

G-Band Fundamental Mixer

RF:140-220 GHz/LO:140-220 GHz/IF:DC-40 GHz

Model: TLBM-140220-40-05

TLBM-140220-40-05 is a G-Band Fundamental mixer. The mixer supports the full waveguide band operation for LO and RF frequency from 140 to 220 GHz with an extremely broad IF output from DC to 40 GHz. The mixer offers a conversion loss of 12dB@IF=1GHz maximum and LO input power of 7 dBm typical. The G-band, X12 multiplier of Talent model TMAM-140220-1208-05 can be used as the LO driver for this mixer.

Features:

- RF Frequency range: 140-220GHz
- LO Frequency range: 140-220GHz
- IF Frequency range: DC-40GHz
- Low LO Power Requirement
- Subharmonic Mixing
- Suggested LO drive model: TMAM-140220-1208-05

Applications:

- Radar Systems
- Communication Systems
- Test Equipment

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	140		220	GHz
LO Frequency	140		220	GHz
IF Frequency	DC		40	GHz
LO Input Power		6		dBm
Conversion Loss@IF=1GHz		12		dB
Conversion Loss@LO=178GHz		14		dB
Bias Voltage	-1.2	-1	-0.8	V DC

Mechanical Specifications:

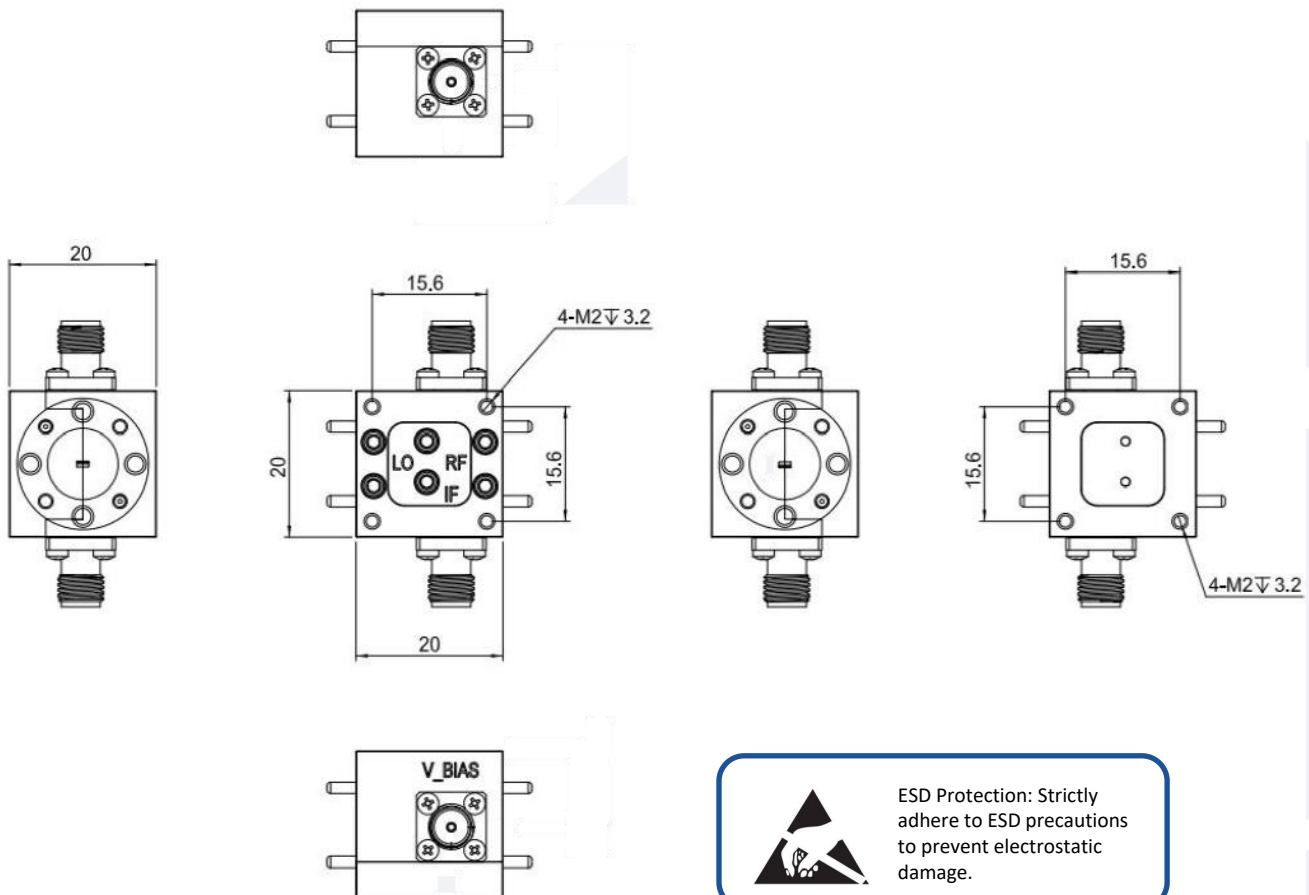
Parameter	Value	Units
RF Connector	WR-5.1/UG-387/U	
LO Connector	WR-5.1/UG-387/U	
IF Connector	2.92mm Female	

Absolute Maximum Ratings:

Parameter	Value
RF Input Power	13 dBm
IF Input Power	13 dBm
LO Input Power	13 dBm
Bias Voltage	-2V~0V
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

Environmental Conditions:

Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°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-140220-40-05	D-Band Fundamental Mixer RF:140-220GHz,LO:140-220GHz,IF:DC-40GHz	Rev.1.1