

S BAND CRYO-LNA RANGE FOR RADIOASTRONOMY & QUANTUM COMPUTING

Using **cutting-edge technology**, the new cryo-LNA family offers outstanding performance in cryogenic operations

INNOVATIVE TECHNOLOGY

A combination of Indium Phosphide (InP) and Gallium Arsenide (GaAs) technologies to deliver outstanding low Noise Temperature (NT).

Each unit is fully tested in cryogenic operating temperatures and delivered with a complete factory acceptance test report at 295 K and 12 K.

TECHNICAL SPECIFICATIONS

ELECTRICAL

Operating frequency range	2.3-4.8 GHz
Noise temperature	<3.5 K at 12 K
Input return loss (50 Ω)	<-10 dB*
Output return loss (50 Ω)	<-15 dB
Gain	>28 dB (average)
Gain flatness	1 dB pp max
Reverse isolation	<-40 dB

**Below -10 dB in most of the target frequency band and only on the edges (close to 2.3 GHz and 4.8 GHz) is slightly above -10 dB*

POWER SUPPLY

Drain voltage range	0 V to 1 V
Drain current range	<10 mA
Gate voltage range	-3 to +3 V
Power consumption	<10 mW
Power biasing	4 wires

INTERFACES & PHYSICAL

Dimensions (L x W x H)	47.85 x 28.8 x 9 mm
Weight	35 gr
Interfaces	RF input: SMA (f) / SMA (m) RF output: SMA (f) / SMA (m) DC: Micro D 9-P

ENVIRONMENTAL

Operating temperature	2 K to 15 K
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KEY FEATURES

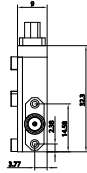
- * InP/GaAs technology
- * Extremely low temperatures operation (4 to 15 K)
- * Superior performance
- * High reliability & efficiency
- * Ultra-low noise figure
- * High gain & low ripple
- * Compact size & lightweight

OUTLINE DRAWING

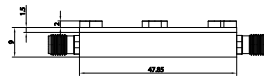


OPTIONS

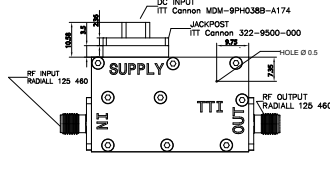
- * Servo-controlled power supply unit



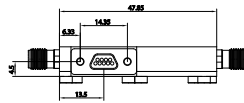
Right view
Scale: 1:1



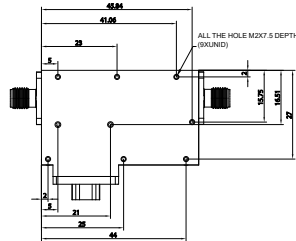
Bottom view
Scale: 1:1



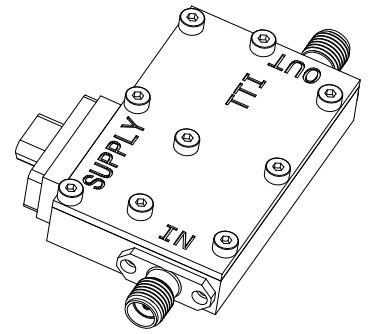
Front view
Scale: 1:1



Top view
Scale: 1:1



Rear view
Scale: 1:1



UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN mm

TOLERANCES

ANGLES =

2 PLACE DEC =

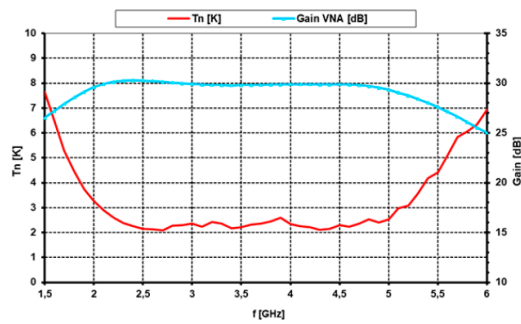
1 PLACE DEC =

PH	SHAPE
1	REF
2	REF
3	REF
4	REF
5	REF
6	REF
7	REF
8	REF
9	REF
10	REF

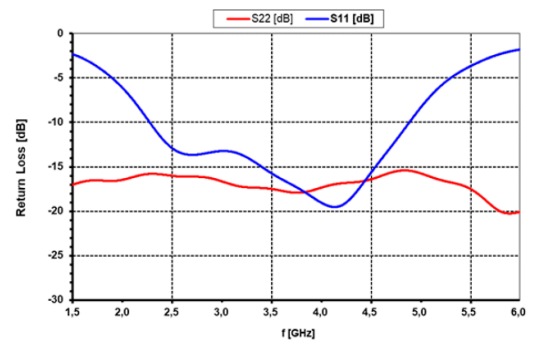
ITT Cannon MDM-9PH038B-A174
FRONT VIEW - CONNECT SIDE

TYPICAL MEASURED DATA

Gain & Noise variation at 12 K



Input & output return losses at 12 K



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NOTICE

Information contained in this document is subject to change without notice.

Dimensions are in mm and after treatment
Tolerance according to ISO 2768-f.