

W-Band Power Amplifier

WR-10/75-110GHz/30dB Gain/21dBm Psat

Model: TMPA-075110-3021-10

TMPA-075110-3021-10 is a W-Band power amplifier with a typical small signal gain of 30 dB and a Psat of 21 dBm across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +12 VDC/290mA. The input and output port configuration offers an inline structure with WR-10 waveguides and UG-387/U-M anticocking flanges.

Features:

- Frequency range: 75-110GHz
- Gain: 30dB Typ
- Output Power Psat: 21dBm Min
- 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	75		110	GHz
小信号增益 Small Signal Gain		30		dB
线性输出功率 Output P1dB		18		dBm
饱和输出功率 Output Psat	21			dBm
输入驻波 Input VSWR			2	:1
输出驻波 Output VSWR		2		:1
直流电压 DC Voltage		12		V DC
直流电流 DC Current		290		mA

机械特性 Mechanical Specifications:

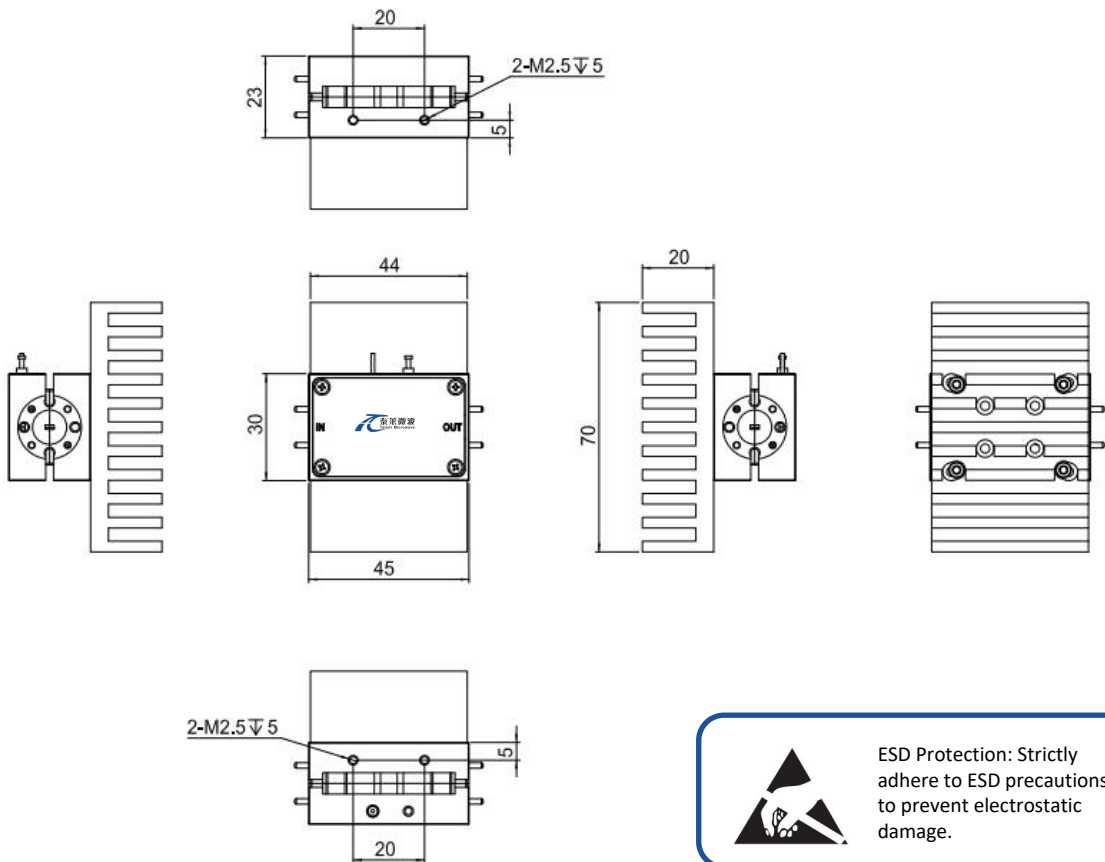
参数 Parameter	指标 Value	单位 Units
输入/输出接口 Input /Output Connector	WR-10/UG-387/U	
直流偏置 DC Bias	Solder Pin	
尺寸 Size	45*30*23(Without Heatsink) 45*70*43(With Heatsink)	mm

