

## Dual Balance Mixer

RF:10-44 GHz/LO:10-44 GHz/IF:DC-14 GHz

Model: TLBM-1044-LS

TLBM-1044-LS is a dual balance mixer. The mixer covers the LO and RF frequency from 10 to 44 GHz with an extremely broad IF output from DC to 14 GHz. The mixer offers a conversion loss of 10 dB typical and LO input power of 10 dBm typical.

### Features:

- RF/LO coverage : 10-44 GHz
- IF operation : DC-14GHz
- Conversion loss: 10dB Typ
- High LO to RF isolation
- Dual Balanced Mixer

### Applications:

- Defense & federal communications
- Instrumentations

## 电气特性 Electrical Characteristics:

| 参数 Parameter                   | Min | Typ | Max | 单位 Units |
|--------------------------------|-----|-----|-----|----------|
| RF频率 RF Frequency              | 10  |     | 44  | GHz      |
| LO频率 LO Frequency              | 10  |     | 44  | GHz      |
| LO 驱动功率 LO-Input power         |     | 10  | 15  | dBm      |
| IF频率 IF Frequency              | DC  |     | 14  | GHz      |
| 输入P1dB Input P1dB              |     | 5   |     | dBm      |
| RF至IF隔离度 RF to IF Isolation    |     | 35  |     | dB       |
| RF至LO隔离度 RF to LO Isolation    |     | 45  |     | dB       |
| LO至IF隔离度 LO to IF Isolation    |     | 45  |     | dB       |
| 变频损耗 Conversion Loss@IF=100MHz |     | 10  |     | dB       |

## 机械特性 Mechanical Specifications:

| 参数 Parameter    | 指标 Value     | 单位 Units |
|-----------------|--------------|----------|
| 端口1 Connector 1 | 2.4mm Female |          |
| 端口3 Connector 3 | 2.4mm Female |          |
| 端口2 Connector 2 | SMA Female   |          |
| 尺寸 Size         | 22.2*14.4*8  | mm       |

## 接口定义 Connector Functions:

应用1

| 端口 Port     | 功能 Function |
|-------------|-------------|
| Connector 3 | LO          |
| Connector 2 | IF          |
| Connector 1 | RF          |

应用2

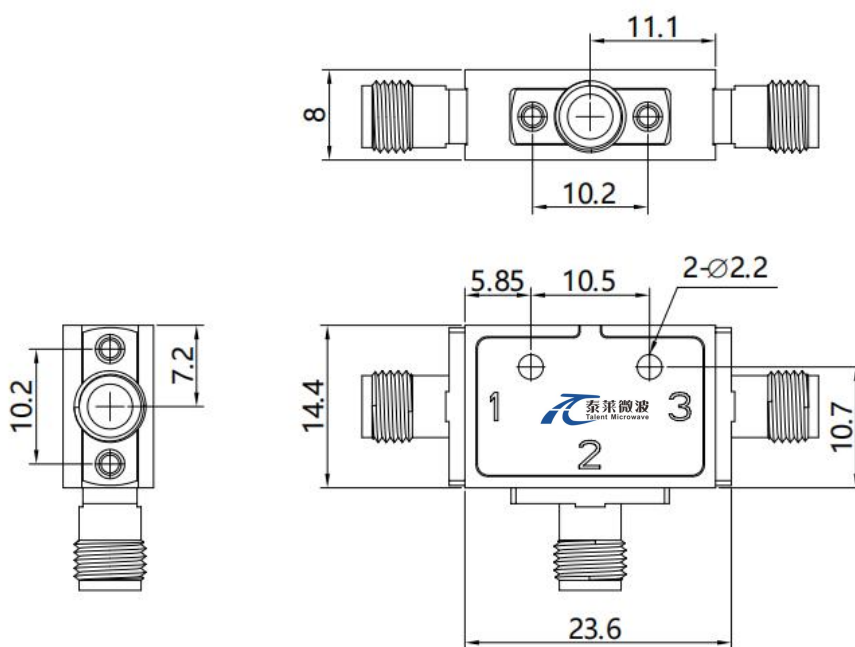
| 端口 Port     | 功能 Function |
|-------------|-------------|
| Connector 3 | RF          |
| Connector 2 | IF          |
| Connector 1 | LO          |

## 绝对最大值 Absolute Maximum Ratings:

| 参数 Parameter                 | 指标 Value             |
|------------------------------|----------------------|
| LO功率 LO Input Power          | 15 dBm               |
| 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:

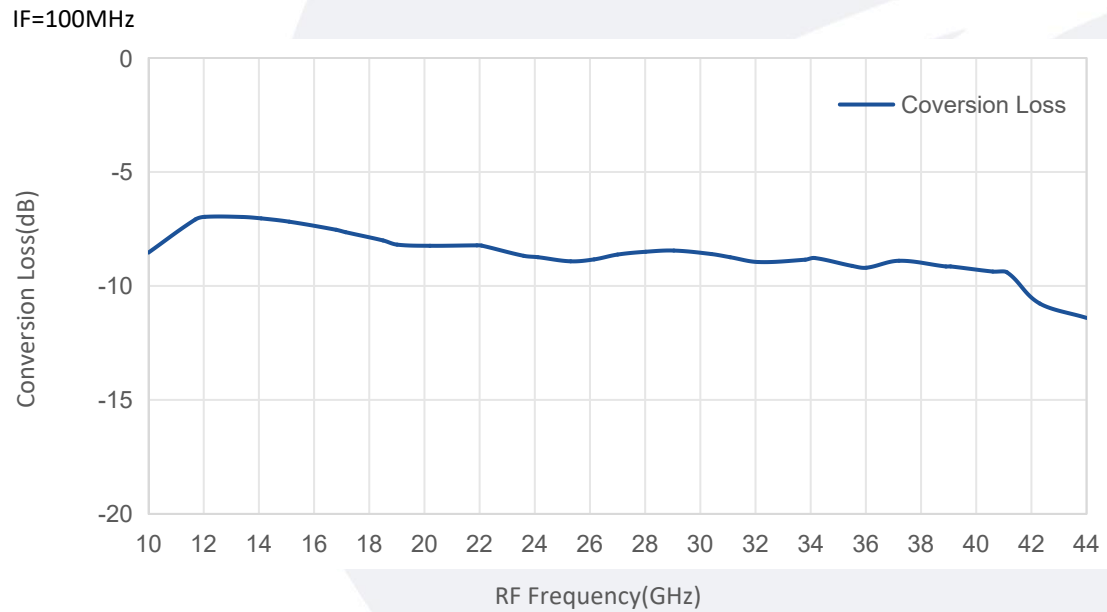
| 参数 Parameter                       | Min                                                 | Typ | Max | 单位 Units |
|------------------------------------|-----------------------------------------------------|-----|-----|----------|
| 操作温度 Operating Temperature         | 0                                                   |     | +50 | ℃        |
| 存储温度 Non-operating Temperature     | -45                                                 |     | +85 | ℃        |
| 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 |
|------------------|------------------------------------------------------------|--------------|
| TLBM-1044-LS     | Dual Balanced Mixer<br>RF:10-44GHz,LO:10-44GHz,IF:DC-14GHz | Rev.1.1      |

典型曲线 Typical Performance Data:

Conversion Loss vs RF 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.

## 典型曲线 Typical Performance Data:

### Isolation Loss vs RF 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.