

Low Noise Amplifier

50KHz-40GHz/5.5dB NF/38dB Gain/14dBm P1dB

Model: TLLA50K40G-38-50

TLLA50K40G-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 40 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 2.92mm female.

Features:

- Frequency range: 50KHz-40GHz
- 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-40GHz			
Small Signal Gain	36	38		dB
Gain Flatness		±2.5		dB
Output P1dB		14		dBm
Noise Figure		5.5		dB
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:

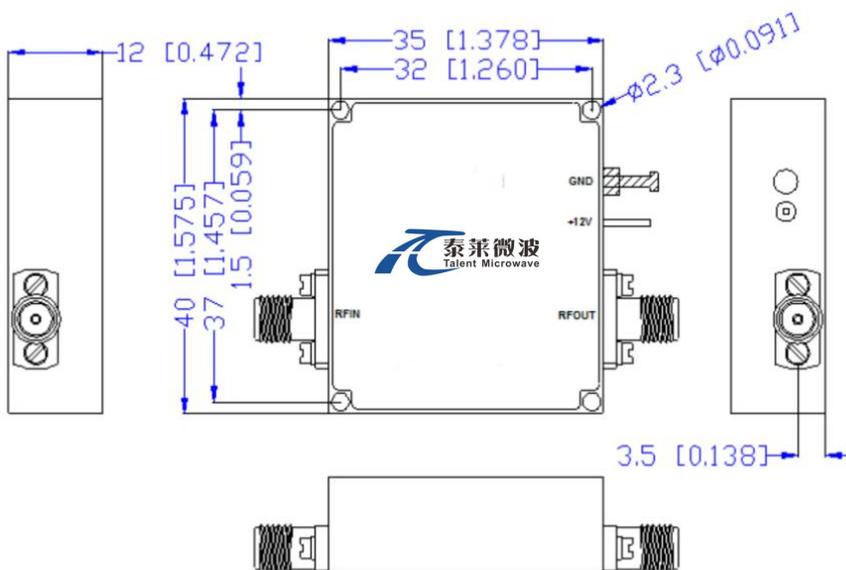
Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Solder Pin	
Size	35*40*12	mm

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	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			

Ordering Information:

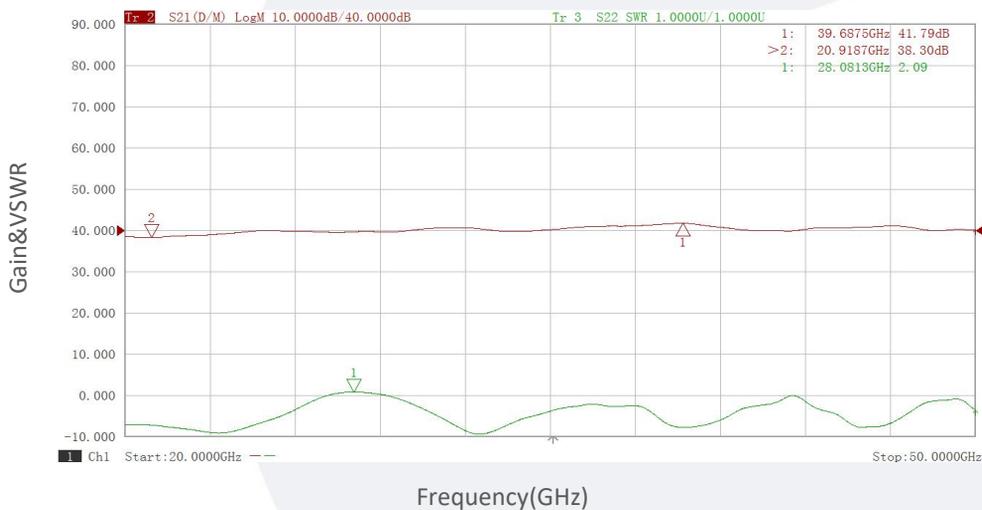
Base Number	Description	Revision
TLLA50K40G-38-50	Low Noise Amplifier, 50KHz-40GHz, Noise Figure:5.5dB, Gain:38 dB,P1dB:14dBm,+6V DC,Without Heatsink	Rev.1.1
TLLA50K40G-38-50-HS	Low Noise Amplifier, 50KHz-40GHz, Noise Figure:5.5dB, Gain:38 dB,P1dB:14dBm,+6V DC,With Heatsink	Rev.1.1

Typical Performance Data:

Gain&VSWR vs Frequency



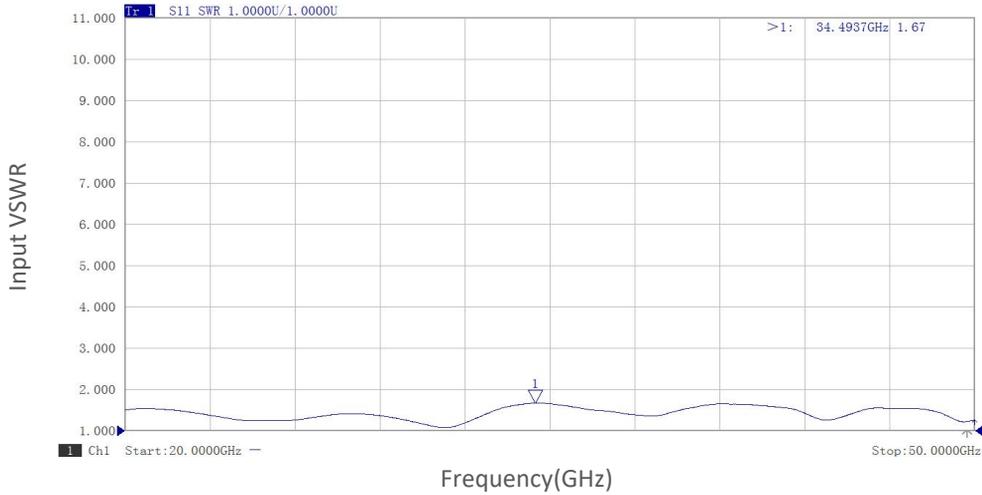
Gain&VSWR vs Frequency



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:

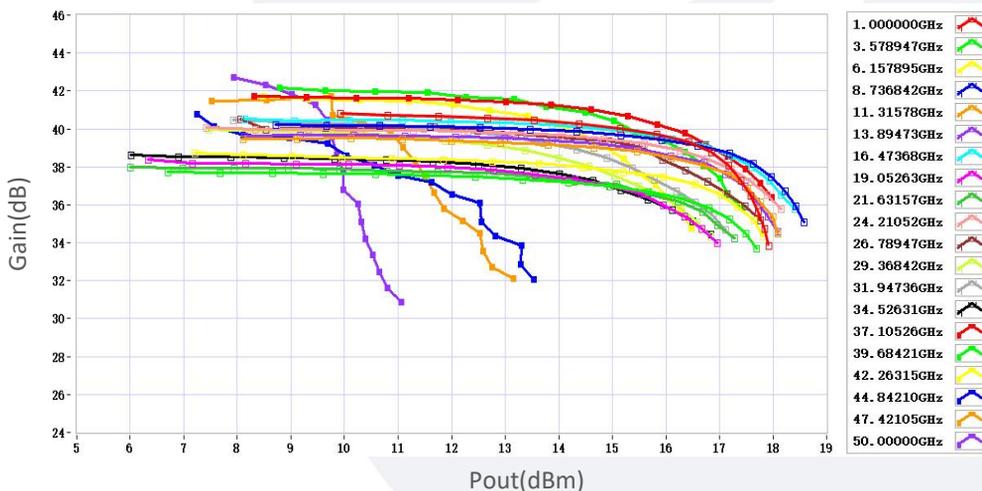
Input VSWR vs Frequency



Noise Figure vs Frequency



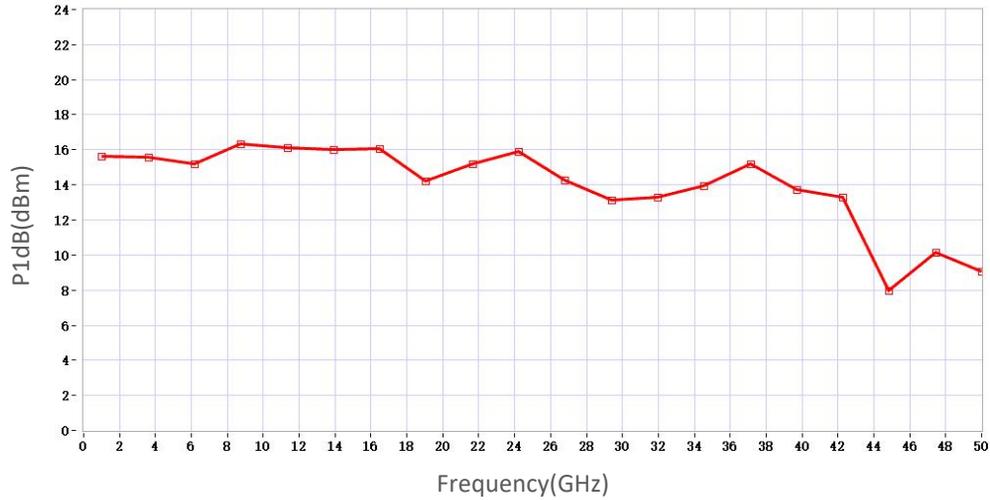
Gain vs Output Power



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Typical Performance Data:

P1dB vs Frequency



P3dB vs Frequency



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