

Single-Sideband Mixer

RF:8-12GHz/LO:8-12GHz/IF:1-30MHz

Model: TLSSBM-8G12G-1M30M-S

TLSSBM-8G12G-1M30M-S is a single sideband mixer that will perform a single sided upconversion. Its performance from 8 to 12 GHz on the RF and LO ports with an IF of 1 to 30 MHz. Up to 25 dBc of image rejection is available due to the excellent phase and amplitude balance of its on-chip LO quadrature hybrid.

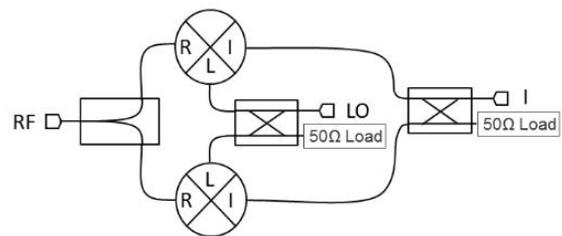
Features:

- RF/LO coverage: 8-12GHz
- IF operation: 1-30MHz
- Conversion loss: 12dB Typ
- LO power: 15dBm Typ
- Image Rejection: 25dBc Typ

Applications:

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

Functional Block Diagram:



Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	8		12	GHz
LO Frequency	8		12	GHz
LO-Input power		15	20	dBm
IF Frequency	1		30	MHz
Image Rejection		25		dBc
Conversion Loss		12		dB
Input 1 dB Gain Compression Point		10		dBm
LO to IF Isolation		15		dB
LO to RF Isolation		35		dB
RF to IF Isolation		30		dB
Impedance		50		Ohms

Mechanical Specifications:

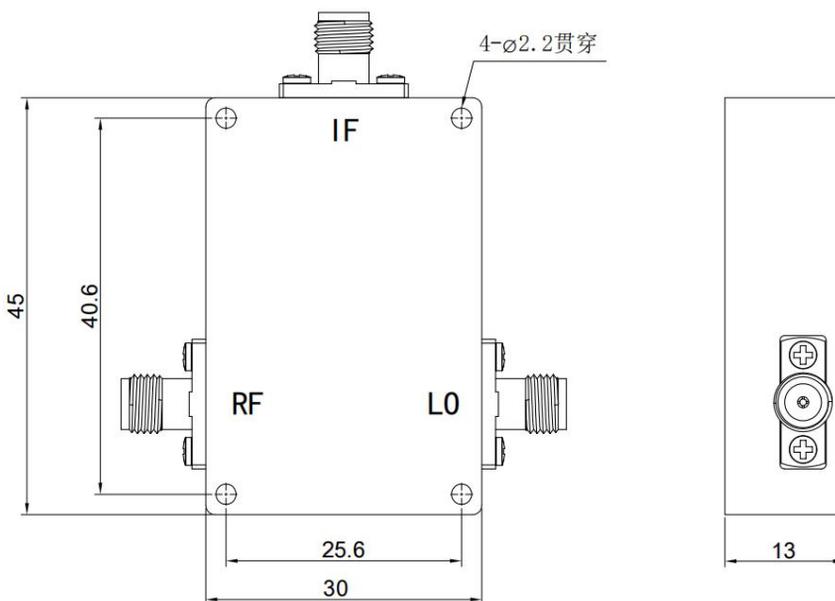
Parameter	Value	Units
RF Connector	SMA Female	
LO Connector	SMA Female	
IF Connector	SMA Female	
Size	45*30*12(Without Connector)	mm

Absolute Maximum Ratings:

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

Outline Drawing:

Unit:mm



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

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
TLSSBM-8G12G-1M30M-S	Single-Sideband Mixer RF:8-12GHz,LO:8-12GHz,IF:1-30MHz	Rev.1.0