Suzhou Talent Microwave,Inc
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Cryogenic Infrared Filter

SMA Male to SMA Female

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
TL-CRYOIRHF01-1001	DC-10GHz	0.6dB@6GHz 1dB@10GHz 6dB@30GHz	-20dB	50Ω
TL-CRYOIRHF01-1002	DC-10GHz	1.6dB@6GHz 3dB@10GHz 10dB@30GHz	-20dB	50Ω
TL-CRYOIRHF01-1005	DC-10GHz	4.5dB@10GHz 15dB@30GHz	-20dB	50Ω

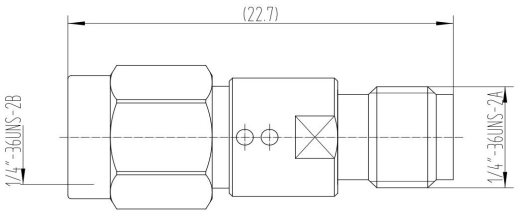
Envrionmental And Physical Characteristics:

Parameter	Description	Units
Operating Temerature	10mK To +200	℃
Storage Temerature	-55 to +200	℃
Packaging case	Gold Plated OFHC Copper	
Connector	SMA Male to Female	

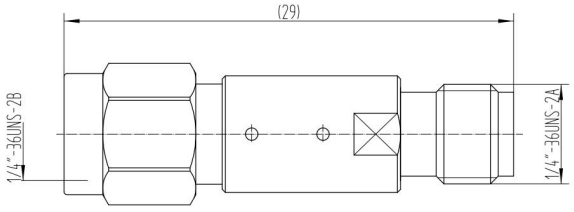
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Outline Drawing:

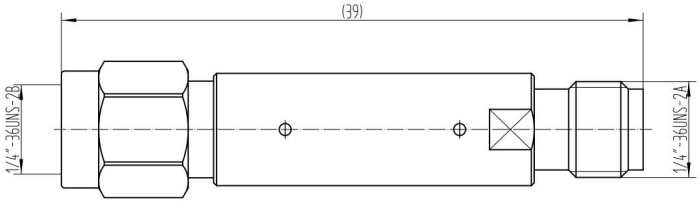
Unit:mm; Tolerance:±0.1mm



TL-CRYOIRHF01-1001



TL-CRYOIRHF01-1002



TL-CRYOIRHF01-1005

Ordering Information:

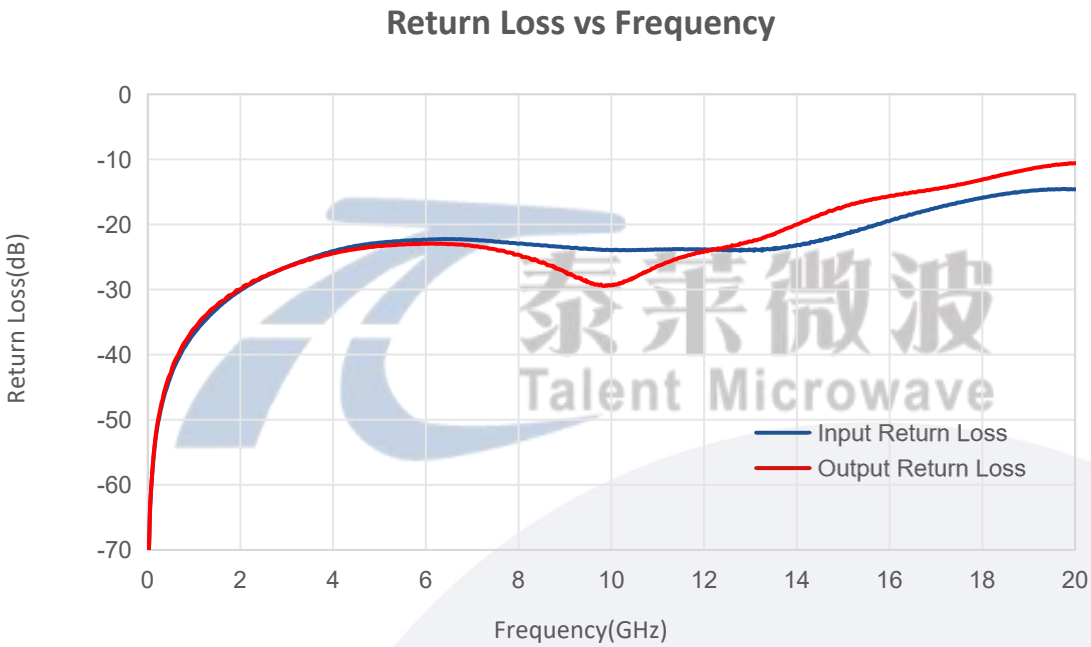
Base Number	Description	Revision
TL-CRYOIRHF01-1001	SMA Cryogenic Infrared Filter 1dB@10GHz	Rev.1.1
TL-CRYOIRHF01-1002	SMA Cryogenic Infrared Filter 3dB@10GHz	Rev.1.1
TL-CRYOIRHF01-1005	SMA Cryogenic Infrared Filter 4.5dB@10GHz	Rev.1.1

