

IQ Mixer

RF: 30-120GHz/LO: 30-120GHz/IF: DC-30GHz

Model: TLIQ-30120-30-1.0

TLIQ-30120-30-1.0 is an ultra-broadband mixer spanning 30 to 120 GHz on the RF and LO ports with an IF from DC to 30GHz. Up to 25 dBc of image rejection is available due to the excellent phase and amplitude balance of its on-chip LO quadrature hybrid.

Features:

- RF/LO coverage: 30-120GHz
- IF operation: DC-30GHz
- Conversion loss: 15dB Typ
- LO power: 19dBm Typ
- Image Rejection : 25dBc Typ

Applications:

- Single Sideband and Image Rejection Mixing
- IQ Modulation / Demodulation
- Vector Amplitude Modulation
- Band Shifting

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	30		120	GHz
LO Frequency	30		120	GHz
LO-Input power	17	19	25	dBm
IF Frequency	DC		30	GHz
Image Rejection		25		dBc
Conversion Loss		15		dB
I/Q Amplitude Balance		1.5		dB
I/Q Phase Error		5		°
RF Port VSWR			4	:1
LO Port VSWR			4	:1
Input 1 dB Gain Compression Point		7		dBm
LO to IF Isolation		30		dB
LO to RF Isolation		35		dB
RF to IF Isolation		35		dB

Mechanical Specifications:

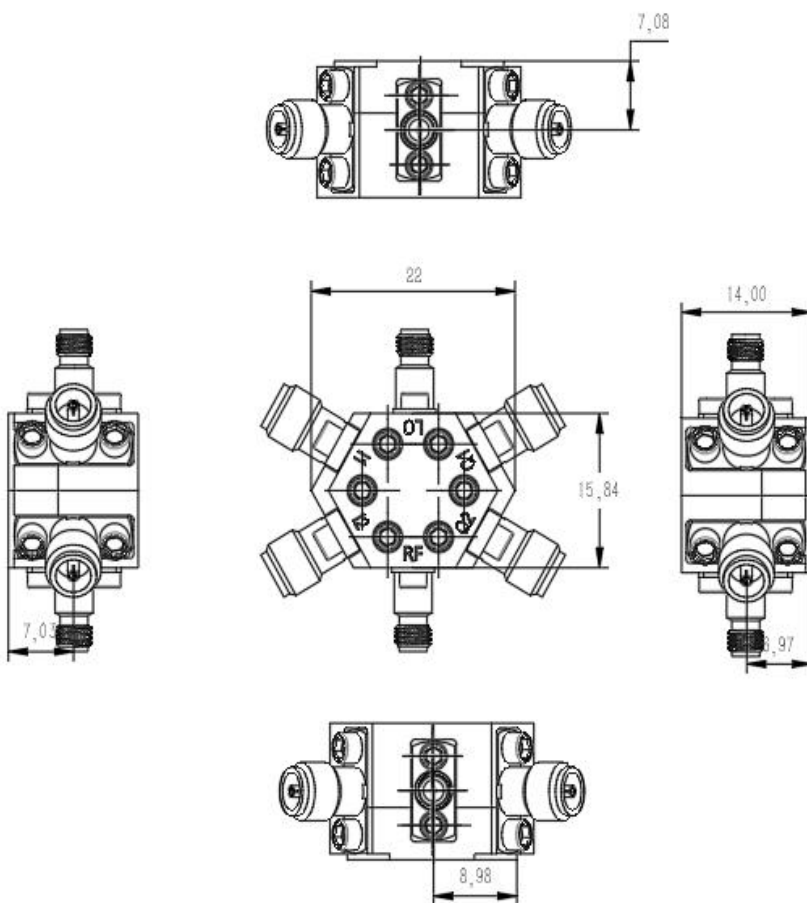
Parameter	Value	Units
RF Connector	1.0mm Female	
LO Connector	1.0mm Female	
IF Connector	2.92mm Female	
Size	22*15.84*14	mm

Absolute Maximum Ratings:

Parameter	Value
Power Handling, at any Port	+25 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
Non-operating Temperature	-55		+125	°C
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
TLIQ-30120-30-1.0	Image Rejection or I/Q Mixer RF:30-120GHz,LO:30-120GHz,IF:DC-30GHz	Rev.1.0