Suzhou Talent Microwave,Inc
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# IQ Mixer

## RF: 4-16GHz/LO: 4-16GHz/IF: DC-3GHz

## Model: TLIQ-0416-03-S

TLIQ-0416-03-S is an ultra-broadband mixer spanning 4 to 16 GHz on the RF and LO ports with an IF from DC to 3GHz.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: 4-16GHz
- IF operation:  DC-3GHz
- Conversion loss: 11dB Typ
- LO power: 20dBm 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 | 4 | | 16 | GHz |
| LO Frequency | 4 | | 16 | GHz |
| LO-Input power | | 20 | 23 | dBm |
| IF Frequency | DC | | 3 | GHz |
| Image Rejection | | 25 | | dBc |
| Conversion Loss | | 11 | | dB |
| Input 1 dB Gain Compression Point | | 13 | | dBm |
| LO to IF Isolation | | 30 | | dB |
| LO to RF Isolation | | 50 | | dB |
| RF to IF Isolation | | 35 | | dB |

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## Mechanical Specifications:

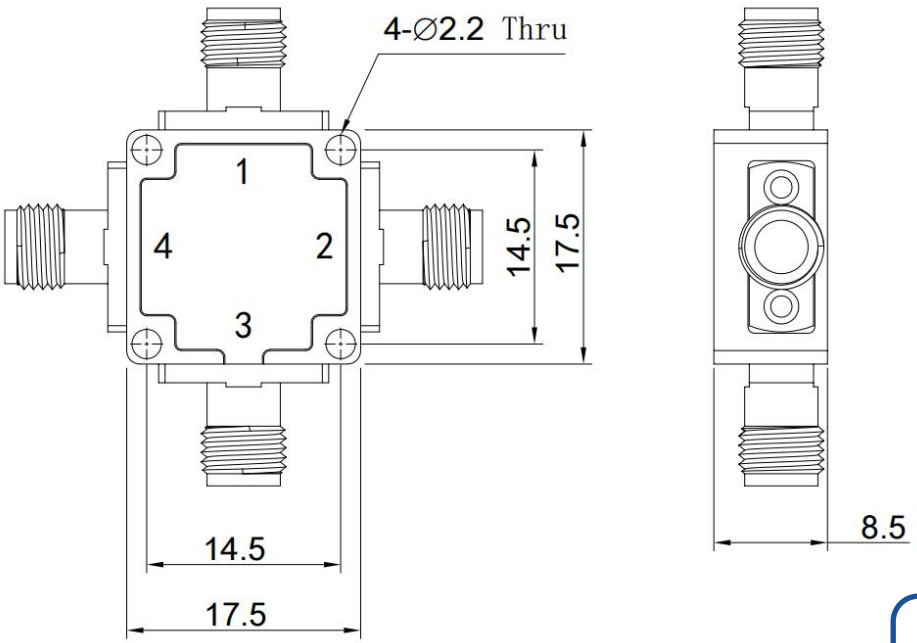
| Parameter | Value | Units |
|---|---|---|
| RF Connector | SMA Female | |
| LO Connector | SMA Female | |
| IF Connector | SMA Female | |
| Size | 17.5*17.5*8(Without Connector) | mm |

## Absolute Maximum Ratings:

| Parameter | Value |
|---|---|
| LO Input Power | +23 dBm |
| RF/IF Input Power | +20 dBm |
| ESD sensitivity (HBm) | Class 0, passed 150V |

## Outline Drawing:

Unit:mm; Tolerance:±0.1mm




| Port | |
|---|---|
| 1 | LO |
| 2 | I |
| 3 | Q |
| 4 | RF |

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

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## Environmental Conditions:

| Parameter | Min | Typ | Max | Units |
|---|---|---|---|---|
| Operating Temperature | -40 | | +70 | ℃ |
| Non-operating Temperature | -55 | | +85 | ℃ |
| 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-0416-03-S | Image Rejection or I/Q Mixer<br>RF:4-16GHz,LO:4-16GHz,IF:DC-3GHz | Rev.1.0 |