

Single-Sideband Mixer

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

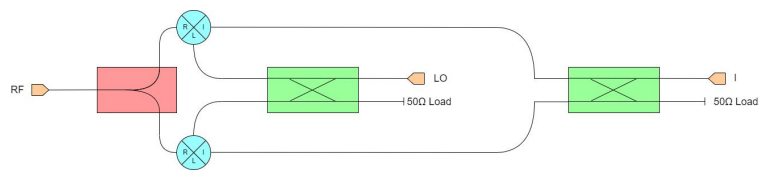
Model: TLSSBM-12.5G20G-0.1G-S

TLSSBM-12.5G20G-0.1G-S is a single sideband mixer that will perform a single sided upconversion. It 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

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	12.5		20	GHz
LO Frequency	12.5		20	GHz
LO-Input power		15	20	dBm
IF Frequency		0.1		GHz
Image Rejection @RF/LO:12.5-20GHz,IF:95-200MHz		25		dBc
Conversion Loss @RF/LO:12.5-20GHz,IF:95-200MHz		14		dB
Input 1 dB Gain Compression Point		13		dBm
LO to IF Isolation		20		dB
LO to RF Isolation		40		dB
RF to IF Isolation		20		dB
Impedance		50		Ohms

Mechanical Specifications:

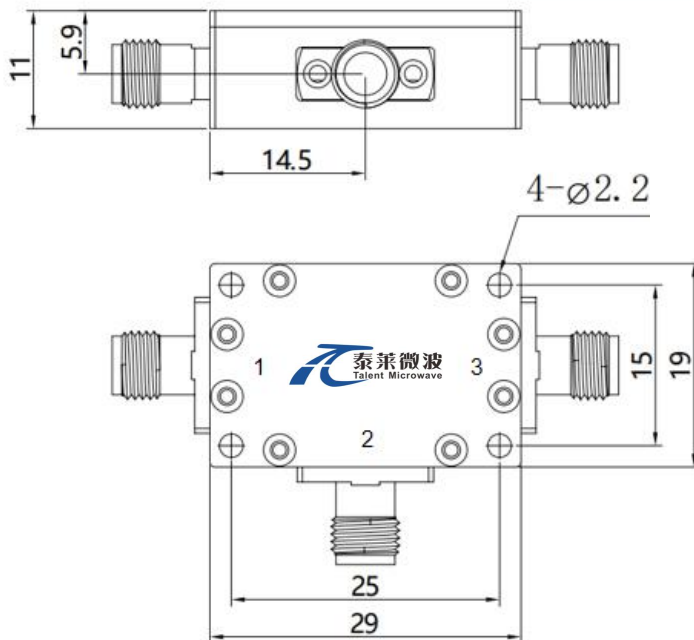
Parameter	Value	Units
RF Connector	SMA Female	
LO Connector	SMA Female	
IF Connector	SMA Female	
Size	29*19*11(Without Connector)	mm

Absolute Maximum Ratings:

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

Outline Drawing:

Unit:mm



Regulatory Compliance:



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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-45		+85	°C
on-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
TLSSBM-12.5G20G-0.1G-S	Single-Sideband Mixer RF:12.5-20GHz,LO:12.5-20GHz,IF:95-200MHz	Rev.1.0