

V-band,Active Tx/Rx Converter

WR-15/50-75GHz/-8dB Conversion Loss

Model: TLAMCM-050075-20-15

TLAMCM-050075-20-15 is an up and down fundamental mixer integrated with x4 active frequency multiplier chain. The converter has an input LO frequency of 12.5 to 18.75 GHz with a typical input power of 5 dBm. RF frequency can range from 50 to 75 GHz and IF port can range from DC to 20GHz with 2.92mm connector. The DC power requirement for the multiplier is +12 V DC/200 mA.

Features:

- RF Frequency: 50-75GHz
- LO Frequency: 12.5-18.75GHz
- IF Frequency: DC-20GHz
- Low Conversion Loss

Applications:

- Test Equipment
- Radar System
- V-band Imaging

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	50		75	GHz
4XLO Frequency	50		75	GHz
LO Frequency	12.5		18.75	GHz
IF Frequency	DC		20	GHz
LO-Input power	3	5	7	dBm
LO Multiplier factor		4		
IF Input P1dB		8		dBm
RF Input P1dB		8		dBm
Conversion Loss(IF=100MHz)		-8		dB
Conversion Loss(LO=12.5GHz)		-9		dB
DC Supply Voltage		12		V DC
DC Supply Current		200		mA

Mechanical Specifications:

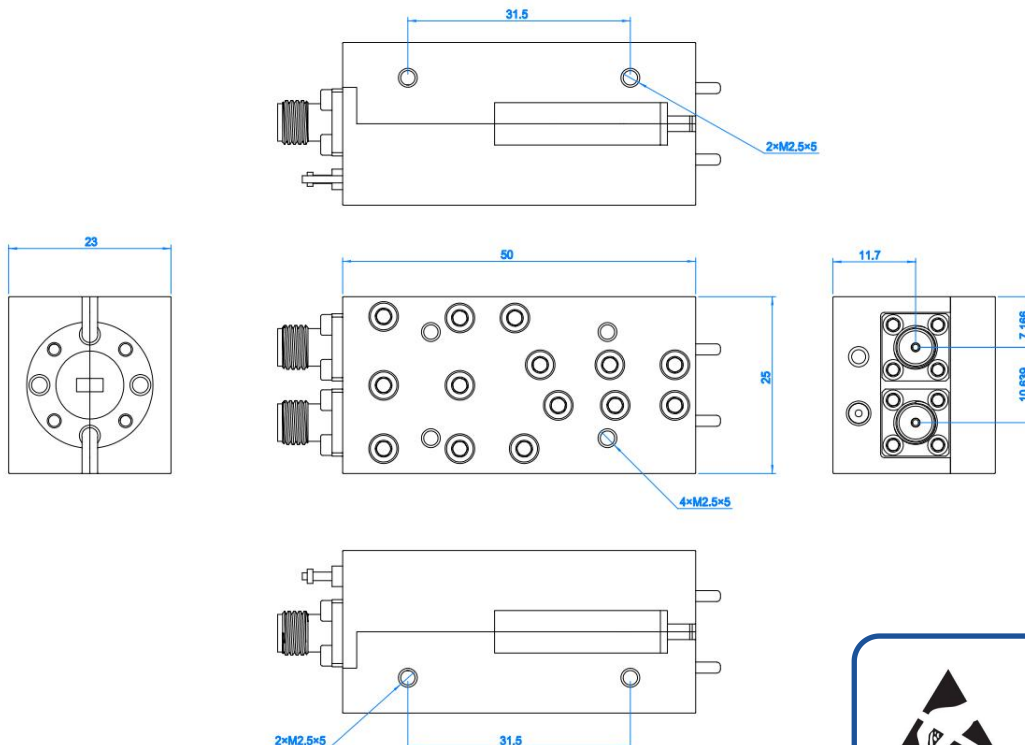
Parameter	Value	Units
RF Connector	WR-15/UG-385/U	
LO Connector	SMA Female	
IF Connector	2.92mm Female	
Size	50*25*23	mm

Absolute Maximum Ratings:

Parameter	Value
RF Input Power	12 dBm
LO Input Power	10 dBm
IF Input Power	12 dBm
DC Supply Voltage	+15 V
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:

