

Single-Sideband Mixer

RF:12.5-20GHz/LO:12.5-20GHz/IF:95-200MHz

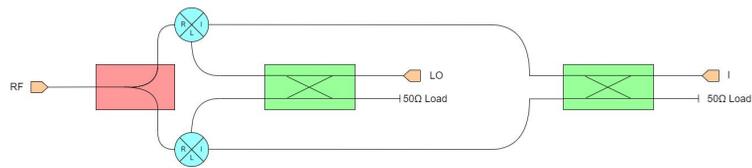
Model: TLSSBM-12.5G20G-0.1G-S

TLSSBM-12.5G20G-0.1G-S is a single sideband mixer that will perform a single sided upconversion. Its performance from 12.5 to 20 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: 12.5-20GHz
- IF operation: 95-200MHz
- Conversion loss: 14dB 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	12.5		20	GHz
LO频率 LO Frequency	12.5		20	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 @RF/LO:12.5-20GHz,IF:95-200MHz		25		dBc
变频损耗 Conversion Loss @RF/LO:12.5-20GHz,IF:95-200MHz		14		dB
输入P1dB压缩点 Input 1 dB Gain Compression Point		13		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		20		dB
阻抗 Impedance		50		Ohms

机械特性 Mechanical Specifications:

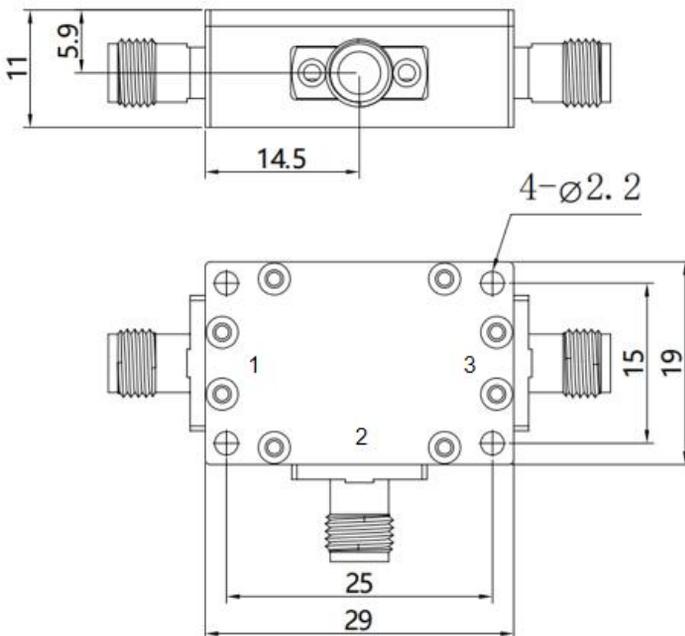
参数 Parameter	指标 Value	单位 Units
RF接口 RF Connector	SMA Female	
LO接口 LO Connector	SMA Female	
IF接口 IF Connector	SMA Female	
尺寸 Size	29*19*11(Without Connector)	mm

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
本振端口输入功率 LO Input Power	+20 dBm
射频/中频端口输入功率 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-12.5G20G-0.1G-S	Single-Sideband Mixer RF:12.5-20GHz,LO:12.5-20GHz,IF:95-200MHz	Rev.1.0