Suzhou Talent Microwave,Inc
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# IQ Mixer

## RF:1-4 GHz/LO:1-4 GHz/IF:DC-1 GHz

## Model: TLIQ-0104-01-S

TLIQ-0104-01-S is an ultra-broadband mixer spanning 1 to 4 GHz on the RF and LO ports with an IF from DC to 1 GHz.Up to 30 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: 1-4 GHz
- IF operation: DC-1 GHz
- Conversion loss: 10dB Typ
- LO power : 18dBm Typ
- Image Rejection: 30dBc 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 | 1 | | 4 | GHz |
| LO Frequency | 1 | | 4 | GHz |
| LO-Input power | 16 | 18 | 20 | dBm |
| IF Frequency | 0.01 | | 1 | GHz |
| Image Rejection @RF/LO:1-4GHz,I+Q:0.1GHz | | 30 | | dBc |
| Conversion Loss @RF/LO:1-4GHz,I/Q:DC-1GHz | | 10 | | dB |
| Input 1 dB Gain Compression Point | | 10 | | dBm |
| LO to IF Isolation | | 14 | | dB |
| LO to RF Isolation | | 45 | | dB |
| RF to IF Isolation | | 35 | | dB |

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## Mechanical Specifications:

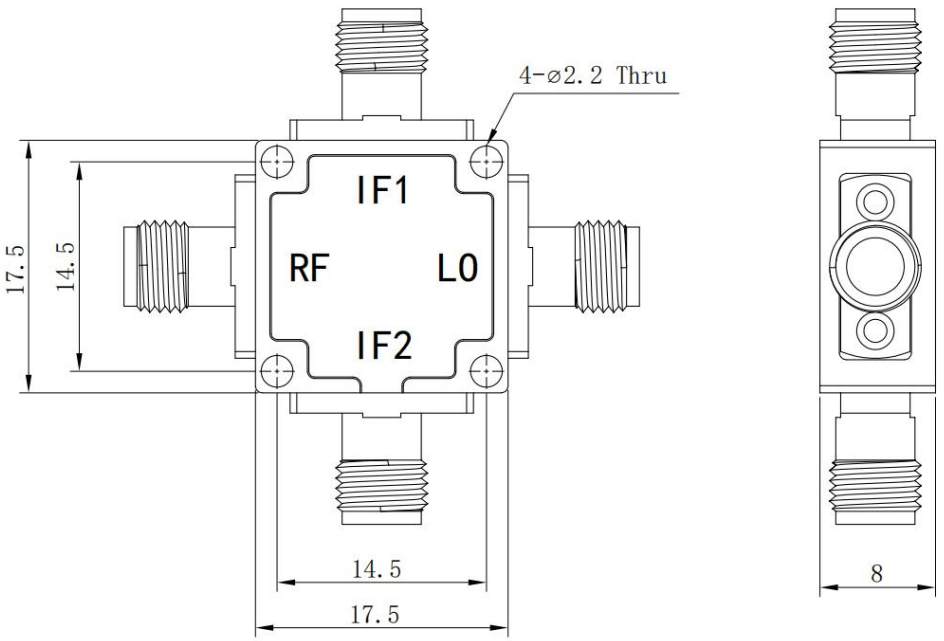
| Parameter | Value | Units |
|---|---|---|
| RF Connector | SMA Female | |
| LO Connector | SMA Female | |
| IF Connector | SMA Female | |
| Size | 17.5*17.5*8(Without Connector) | mm |

## Absolute Maximum Ratings:

| Parameter | Value |
|---|---|
| LO Input Power | +20 dBm |
| IF Input Current | ±2mA |
| RF/IF Input Power | +20dBm |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm




## Regulatory Compliance:

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

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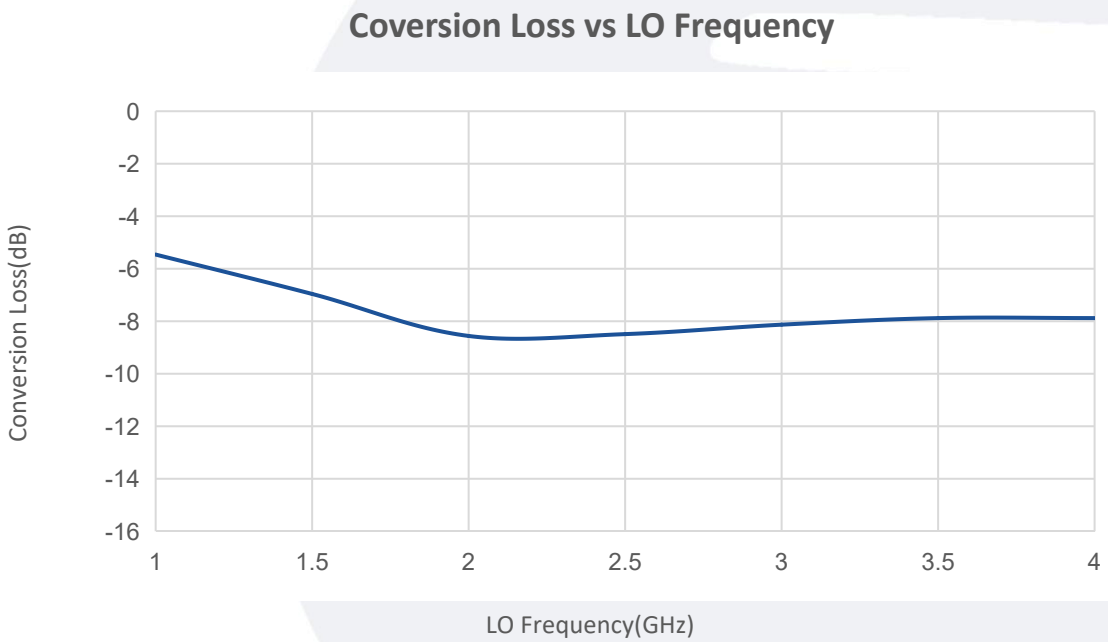
## Environmental Conditions:

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Operating Temperature | -45 | | +85 | ℃ |
| Non-operating Temperature | -55 | | +100 | ℃ |
| 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-0104-01-S | Image Rejection or I/Q Mixer<br>RF:1-4GHz,LO:1-4GHz,IF:DC-1GHz | Rev.1.1 |

## Typical Performance Data:




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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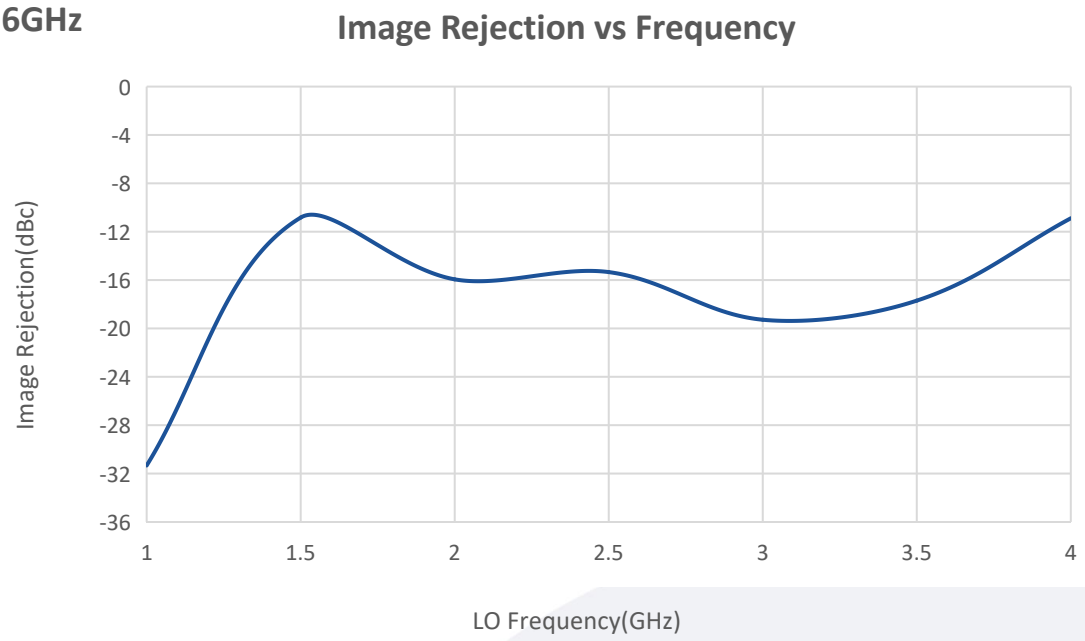
## Typical Performance Data:

I+Q=0.6GHz

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