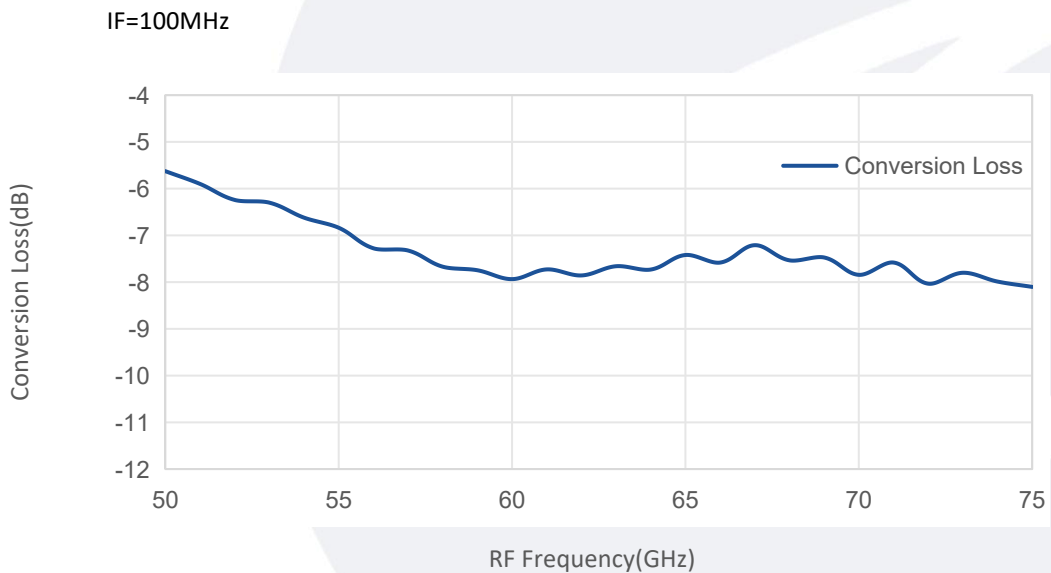
Parameter	Min	Typ	Max	Units
Operating Temperature	0		+50	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TLAMCM-050075-20-15	V-band Active Tx/Rx Converter, Conversion Loss: -8dB,WR-15/UG-385/U	Rev.1.1

Typical Performance Data:

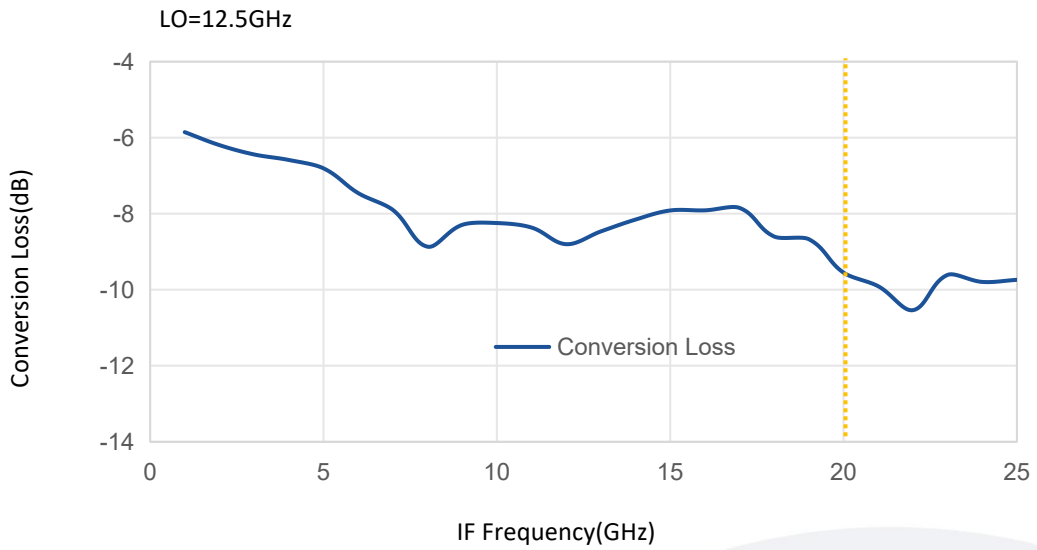
Conversion Loss vs RF Frequency



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.

Typical Performance Data:

Conversion Loss vs IF 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.