

IQ Mixer

RF:50-75GHz/LO:50-75 GHz/IF:DC-18GHz

Model: TMIQ-5075-18-15

TMIQ-5075-18-15 is an ultra-broadband IQ mixer spanning 50 to 75 GHz on the RF and LO ports with an IF from DC to 18 GHz. The IQ mixer offers a conversion loss of 14 dB typical and LO input power of 17 dBm typical. The IF port configuration is a female SMA connector and the RF and LO port are WR-15 waveguide with a UG-385/U-M anti-cocking flange.

Features:

- RF/LO coverage : 50-75 GHz
- IF operation : DC-18 GHz
- Conversion loss: 14dB Typ
- LO input power: 17dBm Typ

Applications:

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

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
RF Frequency	50		75	GHz
LO Frequency	50		75	GHz
LO-Input power	15	17	20	dBm
IF Frequency	DC		18	GHz
Conversion Loss		14	17	dB
IF Input 1dB Gain Compression Point		-5		dBm
I/Q Amplitude consistency		±1		dB
I/Q Phase consistency		±1.5		°
LO to RF Isolation		20		dB
LO to IF Isolation		30		dB
RF to IF Isolation		25		dB
Power Handling		25		dBm

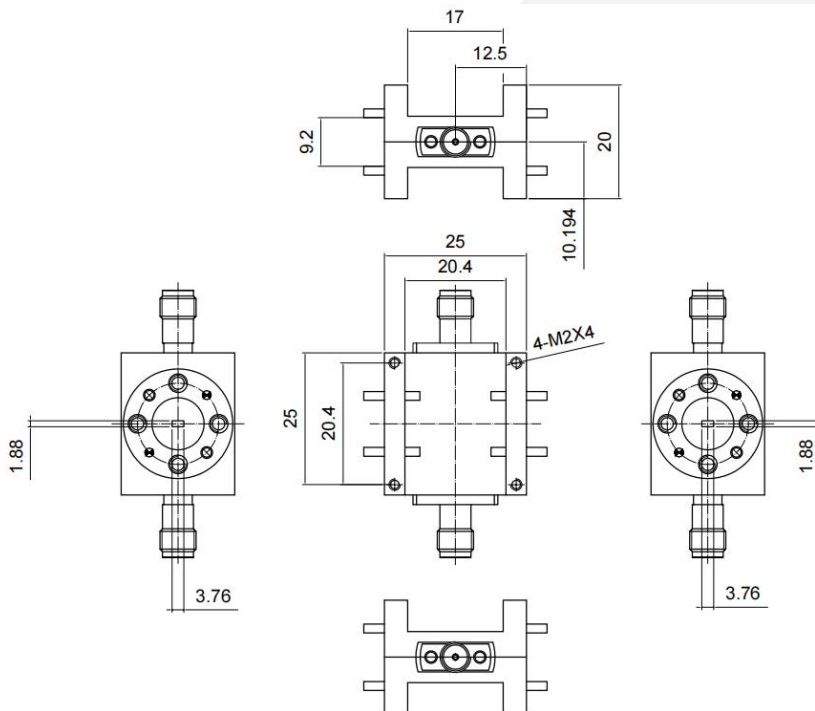
Mechanical Specifications:

Parameter	Value	Units
RF Connector	WR-15/UG-385/U	
LO Connector	WR-15/UG-385/U	
IF Connector	SMA Female	
Size	25*25*20	mm

Absolute Maximum Ratings:

Parameter	Value
Power Handling, at any Port	+25 dBm
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
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
TMIQ-5075-18-15	Image Rejection or I/Q Mixer RF:50-75GHz,LO:50-75GHz,IF:DC-18GHz	Rev.1.1