**



**Noise Figure 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.