

Infrared Filters protect sensitive quantum devices that operate below 1 K from high-energy photons that can cause unwanted heating or decoherence. In addition, they improve the thermalization of the center conductor in a coaxial line. A common application of IR Filters is in superconducting qubit devices where infrared radiation is suspected to generate quasi-particle excitations that reduce the coherence time of the qubit.

Features:

- Based on magnetically loaded dielectric absorber
- Capable of operation at 10 mK
- Housing Gold Plated OFHC Copper
- Impedance: 50 Ω

Applications:

- Dilution refrigerators/Cryogenic devices
- Quantum Computing



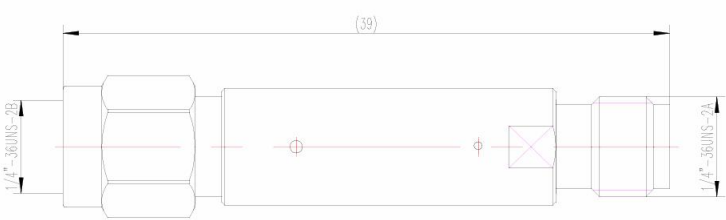
Electrical Characteristics:

Model	Parameter			
	Frequency	Insertion Loss (Typ)	Return Loss (Typ)	Impedance
TUR-CRYOIRHF011001	DC-10GHz	0.6dB@6GHz 1dB@10GHz 6dB@30GHz	-20dB	50 Ω
TUR-CRYOIRHF011001	DC-10GHz	1.6dB@6GHz 3dB@10GHz 10dB@30GHz	-20dB	50 Ω
TUR-CRYOIRHF011001	DC-10GHz	4.5dB@10GHz 15dB@30GHz	-20dB	50 Ω

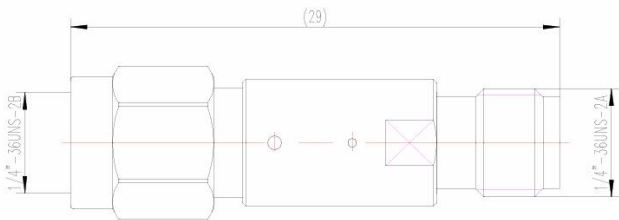
Envrionmental And Physical Characteristics:

Description	Parameter	Units
Operating Temerature	10mK To +200	°C
Storage Temerature	-55 to +200	°C
Packaging case	Gold Plated OFHC Copper	

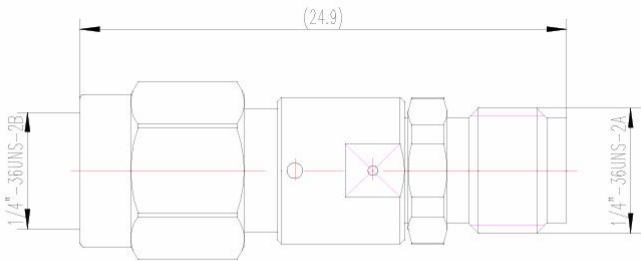
Outline Drawing: Unit:mm



TUR-CRYOIRHF011001



TUR-CRYOIRHF011001



TUR-CRYOIRHF011001

Ordering Information:

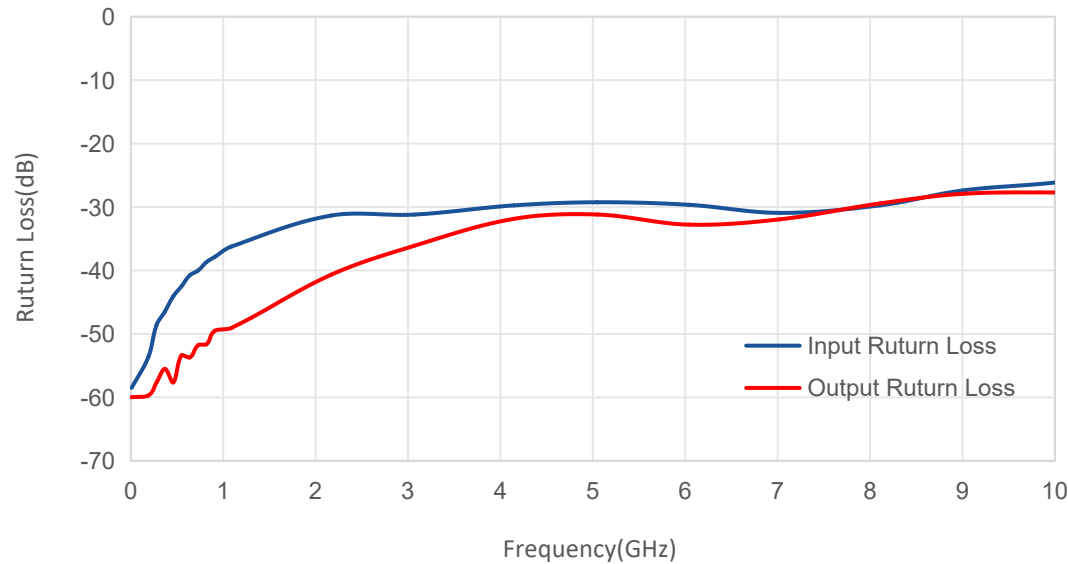
Base Number	Desciption	Revision
TUR-CRYOIRHF011001	SMA Cryogenic Infrared Filter 1dB@10GHz	Rev.1.1
TUR-CRYOIRHF011001	SMA Cryogenic Infrared Filter 3dB@10GHz	Rev.1.1
TUR-CRYOIRHF011001	SMA Cryogenic Infrared Filter 4.5dB@10GHz	Rev.1.1

