

## **IQ Mixer**

**RF:6-26 GHz/LO:6-26 GHz/IF:DC-6 GHz**

**Model: TLIQ-0626-06-K**

TLIQ-0626-06-K is an ultra-broadband mixer spanning 6 to 26 GHz on the RF and LO ports with an IF from DC to 6 GHz. Up to 22 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 : 6-12 GHz
- IF operation : DC-6 GHz
- Conversion loss: 12dB Typ
- LO power : 19dBm Typ
- Image Rejection : 22dBc 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                                    | 6   |     | 26  | GHz   |
| LO Frequency                                    | 6   |     | 26  | GHz   |
| LO-Input power                                  | 13  | 19  | 23  | dBm   |
| IF Frequency                                    | DC  |     | 6   | GHz   |
| Image Rejection<br>@RF/LO:6-26GHz,I+Q:DC-0.2GHz |     | 22  |     | dBc   |
| Conversion Loss<br>@RF/LO:6-26GHz,I/Q:DC-6GHz   |     | 12  |     | dB    |
| Input 1 dB Gain Compression Point               |     | 10  |     | dBm   |
| LO to IF Isolation                              |     | 45  |     | dB    |
| LO to RF Isolation                              |     | 35  |     | dB    |
| RF to IF Isolation                              |     | 30  |     | dB    |

## Mechanical Specifications:

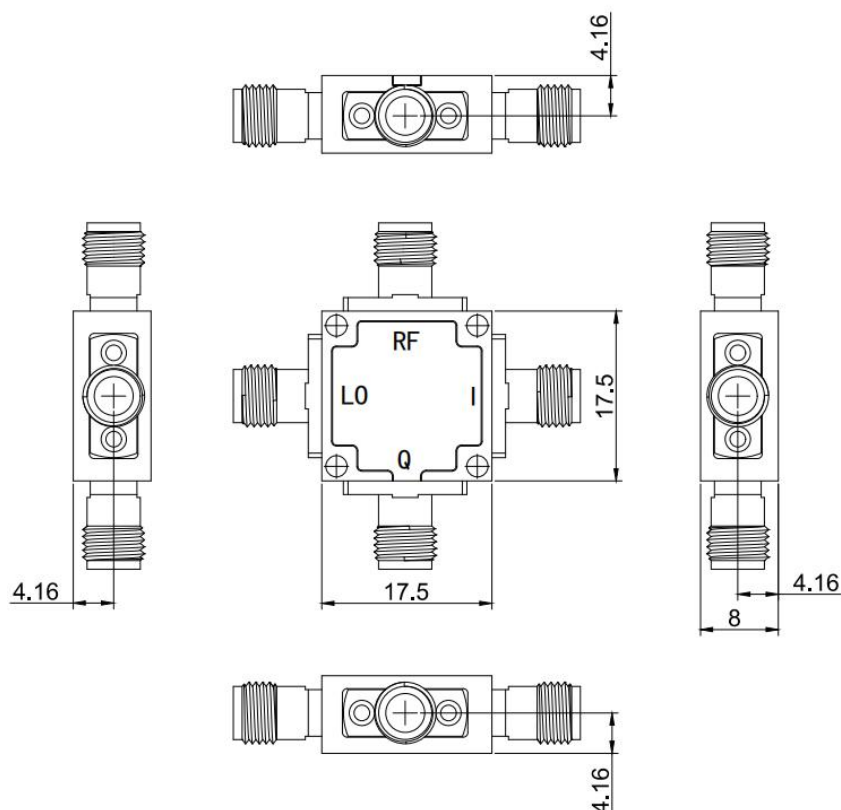
| Parameter    | Value                          | Units |
|--------------|--------------------------------|-------|
| RF Connector | 2.92mm Female                  |       |
| LO Connector | 2.92mm Female                  |       |
| IF Connector | SMA Female                     |       |
| Size         | 17.5*17.5*8(Without Connector) | mm    |

