

Low Noise Amplifier

10MHz-110GHz/6dB NF/20dB Gain/4dBm P1dB

Model: TLLA10M110G-13-60

TLLA10M110G-13-60 is a low noise amplifier with a typical small signal gain of 20 dB and a nominal noise figure of 6dB@10MHz-80GHz across the frequency range of 10MHz to 110 GHz. The DC power requirement for the amplifier is +12 V DC. The input and output port configuration offers coax adapter structure with 1.0mm female.

Features:

- Frequency range: 10MHz-110GHz
- Gain: 20dB Typ
- Noise Figure: 6dB@10MHz-80GHz Typ
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter		Min	Typ	Max	Units
Frequency range		0.01		110	GHz
Small Signal Gain			20		dB
Noise Figure	@10MHz-80GHz		6		dB
	@80-110GHz		8		
Output P1dB	@10MHz-80GHz		4		dBm
	@80-95GHz		1		
Input VSWR			2		:1
Output VSWR			2.5		:1
DC Voltage			+12		V DC
Impedance			50		Ohms

Mechanical Specifications:

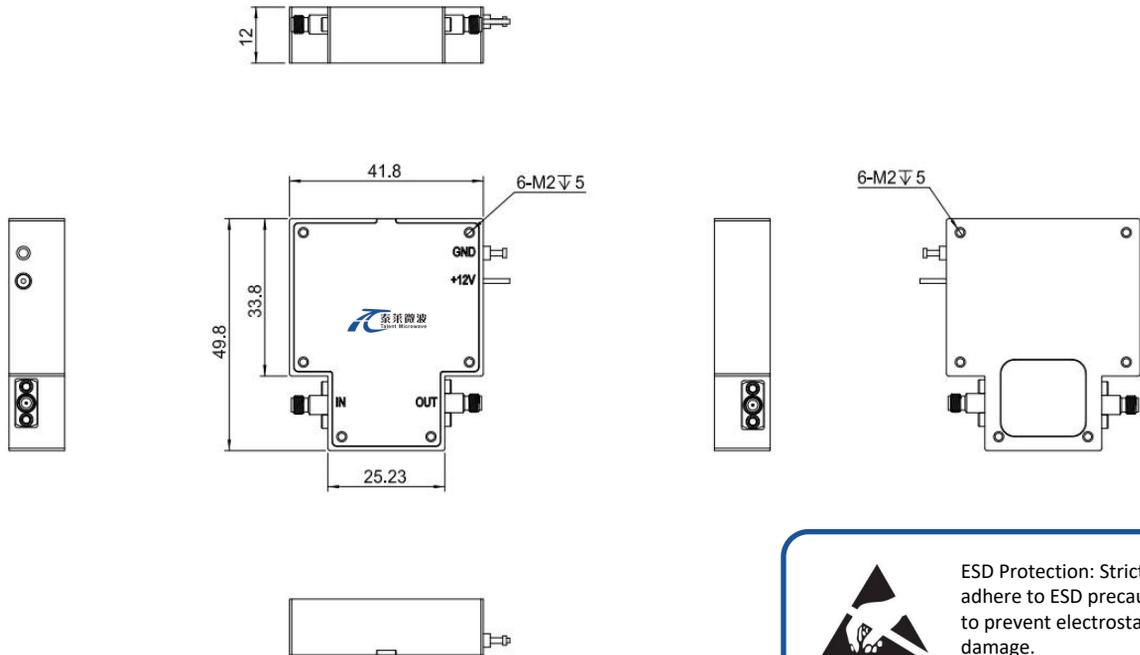
Parameter	Value	Units
Input /Output Connector	1.0mm Female/1.0mm Female	
DC Supply Connector	Solder Pin	
Size	41.8*49.8*12	mm

Absolute Maximum Ratings:

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

Outline Drawing:

Unit:mm



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

Environmental Conditions:

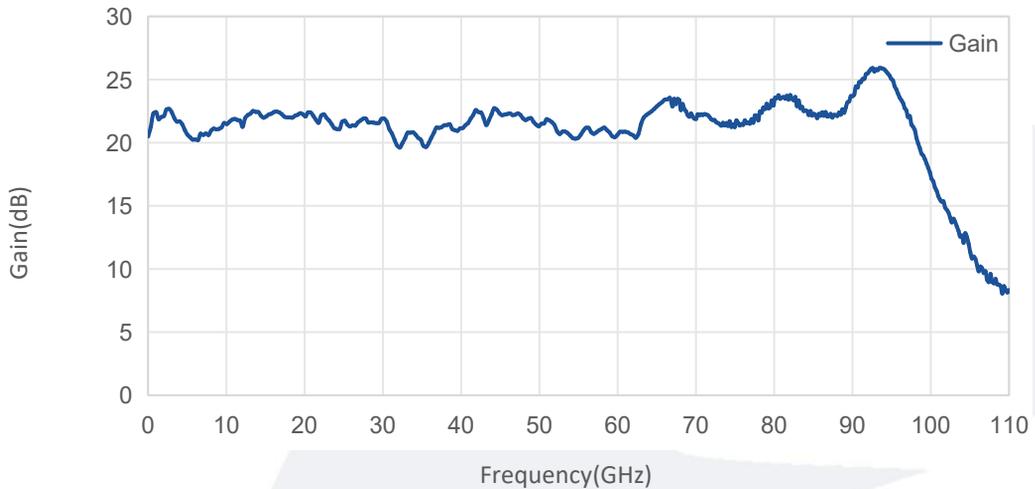
Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

