Suzhou Talent Microwave,Inc
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W-band Cryogenic Low Noise Amplifier

75-110GHz/3.5dB NF/23dB Gain Model: TMLA-075110-2304-10-Cryo

TMLA-075110-2304-10-Cryo is a W-band cryogenic low noise amplifier with a typical small signal gain of 23 dB across the frequency range of 75 to 110 GHz. The drain voltage requirement for the amplifier is 1V DC and gate voltage is -0.3V DC. The input and output port configuration offers an inline structure with WR-10 waveguides and UG-387/U-M anticocking flanges.

Features:

- Frequency range: 75-110GHz
- Gain: 23dB Min
- Noise Figure: 3.5dB Typ
- Capable of operation at 4 K
- Good Power and Gain Flatness
- Using InP HEMT technology

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	75		110	GHz
Small Signal Gain		23		dB
Gain Flatness		±1.5		dB
Noise Figure		3.5		dB
Output 1dB Gain Compression Point		-5		dBm
Input VSWR		2		:1
Output VSWR		2		:1
Drain voltage range		1		V
Drain current range		35		mA
Gate voltage range		-0.3		V

*Note: When powering on the amplifier, apply gate voltage prior to drain voltage. When powering off, remove drain voltage prior to gate voltage.

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Mechanical Specifications:

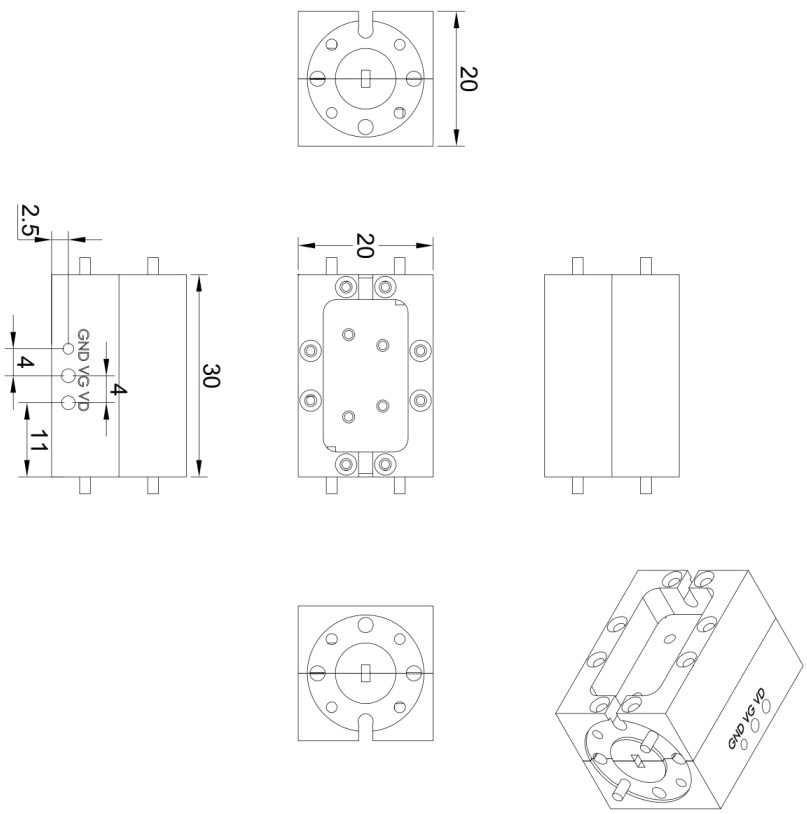
Parameter	Value	Units
Input /Output Connector	WR10/UG-387/U	
DC Bias	Solder Pin	
Size	30*20*20	mm
Weight	45	g

Absolute Maximum Ratings:

Parameter	Value
Drain voltage	+2 V
Input Drain Current	100 mA
Gate voltage	+0V
RF Input Power	+5 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

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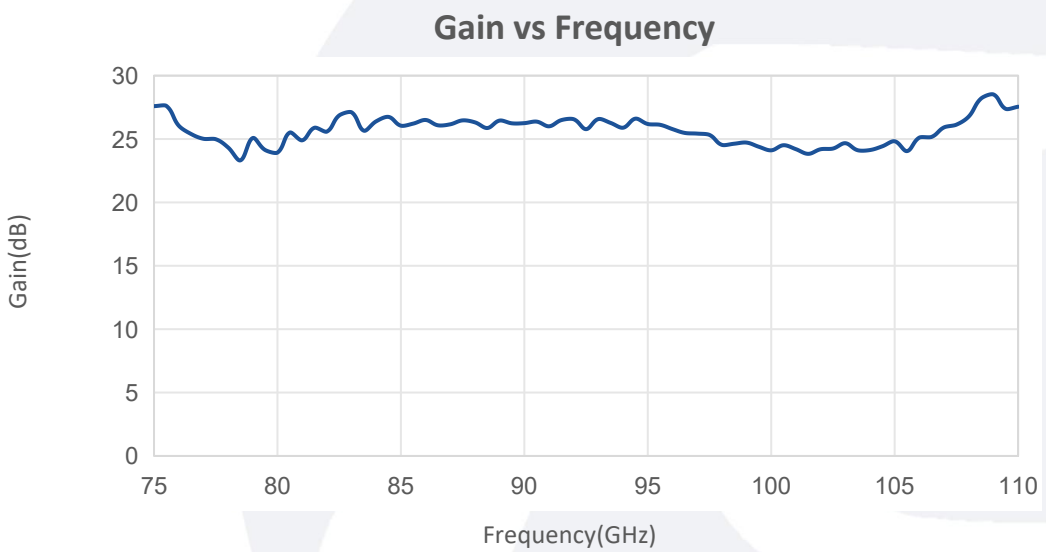
Environmental Conditions:

