

## Single-Sideband Mixer

RF:4-8GHz/LO:4-8GHz/IF:95-200MHz

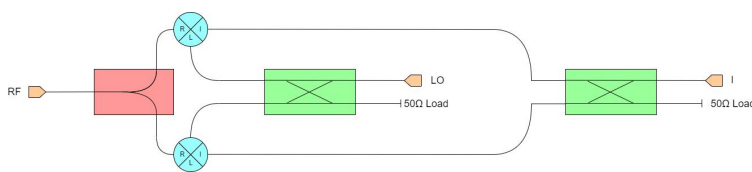
Model: TLSSBM-4G8G-0.1G-S

TLSSBM-4G8G-0.1G-S is a single sideband mixer that will perform a single sided upconversion. It performance from 4 to 8 GHz on the RF and LO ports with an IF of 95 to 200MHz.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: 4-8GHz
- IF operation: 95-200MHz
- Conversion loss: 12dB Typ
- LO power: 15dBm Typ
- Image Rejection: 25dBc Typ

### Functional Block Diagram:



### Applications:

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

## 电气特性 Electrical Characteristics:

| 参数 Parameter                                       | Min | Typ | Max | 单位 Units |
|----------------------------------------------------|-----|-----|-----|----------|
| RF频率 RF Frequency                                  | 4   |     | 8   | GHz      |
| LO频率 LO Frequency                                  | 4   |     | 8   | GHz      |
| LO驱动功率 LO-Input power                              |     | 15  | 20  | dBm      |
| IF频率 IF Frequency                                  |     | 0.1 |     | GHz      |
| 镜像抑制 Image Rejection<br>@RF/LO:4-8GHz,IF:95-200MHz |     | 25  |     | dBc      |
| 变频损耗 Conversion Loss<br>@RF/LO:4-8GHz,IF:95-200MHz |     | 12  |     | dB       |
| 输入P1dB压缩点<br>Input 1 dB Gain Compression Point     |     | 15  |     | dBm      |
| LO to IF隔离 LO to IF Isolation                      |     | 20  |     | dB       |
| LO to RF隔离 LO to RF Isolation                      |     | 40  |     | dB       |
| RF to IF隔离 RF to IF Isolation                      |     | 40  |     | dB       |
| 阻抗 Impedance                                       |     | 50  |     | Ohms     |

## 机械特性 Mechanical Specifications:

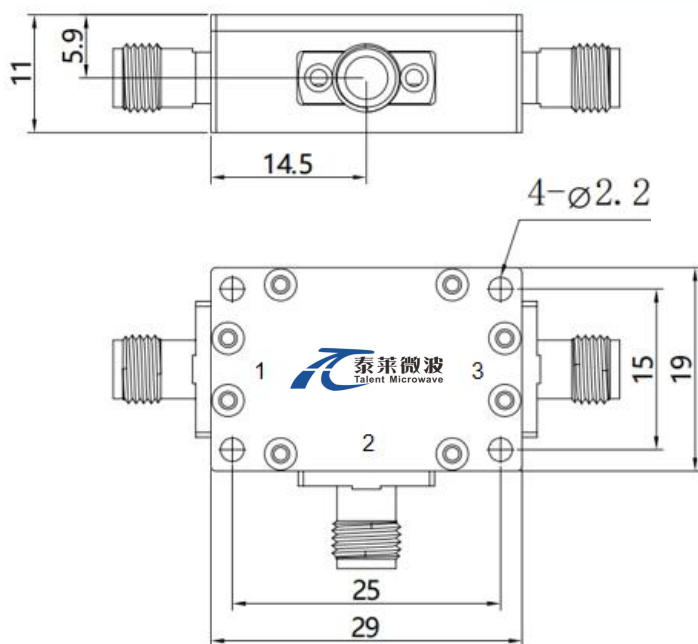
| 参数 Parameter      | 指标 Value                    | 单位 Units |
|-------------------|-----------------------------|----------|
| RF接口 RF Connector | SMA Female                  |          |
| LO接口 LO Connector | SMA Female                  |          |
| IF接口 IF Connector | SMA Female                  |          |
| 尺寸 Size           | 29*19*11(Without Connector) | mm       |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                     | 指标 Value             |
|----------------------------------|----------------------|
| 本振端口输入功率<br>LO Input Power       | +20 dBm              |
| 射频/中频端口输入功率<br>RF/IF Input Power | +20dBm               |
| ESD灵敏度 ESD sensitivity (HBm)     | Class 0, passed 150V |

## 外形图 Outline Drawing:

Unit:mm



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

## 温度环境 Environmental Conditions:

| 参数 Parameter                       | Min                                                 | Typ | Max  | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|------|----------|
| 操作温度 Operating Temperature         | -45                                                 |     | +85  | °C       |
| 存储温度 Non-operating Temperature     | -55                                                 |     | +100 | °C       |
| 相对湿度 Relative humidity             |                                                     | 95  |      | %        |
| 海拔 Altitude                        | 10,000                                              |     |      | feet     |
| 震动 Shock / Vibration(MIL-STD-810F) | 25g rms (15 degree 2KHz) endurance, 1 hour per axis |     |      |          |
| 冲击 Shock(non operating)            | 20G for 11msc half sin wave,3 axis both directions  |     |      |          |

## 订货信息 Ordering Information:

| 标准型号 Base Number   | 描述 Description                                            | 版本号 Revision |
|--------------------|-----------------------------------------------------------|--------------|
| TLSSBM-4G8G-0.1G-S | Single-Sideband Mixer<br>RF:4-8GHz,LO:4-8GHz,IF:95-200MHz | Rev.1.0      |