

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

电气特性 Electrical Characteristics:

参数 Parameter	Min	Typ	Max	单位 Units
频率范围 Frequency range	70		110	GHz
增益 Gain		19		dB
增益平坦度 Gain Flatness		±3		dB
线性输出功率 Output P1dB		12		dBm
饱和输出功率 Output Psat		23		dBm
输入驻波 Input VSWR		2		:1
输出驻波 Output VSWR		1.5		:1
直流电压 DC Voltage		16		V DC
直流电流 DC Supply Current		80		mA

机械特性 Mechanical Specifications:

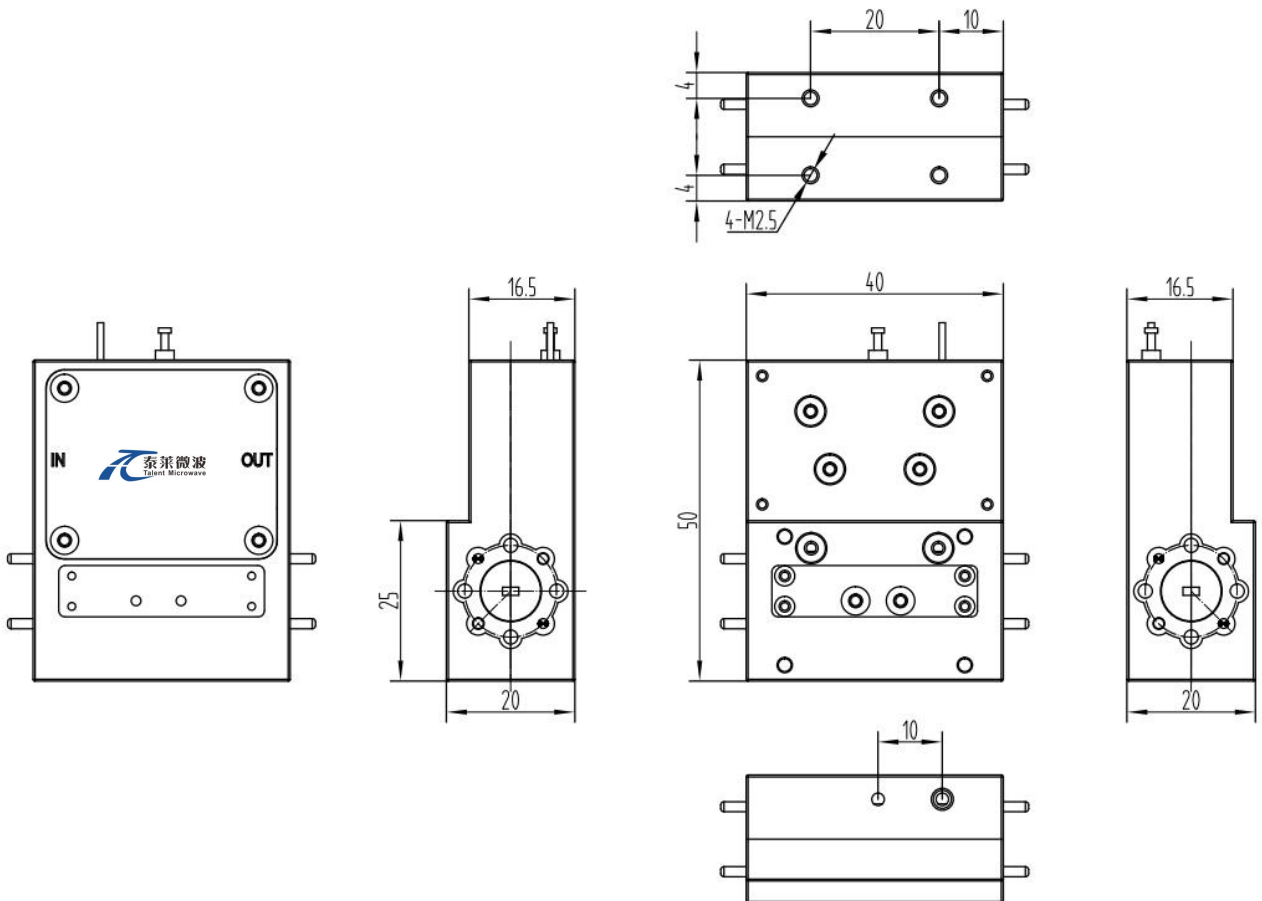
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	WR-10/UG-387/U	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	40-50-20	mm

