Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Ka-band Cryogenic Low Noise Amplifier

20-40GHz/1.7dB NF/20dB Gain Model: TLLA20G40G-21-00-Cryo

TLLA20G40G-21-00-Cryo is a Ka-band cryogenic low noise amplifier with a typical small signal gain of 20 dB across the frequency range of 20 to 40 GHz. The drain voltage range requirement for the amplifier is 0.6V to 1.5V DC and gate voltage range is from -2 to +2V DC. The input and output port configuration offers coax adapter structure with 2.92mm female.

Features:

- Frequency range: 20-40GHz
- Gain: 20dB Typ
- Noise Figure: 1.7dB @Temperature=296K
- Capable of operation at 2 K
- Good Power and Gain Flatness
- 50 Ohm Matched Input / Output

Applications:

- Communication systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	20		40	GHz
Small Signal Gain		20		dB
Gain Flatness		±2.0		dB
Noise Figure		1.7		dB
Output 1dB Gain Compression Point		-5		dBm
Input Return Loss		-8		dB
Output Return Loss		-8		dB
Drain voltage range	0.6		1.5	V
Drain current range		25		mA
Gate voltage range	-2		2	V
Power Consumption		30		mW
Impedance		50		Ohms

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Mechanical Specifications:

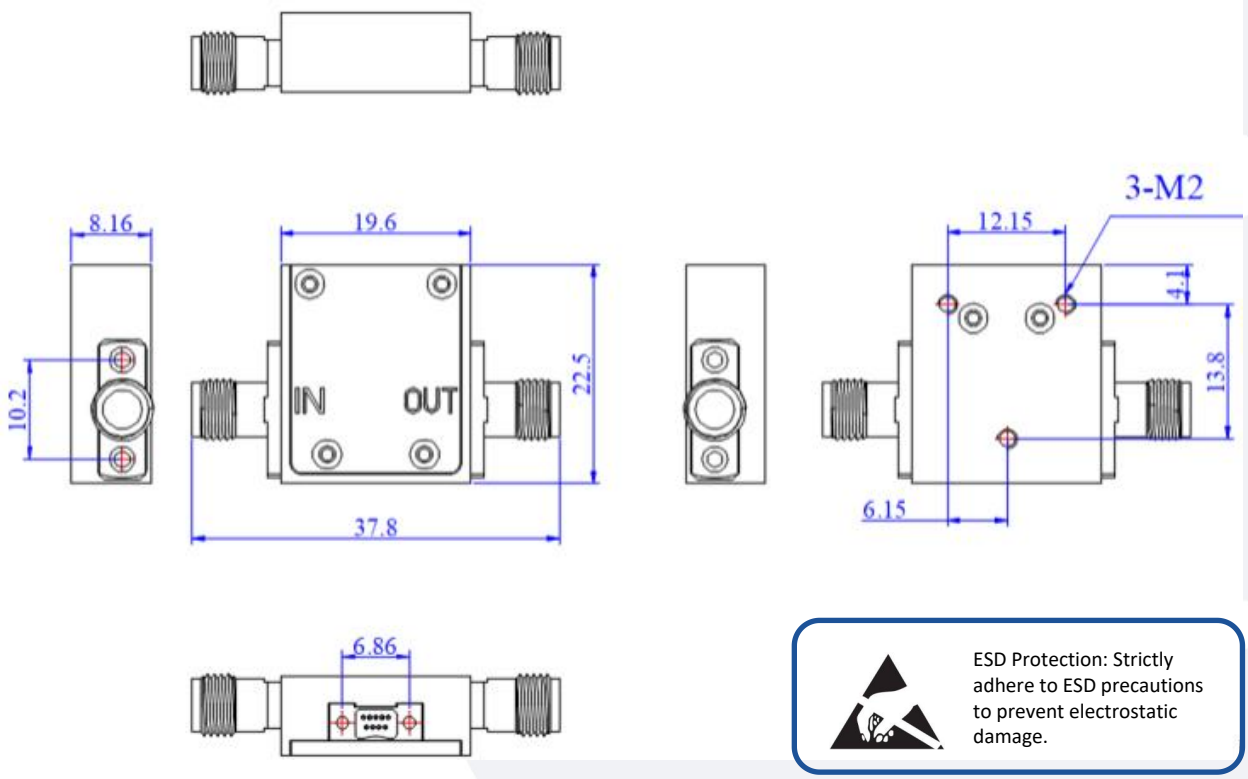
Parameter	Value	Units
Input /Output Connector	2.92mm Female/2.92mm Female	
DC Bias	Nano D 9-Pin	
Size	19.6*22.5*8.16	mm

Absolute Maximum Ratings:

Parameter	Value
Drain voltage	+1.5 V
Gate voltage	+2 V
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm



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

Suzhou Talent Microwave,Inc
sales@talentmw.com
www.talentmw.com

Power Supply Conector:

Nano D 9Pin			
Pin#	Function	Pin#	Function
1,2	NC	5	VG
3	GND	6~9	NC
4	VD		

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
TLLA20G40G-21-00-Cryo	Ka-band Cryogenic Low Noise Amplifier, 20-40GHz, Noise Figure: 1.7dB, Gain: 20dB	Rev.1.1