

## Low Noise Amplifier

50KHz-50GHz/5.5dB NF/38dB Gain/14dBm P1dB

Model: TLLA50K50G-38-50

TLLA50K50G-38-50 is a low noise amplifier with a typical small signal gain of 38 dB and a nominal noise figure of 5.5 dB across the frequency range of 50 KHz to 50 GHz. The DC power requirement for the amplifier is +6 V DC/180 mA. The input and output port configuration offers coax adapter structure with 2.4mm female.

### Features:

- Frequency range: 50KHz-50GHz
- Gain: 38dB Typ
- Noise Figure: 5.5dB Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

### Applications:

- Communication systems

### Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Frequency range		50KHz-50GHz			
Small Signal Gain		36	38		dB
Gain Flatness			±2.5		dB
Noise Figure			5.5		dB
Output P1dB	@10MHz-40GHz		14		dBm
	@40-50GHz		9		
Input VSWR			1.8		:1
Output VSWR			1.8		:1
DC Voltage			+6	+12	V DC
DC Supply Current			180		mA
Impedance		50			Ohms

### Mechanical Specifications:

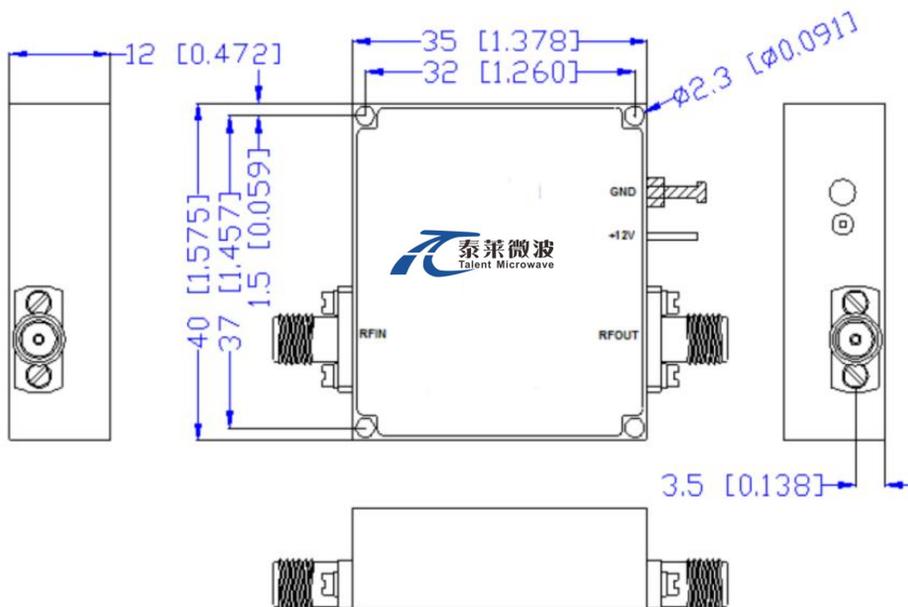
Parameter	Value	Units
Input /Output Connector	2.4mm Female/2.4mm Female	
DC Bias	Solder Pin	
Size	35*40*12	mm

### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	TBD
RF Input Power	+5 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	-45		+85	°C
Non-operating Temperature	-55		+125	°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			

