

Dual Balance Mixer

RF:14-67 GHz/LO:14-67 GHz/IF:DC-21 GHz

Model: TLBM-1467-V

TLBM-1467-V is a dual balance mixer. The mixer covers the LO and RF frequency from 14 to 67 GHz with an extremely broad IF output from DC to 21 GHz. The mixer offers a conversion loss of 9 dB typical and LO input power of 15 dBm typical.

Features:

- RF/LO coverage : 14-67GHz
- IF operation : DC-21GHz
- Conversion loss: 9dB Typ
- High LO to RF isolation
- Dual Balanced Mixer

Applications:

- Defense & federal communications
- Instrumentations

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	14		67	GHz
LO Frequency	14		67	GHz
LO-Input power	11	15	20	dBm
IF Frequency	DC		21	GHz
Input 1dB Gain Compression Point		8		dBm
Conversion Loss*		9		dB

*This parameter deteriorated before 15GHz

Mechanical Specifications:

Parameter	Value	Units
Connector 1	1.85mm Female	
Connector 3	1.85mm Female	
Connector 2	2.92mm Female	
Size	23.6*14.4*8	mm

Connector Functions:

Apply 1

Port	Function
Connector 3	LO
Connector 2	IF
Connector 1	RF

Apply 2

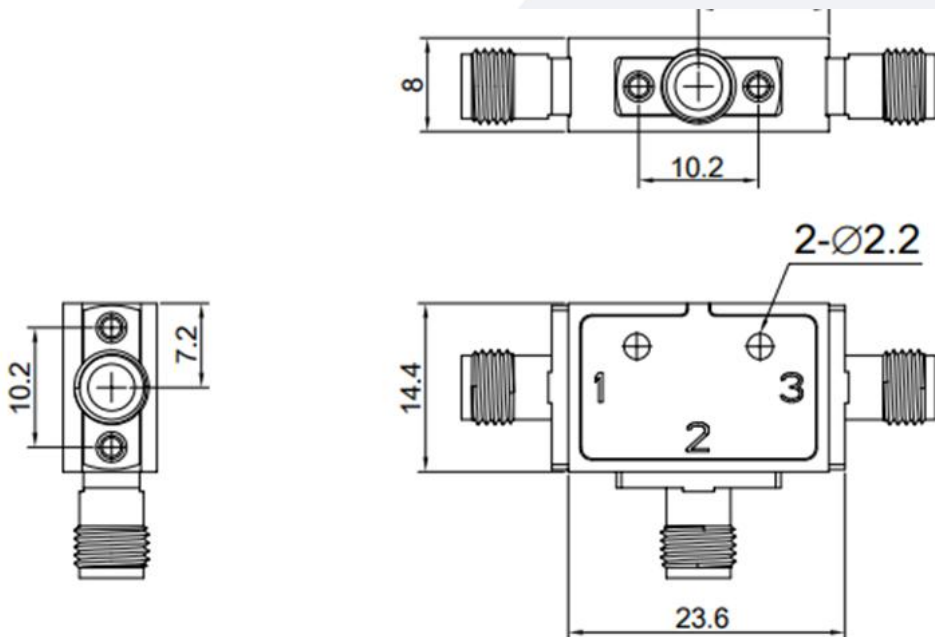
Port	Function
Connector 3	RF
Connector 2	IF
Connector 1	LO

Absolute Maximum Ratings:

Parameter	Value
LO Input Power	+20 dBm
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	0		+50	°C
Non-operating Temperature	-45		+85	°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
TLBM-1467-V	Dual Balanced Mixer RF:14-67GHz,LO:14-67GHz,IF:DC-21GHz	Rev.1.1

Spurious Performance:

Down-Conversion Apply 1 (2)

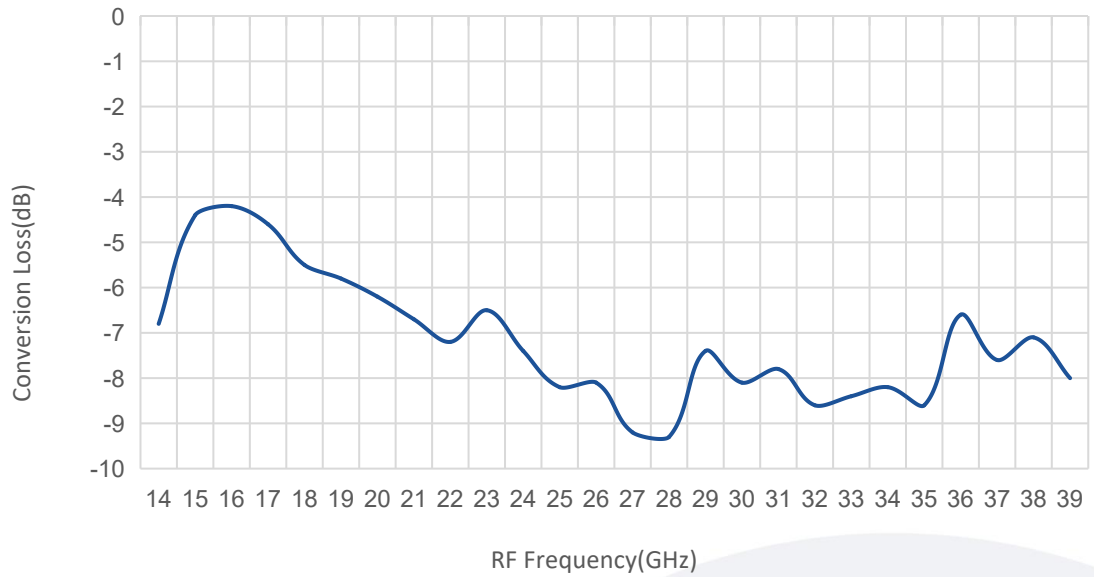
-10dBm RF Input	0xLO	1xLO	2xLO	3xLO	4xLO	5xLO
1xRF	40(25)	Reference	40(35)	21 (16)	45 (35)	/
2xRF	88(93)	50 (66)	67 (74)	61 (69)	68 (72)	64 (73)
3xRF	98 (90)	58 (61)	84 (84)	66 (74)	86 (85)	63 (69)
4xRF	124 (122)	89(111)	102 (110)	98 (115)	111 (119)	101 (114)
5xRF	/	117(130)	117 (130)	107 (120)	124 (127)	109 (121)

Up-Conversion Apply 1 (2)

-10dBm RF Input	0xLO	1xLO	2xLO	3xLO	4xLO	5xLO
1xRF	40(25)	Reference	40 (34)	17 (14)	42 (34)	/
2xRF	70 (70)	79 (79)	68 (71)	74 (76)	57(67)	77(74)
3xRF	89 (80)	61 (69)	82 (79)	65 (64)	77(72)	54(58)
4xRF	109 (111)	106 (109)	106 (108)	105 (104)	89(99)	102 (105)
5xRF	121 (119)	105 (111)	120 (121)	103 (107)	114(112)	98 (104)

Typical Performance Data:

Conversion Loss vs LO 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.