

W-band Power Amplifier

WR-10/70-110GHz/19dB Gain/23dBm Psat

Model: TMPA-070110-1620-10

TMPA-070110-1620-10 is a W-Band power amplifier with a typical small signal gain of 19 dB and a nominal Psat of 23 dBm across the frequency range of 70 to 110 GHz. The DC power requirement for the amplifier is +16 VDC/80 mA. The input and output port configuration offers an inline structure with WR-10 waveguides and UG-387/U-M antickocking flanges.

Features:

- Frequency range: 70-110GHz
- Gain: 19dB Typ
- Output Power Psat: 23dBm Typ
- Good Power and Gain Flatness

Applications:

- Passive Imaging
- Communication Systems
- Radar Systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	70		110	GHz
Gain		19		dB
Gain Flatness		±3		dB
Output P1dB		12		dBm
Output Psat		23		dBm
Input VSWR		2		:1
Output VSWR		1.5		:1
DC Voltage		16		V DC
DC Supply Current		80		mA

Mechanical Specifications:

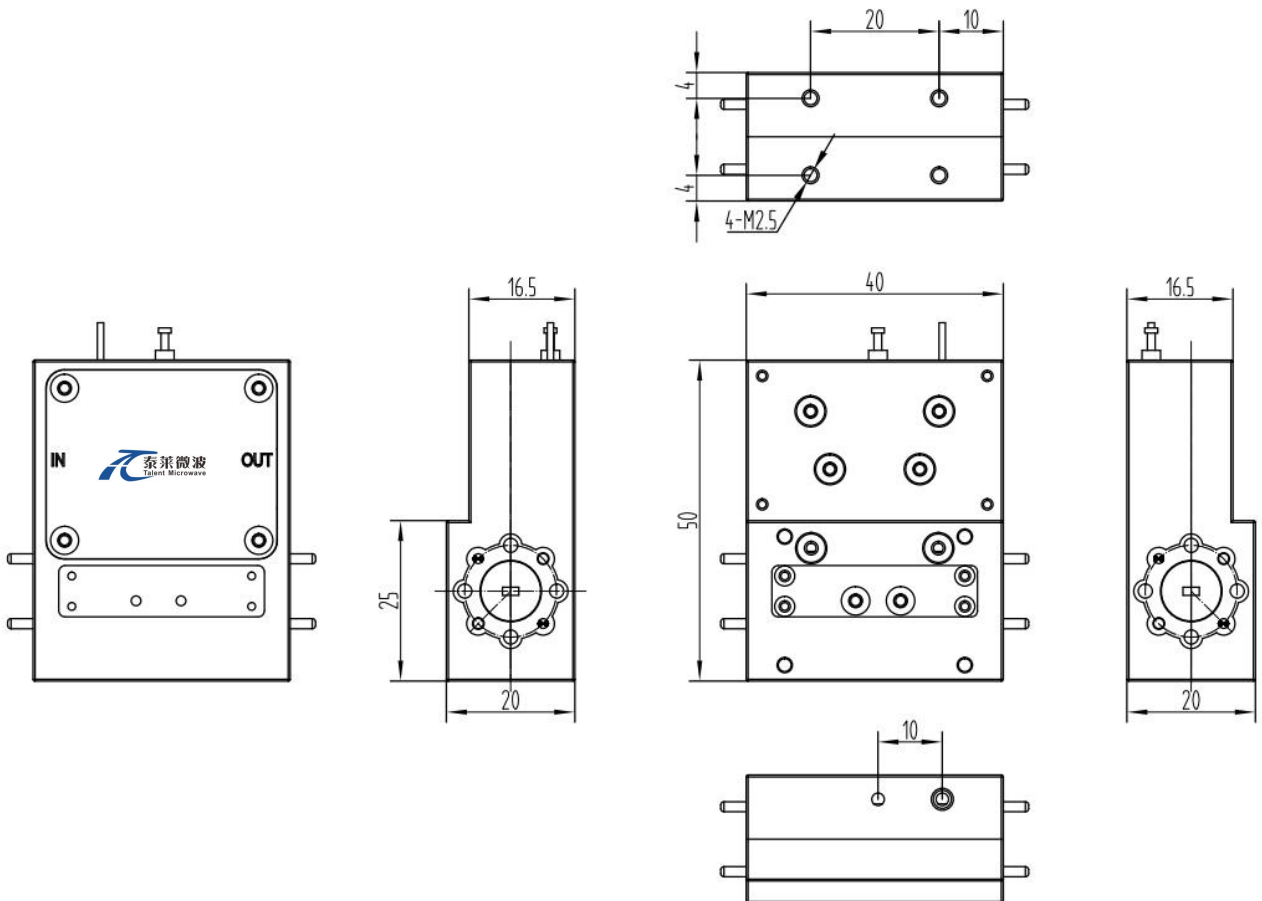
Parameter	Value	Units
Input /Output Connector	WR-10/UG-387/U	
DC Bias	Solder Pin	
Size	40-50-20	mm