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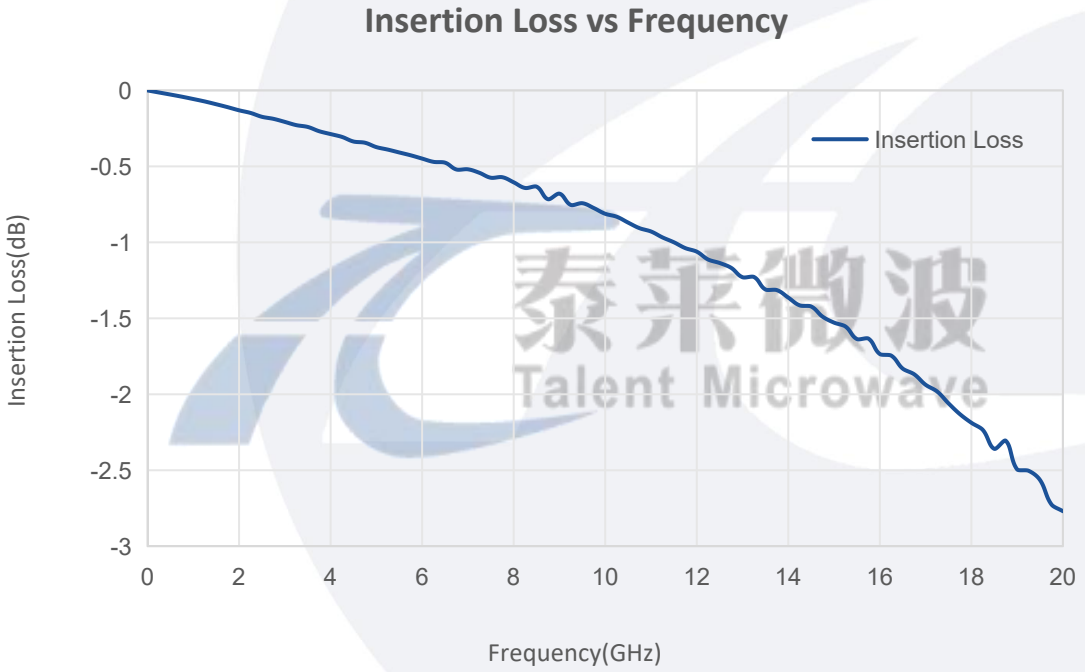
Typical Performance Data:

TL-CRYOIRHF01-1001

298K:



298K:



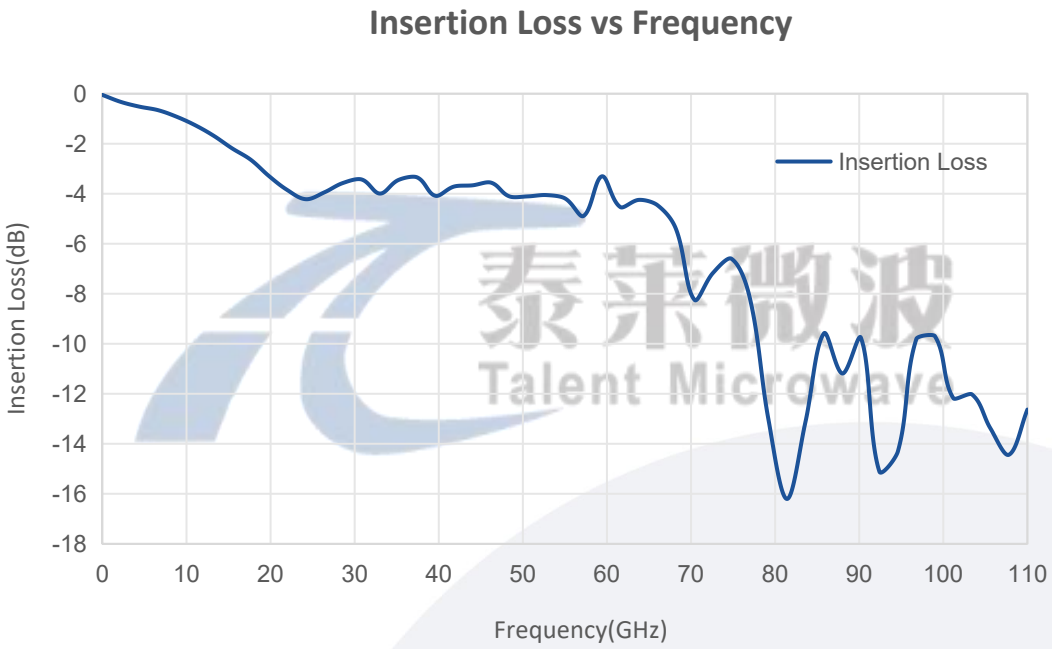
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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Typical Performance Data:

TL-CRYOIRHF01-1001

298K:



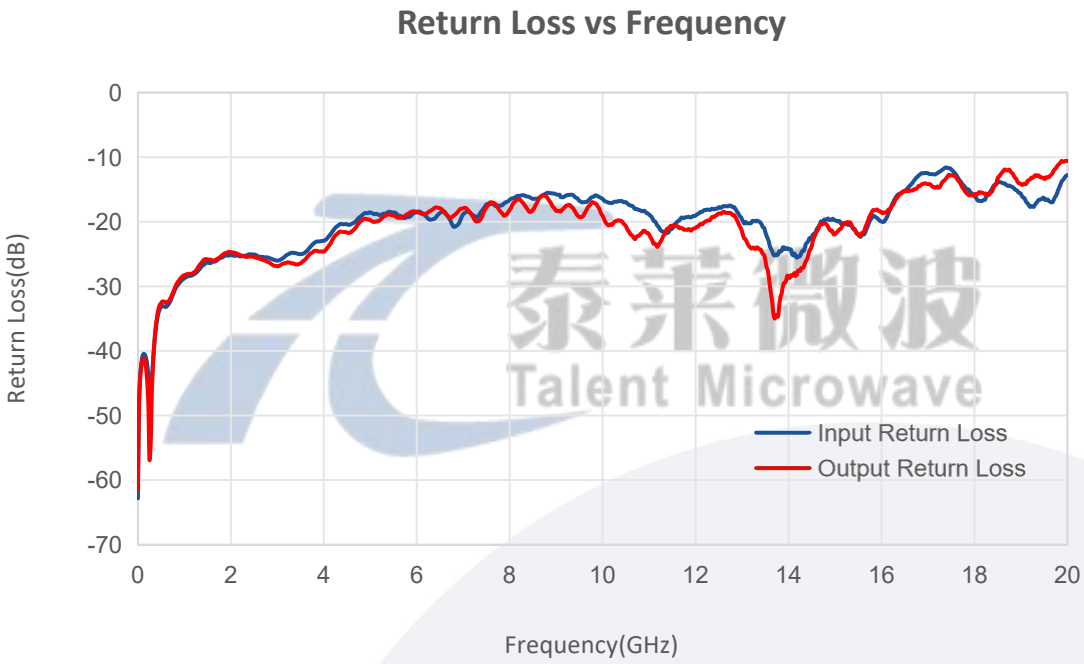
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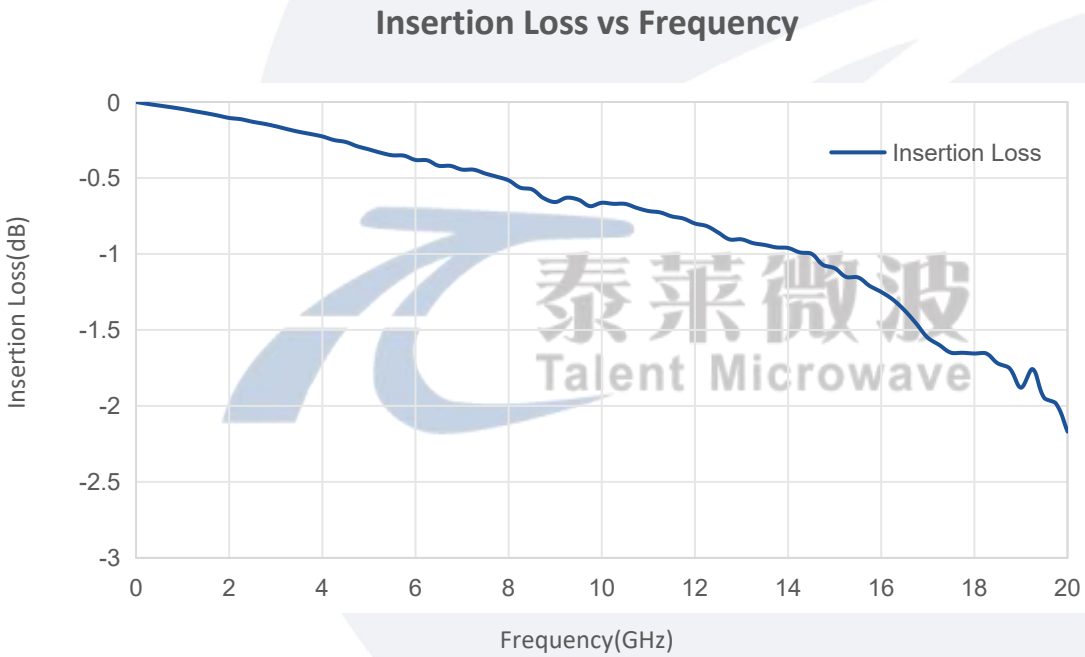
Typical Performance Data:

TL-CRYOIRHF01-1001

77K:



77K:



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