绝对最大值 Absolute Maximum Ratings:

参数 Parameter	指标 Value
供电偏置电压 Supply Bias Voltage	+15 V
输入功率 RF Input Power	+15 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:

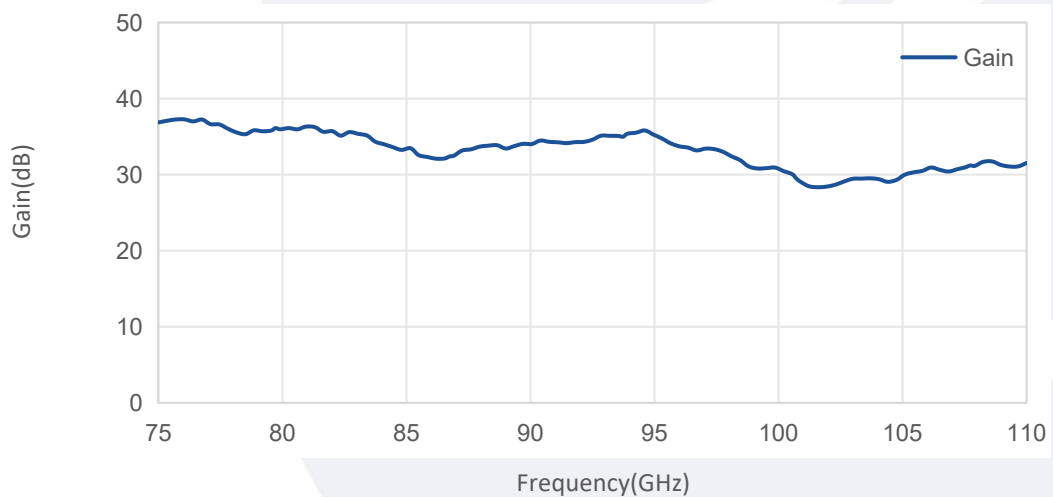
参数 Parameter	Min	Typ	Max	单位 Units
操作温度 Operating Temperature	-10		+65	°C
存储温度 Non-operating Temperature	-45		+85	°C
相对湿度 Relative humidity		95		%
海拔 Altitude	10,000			feet
震动 Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
冲击 Shock(non operating)	20G for 11msc half 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-075110-3021-10	Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:21 dBm Type, +12V DC,WR-10,Without Heatsink	Rev.1.1
TMPA-075110-3021-10-HS	Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:21 dBm Type, +12V DC,WR-10,With Heatsink	Rev.1.1

典型曲线 Typical Performance Data:

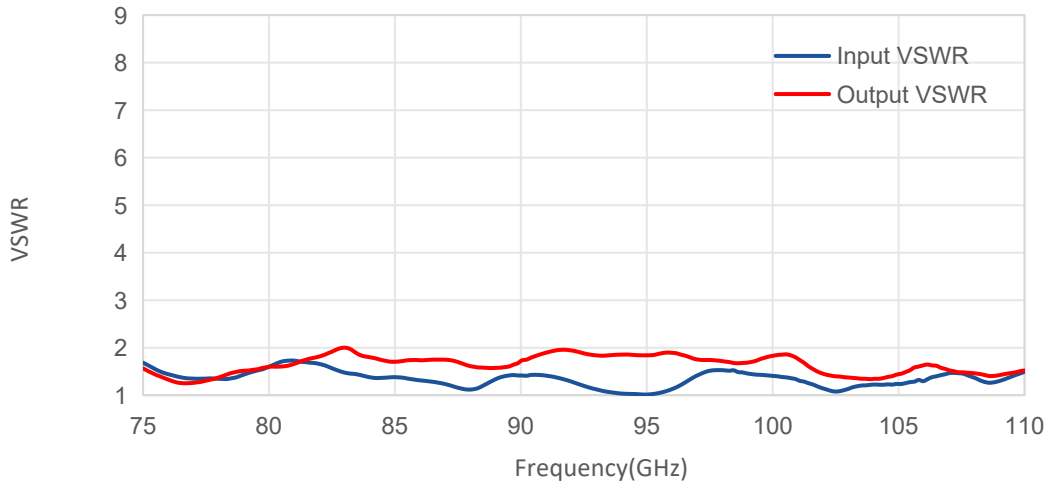
Gain vs Frequency



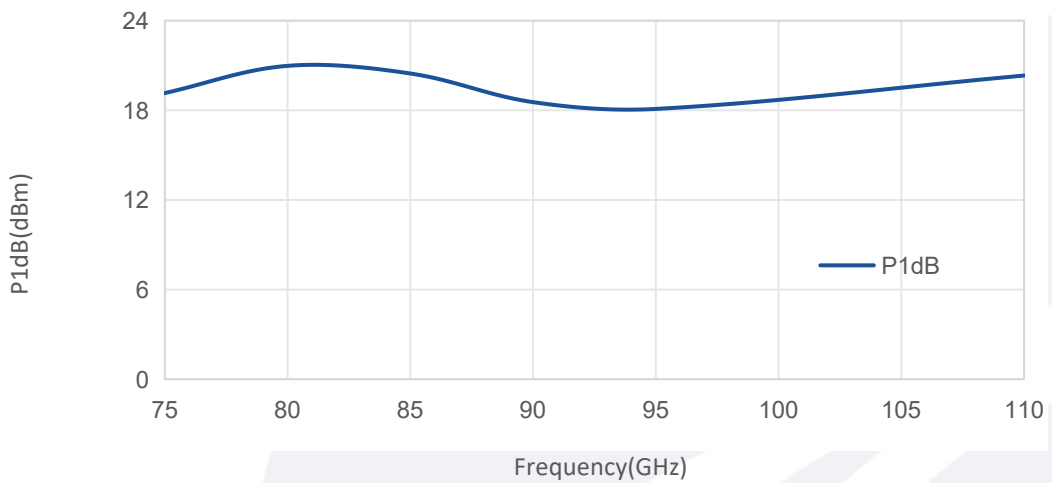
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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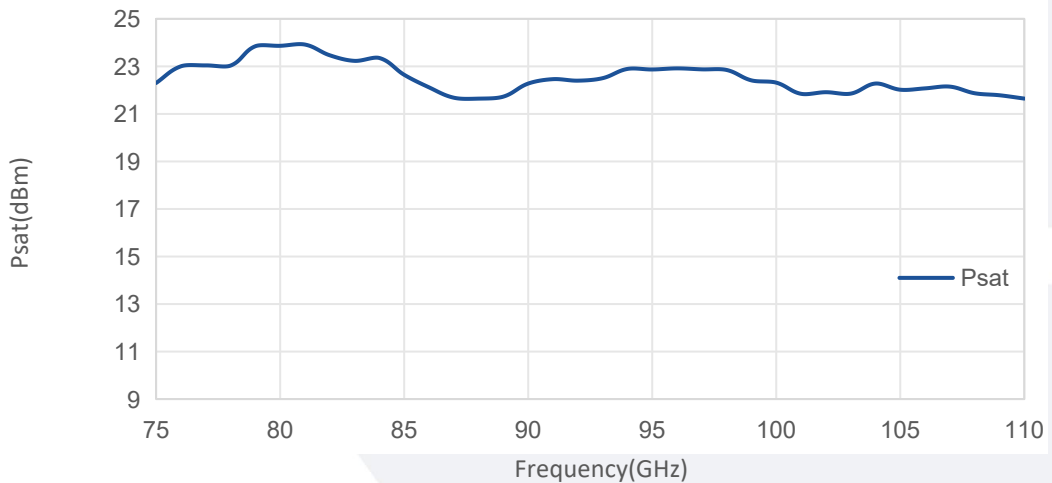
VSWR vs Frequency



P1dB vs Frequency



Psat vs Frequency



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