### Ordering Information:

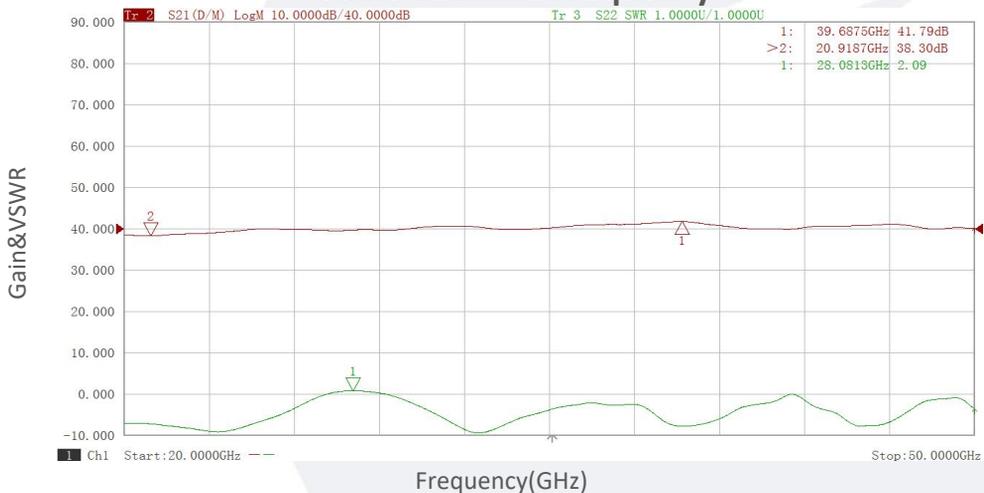
Base Number	Description	Revision
TLLA50K50G-38-50	Low Noise Amplifier, 50KHz-50GHz, Noise Figure: 5.5dB, Gain: 38 dB, P1dB: 14dBm, +6V DC, Without Heatsink	Rev.1.1
TLLA50K50G-38-50-HS	Low Noise Amplifier, 50KHz-50GHz, Noise Figure: 5.5dB, Gain: 38 dB, P1dB: 14dBm, +6V DC, With Heatsink	Rev.1.1

### Typical Performance Data:

#### Gain&VSWR vs Frequency



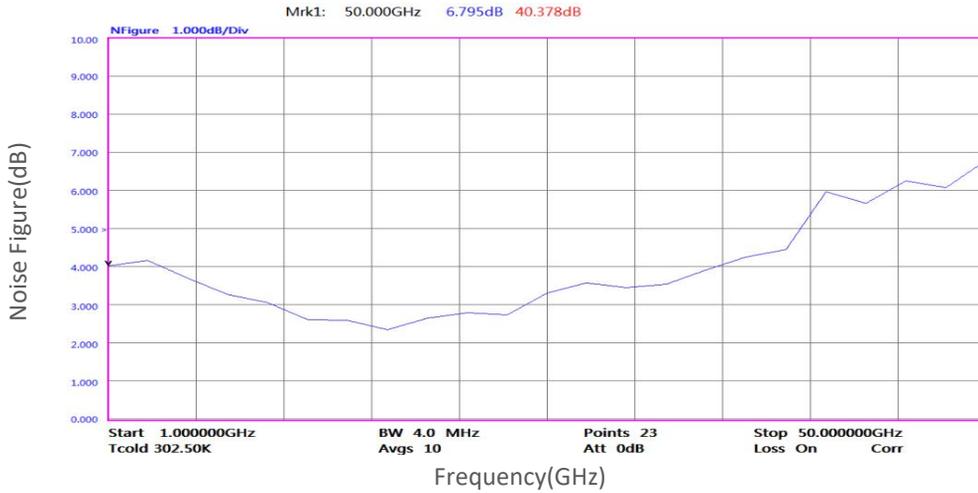
#### Gain&VSWR vs Frequency



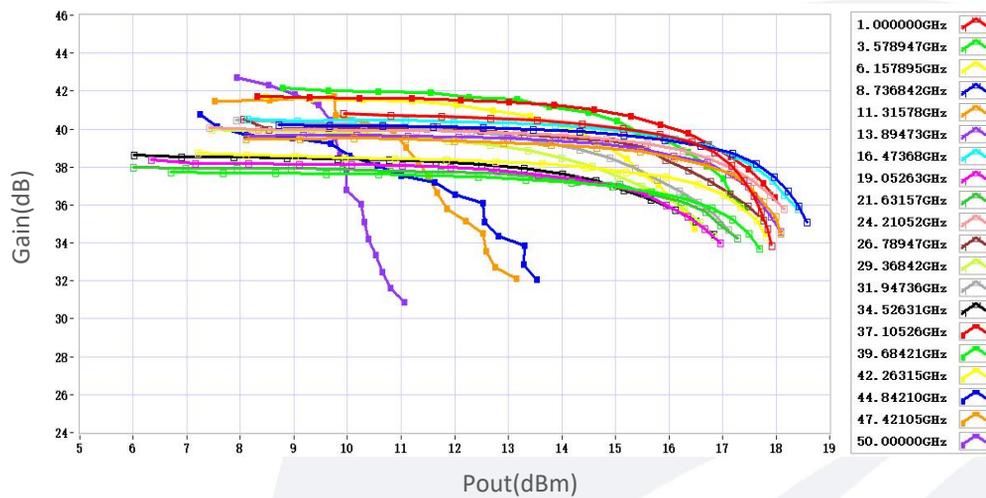
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