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+18 V
输入功率 RF Input Power	+20 dBm
ESD灵敏度 ESD sensitivity (HBm)	Class 0, passed 150V

外形图 Outline Drawing:

Unit:mm; Tolerance:±0.1mm



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

温度环境 Environmental Conditions:

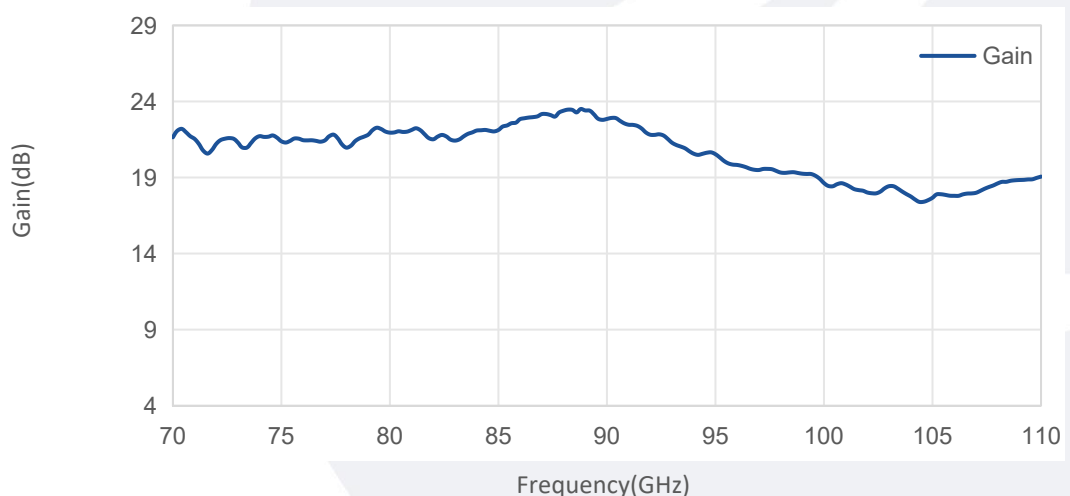
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-10		+65	°C
存储温度 Non-operating Temperature	-45		+85	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half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

订货信息 Ordering Information:

标准型号 Base Number	描述 Description	版本号 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

典型曲线 Typical Performance Data:

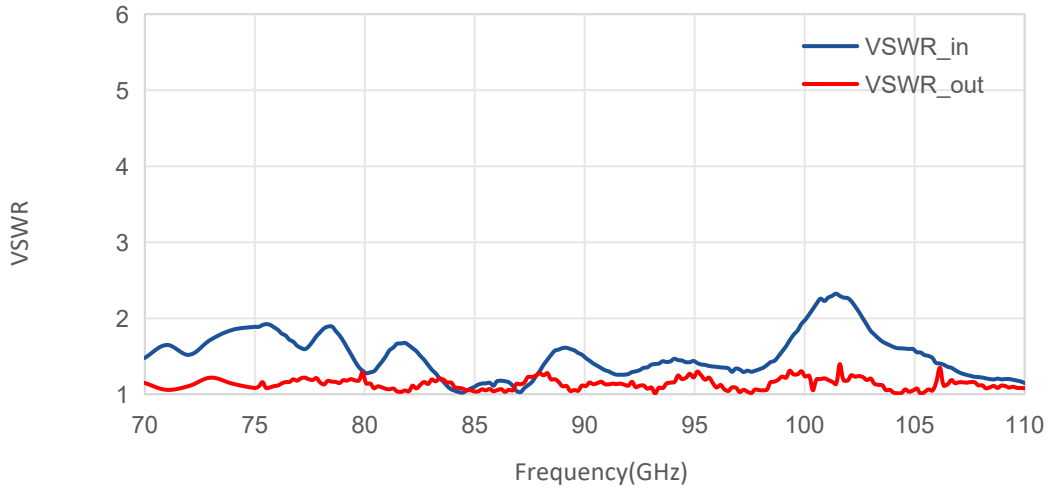
Gain vs Frequency



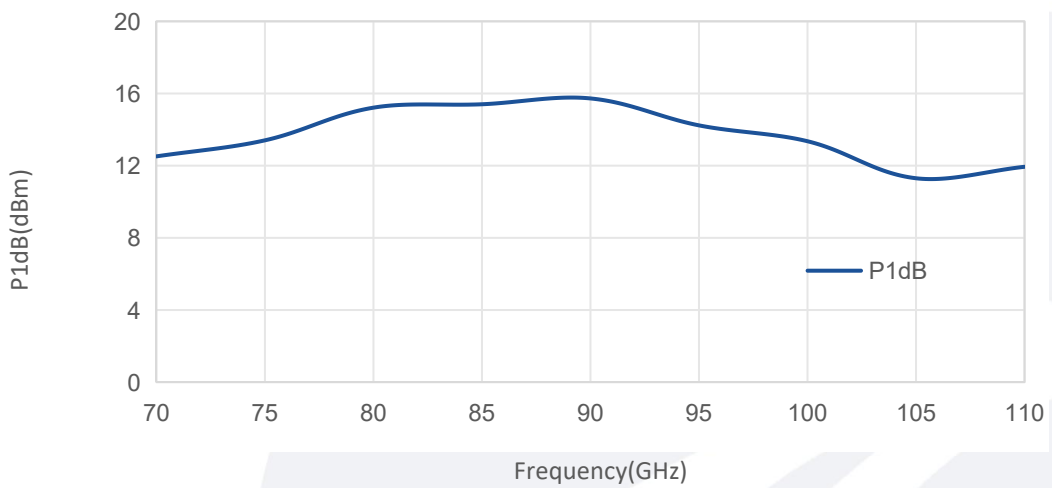
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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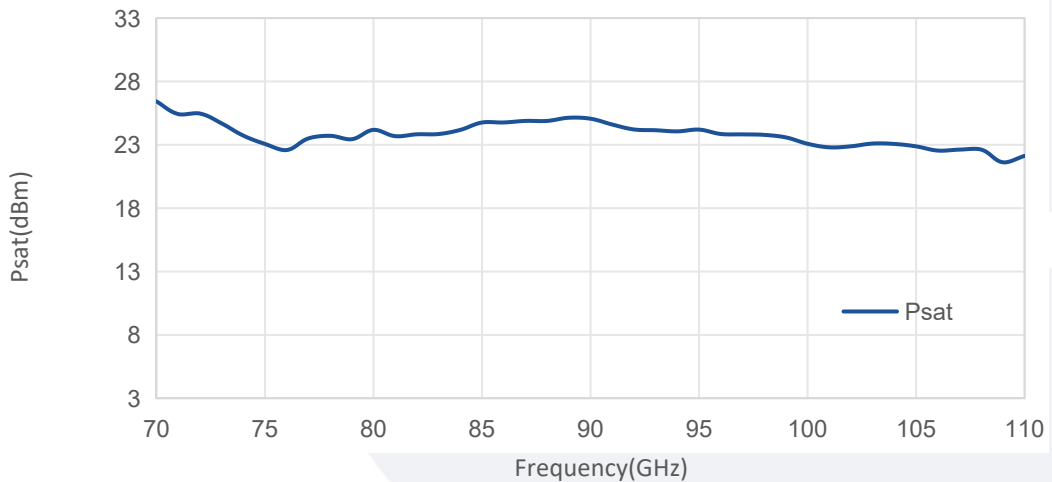
VSWR vs Frequency



P1dB vs Frequency



Psat vs Frequency



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