## Absolute Maximum Ratings:

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

## Outline Drawing:

Unit:mm



## Regulatory Compliance:



### Environmental Conditions:

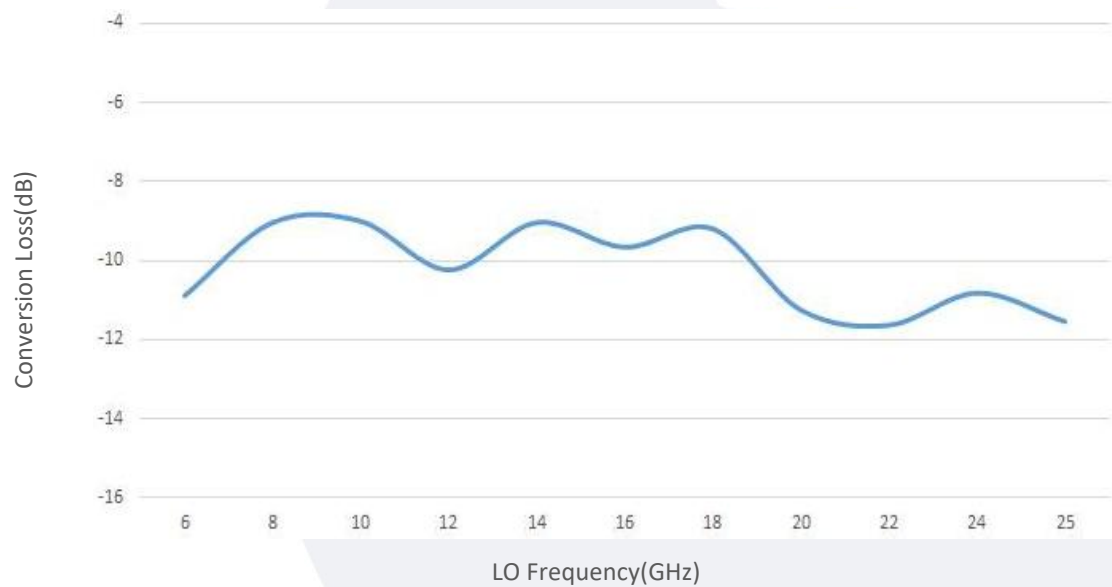
| Parameter                       | Min                                                 | Typ | Max  | Units |
|---------------------------------|-----------------------------------------------------|-----|------|-------|
| Operating Temperature           | -45                                                 |     | +85  | °C    |
| Non-operating Temperature       | -55                                                 |     | +100 | °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-0626-06-K | Image Rejection or I/Q Mixer<br>RF:6-26GHz,LO:6-26GHz,IF:DC-6GHz | Rev.1.1  |

### Typical Performance Data:

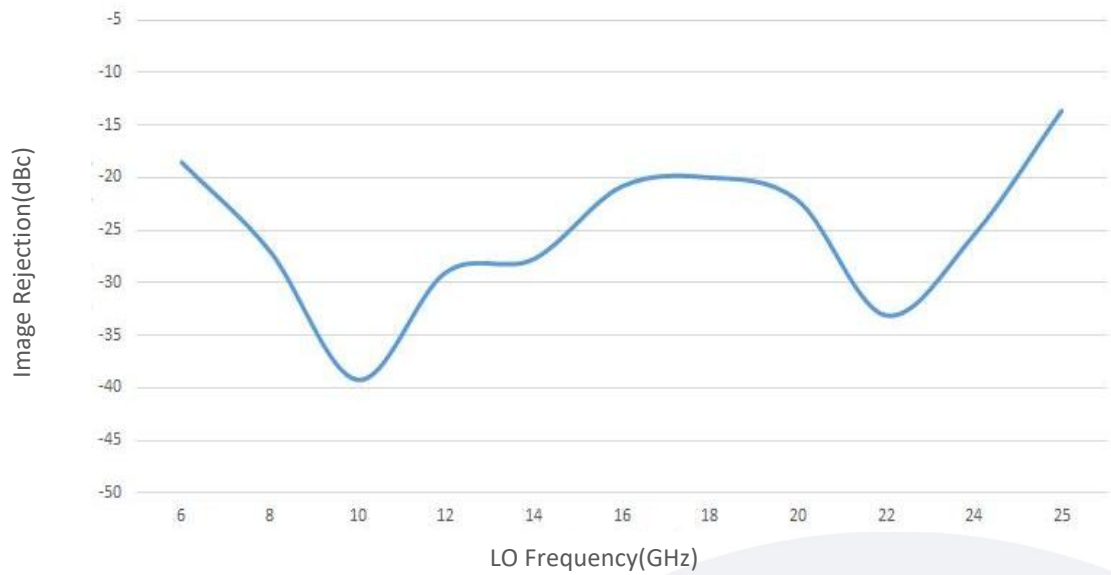
Conversion Loss vs LO Frequency



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.

## Typical Performance Data:

### Image Rejection vs LO Frequency



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