**Typical Performance Data:**

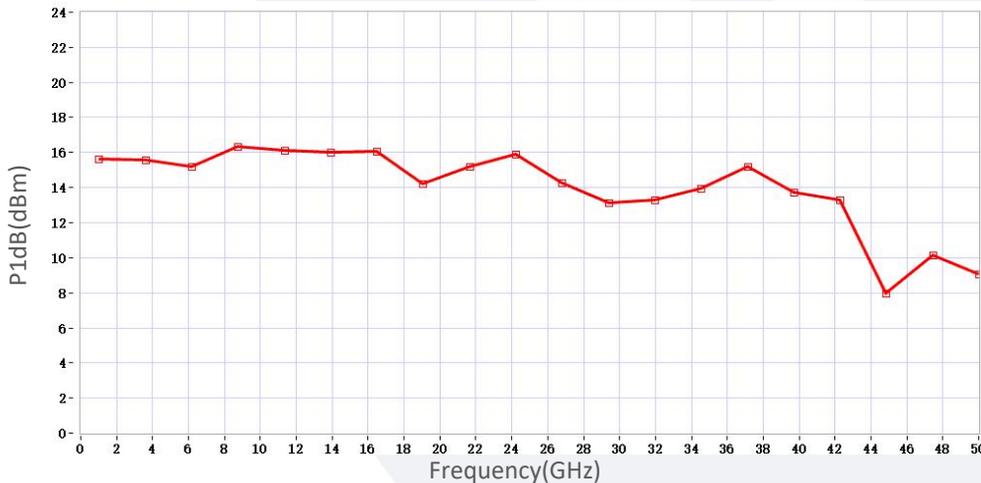
**Noise Figure vs Frequency**



**Gain vs Output Power**

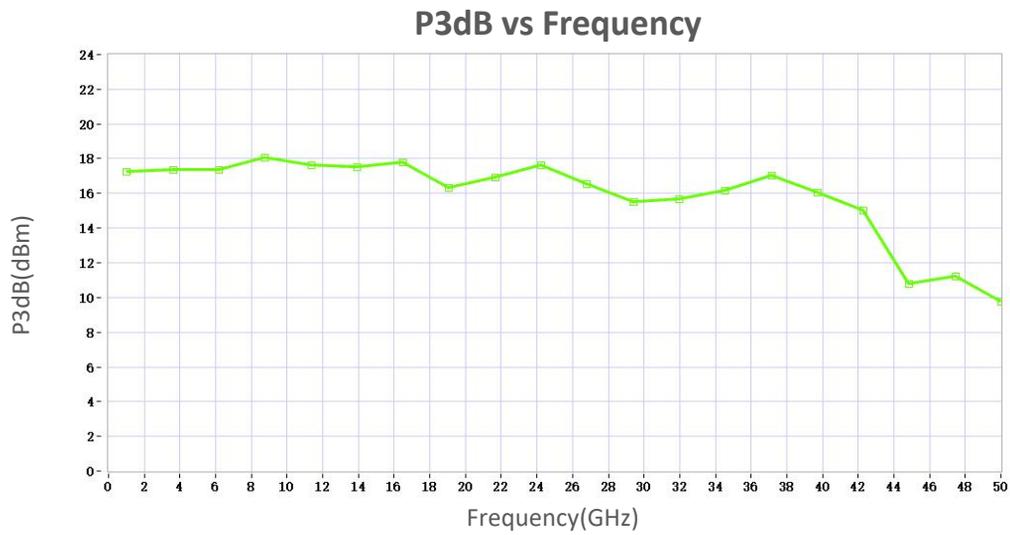


**P1dB vs Frequency**



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