

## High-density Cryogenic Infrared Filter 12 channel /SSMP Female/ SSMP Male/

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
- Impedance: 50  $\Omega$

### Applications:

- Dilution refrigerators/Cryogenic devices
- Quantum Computing

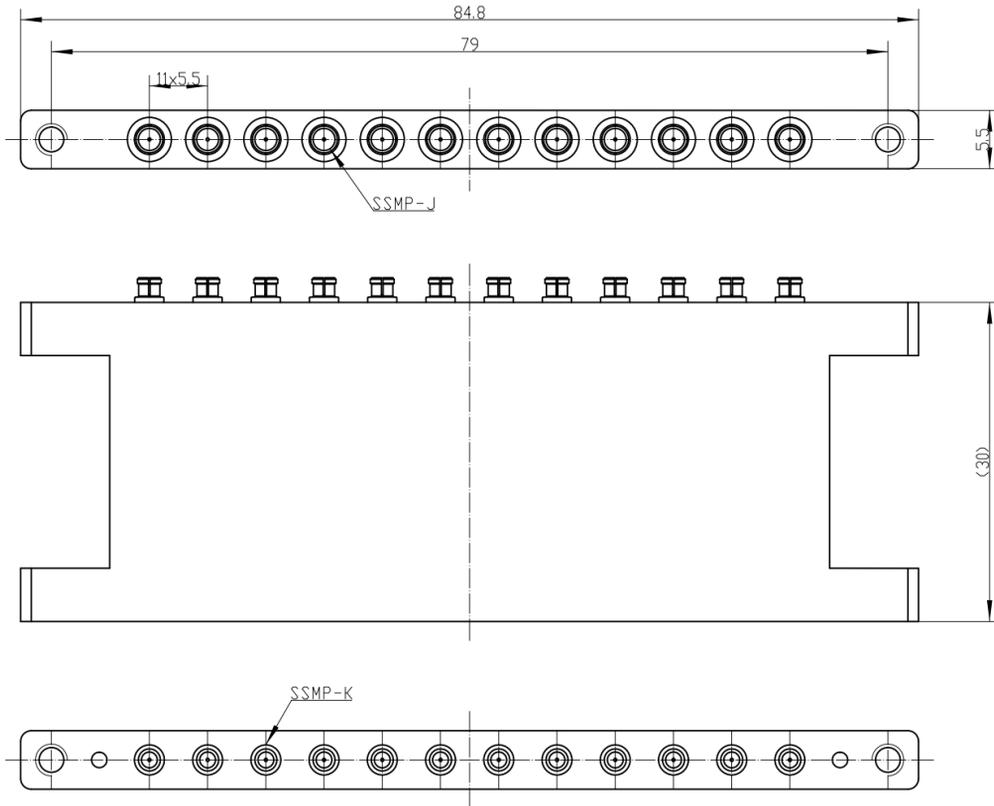
### Electrical Characteristics:

Model	Parameter			
	Frequency	Insertion Loss	Return Loss	Impedance
TL-CRYOIRHF12-1001	DC-10GHz	1dB@10GHz 6dB@30GHz	-20dB	50 $\Omega$
TL-CRYOIRHF12-1002	DC-10GHz	2dB@10GHz 10dB@30GHz	-20dB	50 $\Omega$
TL-CRYOIRHF12-1005	DC-10GHz	5dB@10GHz 20dB@30GHz	-20dB	50 $\Omega$

### Environmental And Physical Characteristics:

Description	Parameter	Units
Operating Temperature	10mK To +200	$^{\circ}\text{C}$
Storage Temperature	-55 to +200	$^{\circ}\text{C}$
Of Channels	12	
Packaging case	Gold Plated OFHC Copper	

**Outline Drawing:** Unit:mm



**Ordering Information:**

Base Number	Description	Revision
TL-CRYOIRHF12-1001	12 channel SSMP High-density Cryogenic Infrared Filter 1dB@10GHz	Rev.1.1
TL-CRYOIRHF12-1002	12 channel SSMP High-density Cryogenic Infrared Filter 2dB@10GHz	Rev.1.1
TL-CRYOIRHF12-1005	12 channel SSMP High-density Cryogenic Infrared Filter 5dB@10GHz	Rev.1.1