Parameter	Min	Typ	Max	Units
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
TMLA-075110-2304-10-Cryo	W-band Cryogenic Low Noise Amplifier, 750-110GHz, Noise Figure: 3.5dB, Gain: 23dB	Rev.1.0

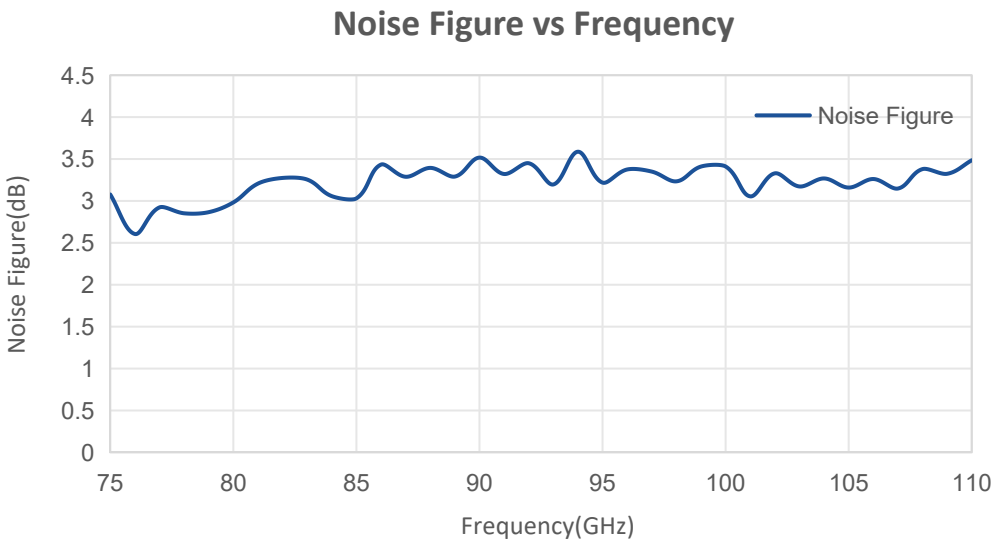
Typical Performance Data(TEM=298K):

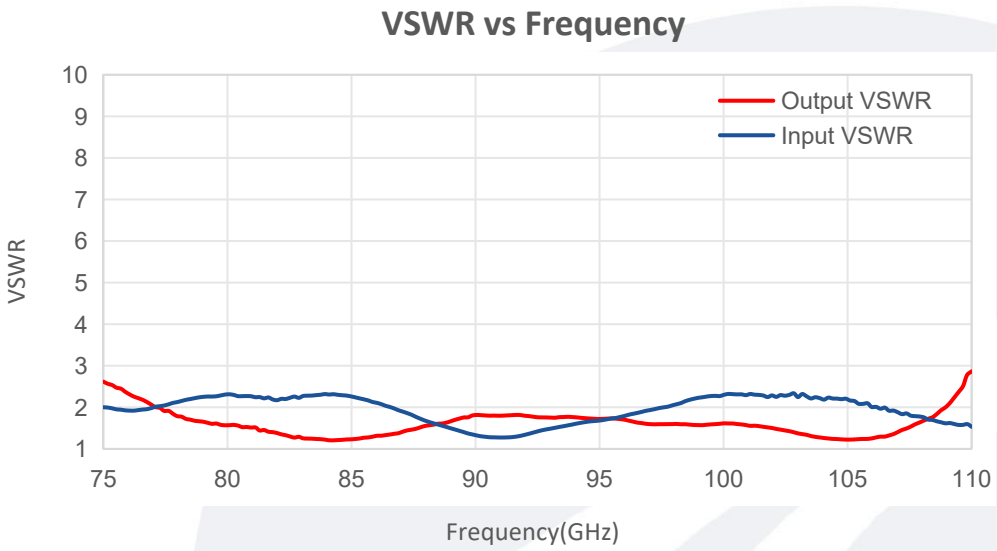


Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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典型曲线 Typical Performance Data(T=298K):





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