Typical Performance Data:

TUR-CRYOIRHF011001

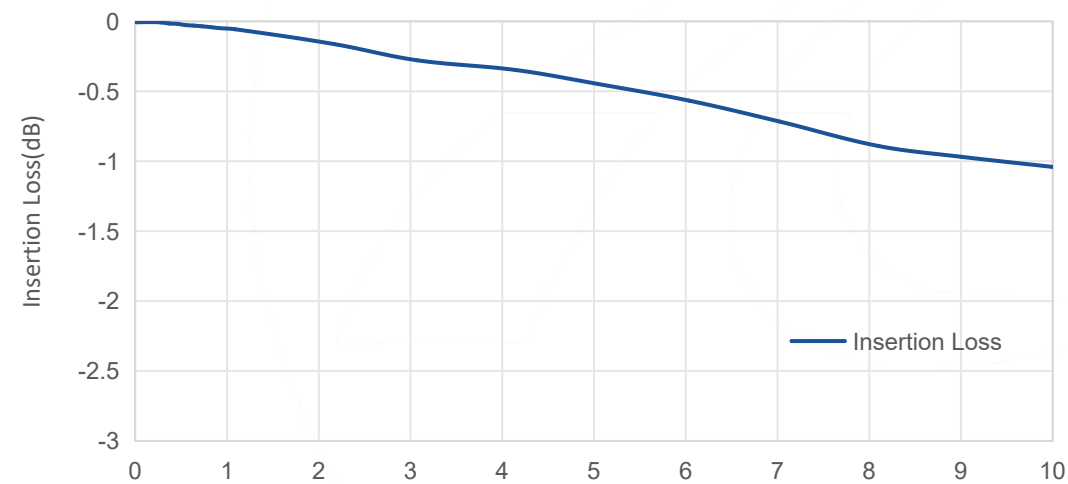
298K:

Return Loss vs Frequency



298K:

Insertion Loss vs Frequency

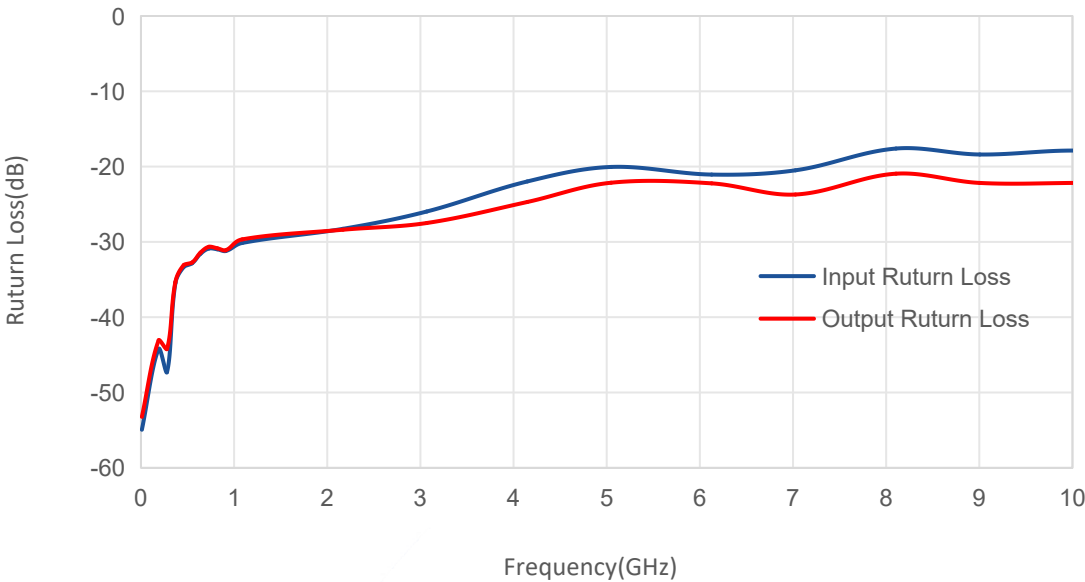


Typical Performance Data:

TUR-CRYOIRHF011001

77K:

Ruturn Loss vs Frequency



77K:

Insertion Loss vs Frequency