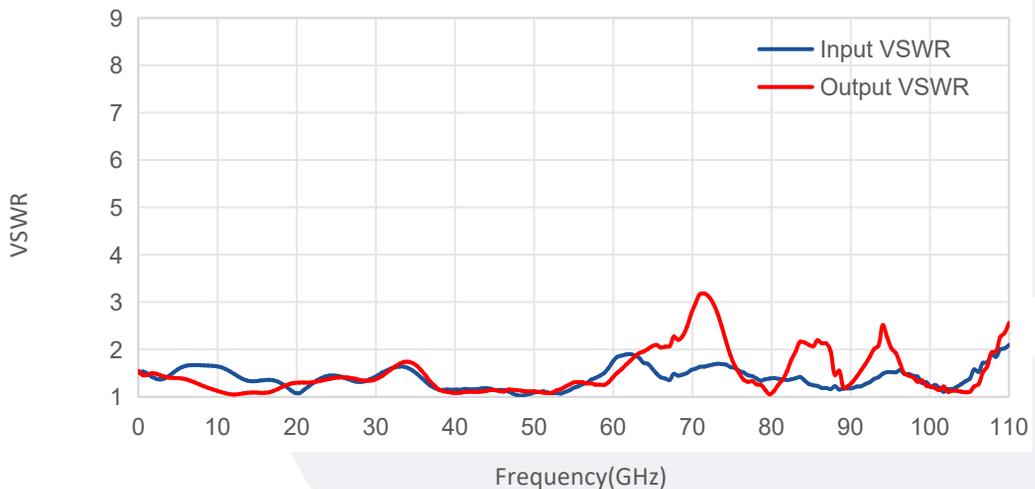
Base Number	Description	Revision
TLLA10M110G-13-60	Low Noise Amplifier, 10MHz-110GHz, Noise Figure:6dB, Gain: 20dB,P1dB: 4dBm, +12V DC, Without Heatsink	Rev.1.0
TLLA10M110G-13-60-HS	Low Noise Amplifier, 10MHz-110GHz, Noise Figure:6dB, Gain: 20dB,P1dB: 4dBm, +12V DC, With Heatsink	Rev.1.0

Typical Performance Data:

Gain vs Frequency



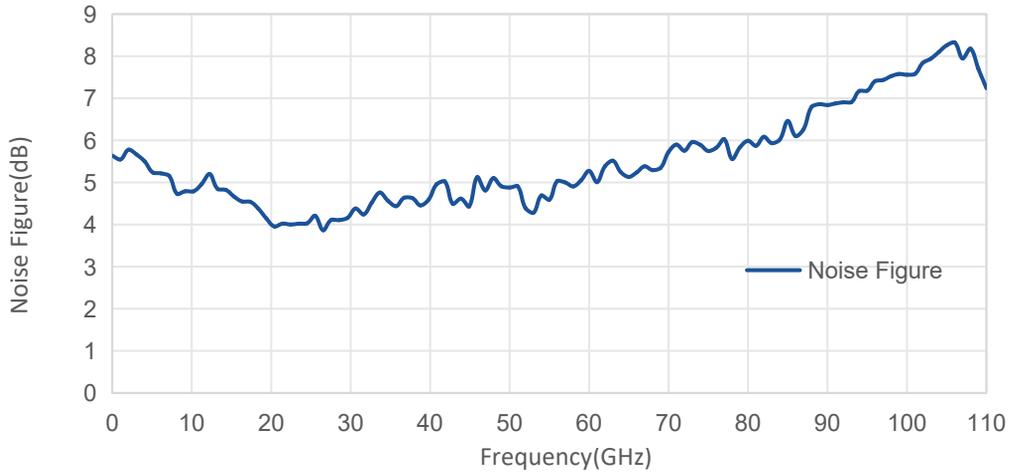
VSWR vs Frequency



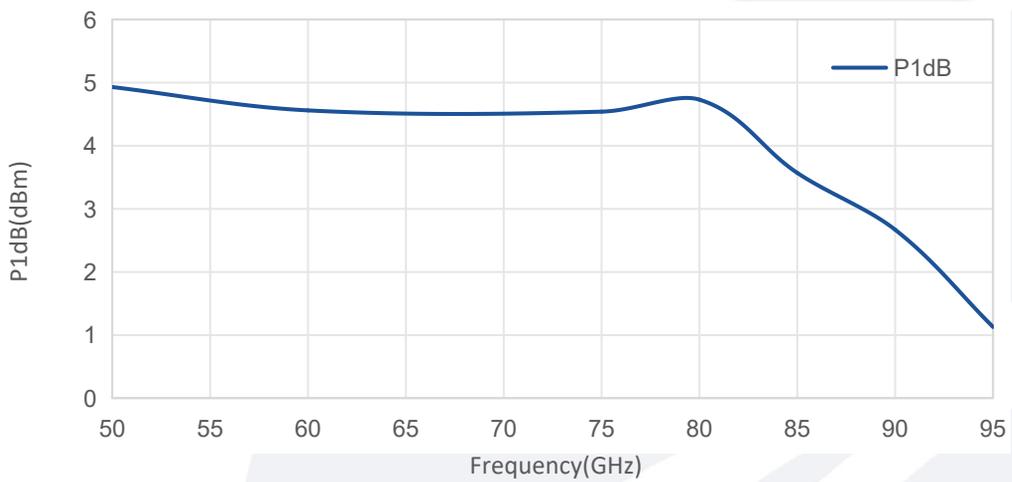
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

Noise Figure vs Frequency



P1dB vs Frequency



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