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+18 V
RF Input Power	+20 dBm
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:

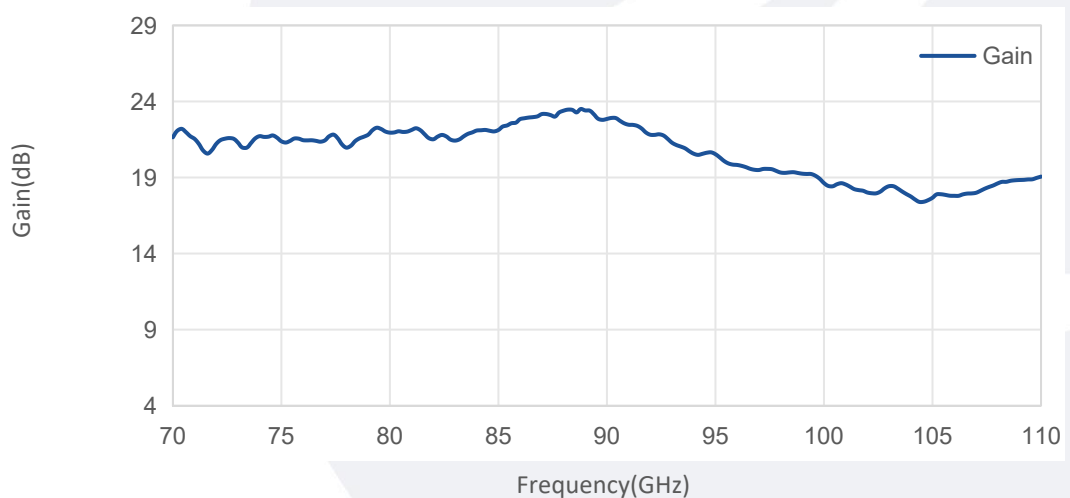
Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TMPA-070110-1620-10	Power Amplifier, 70-110 GHz, Gain:19 dB Type, P _{sat} :23 dBm Type,+16V DC,WR-10	Rev.1.1

Typical Performance Data:

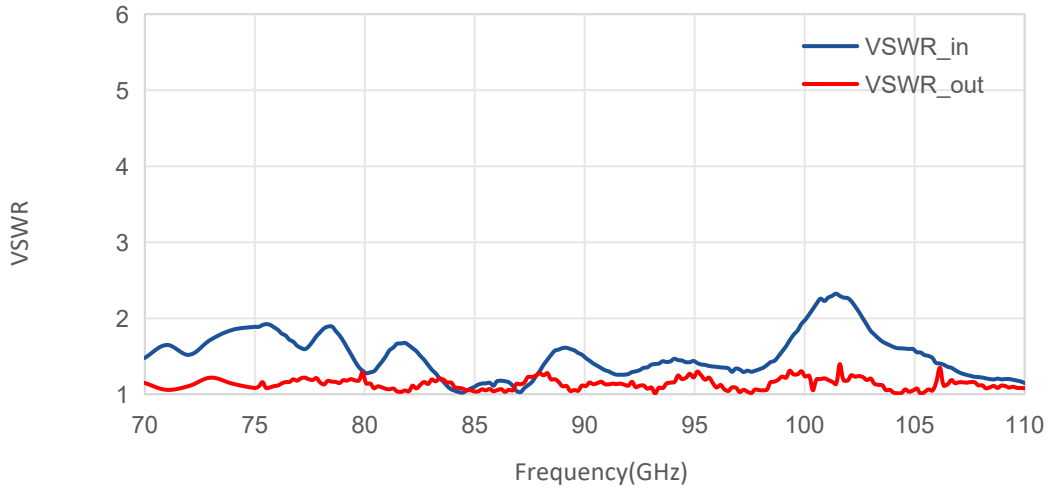
Gain vs Frequency



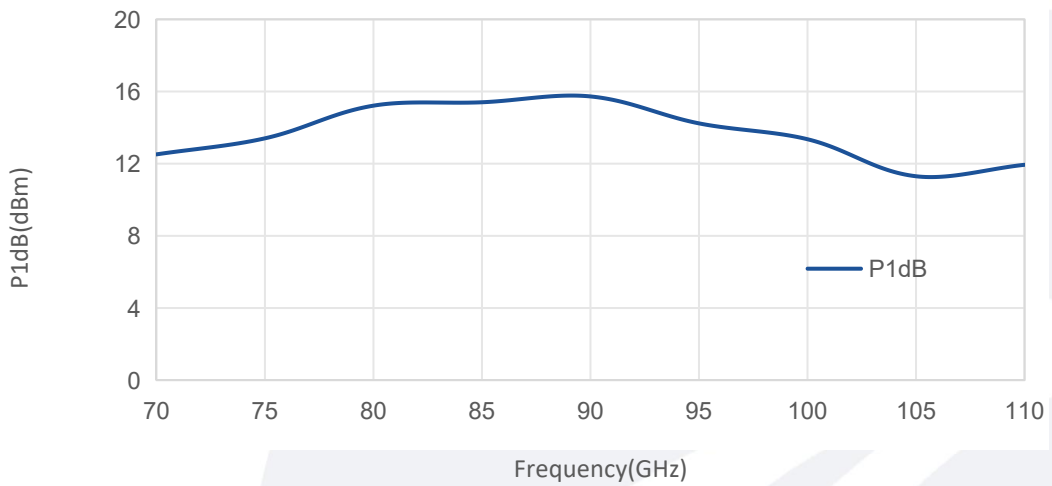
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

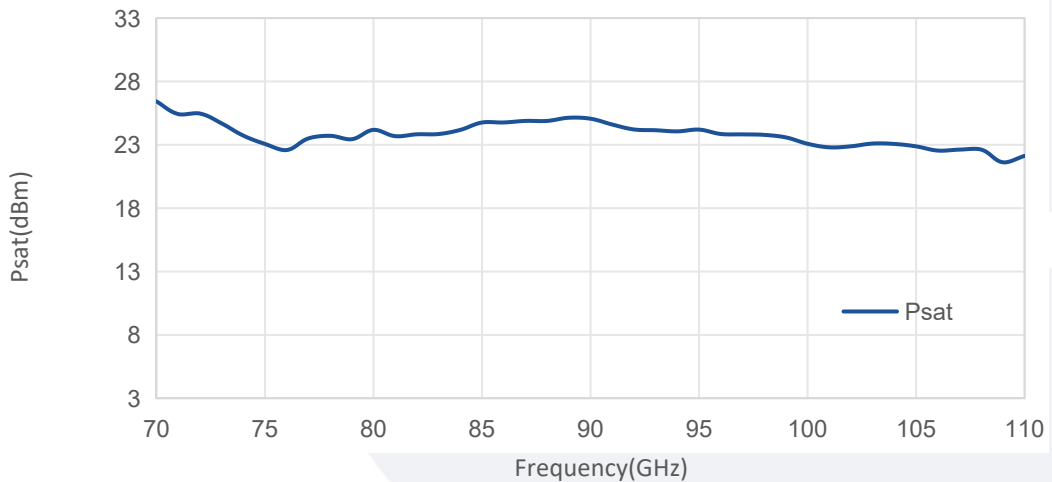
VSWR vs Frequency



P1dB vs Frequency



Psat vs 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.