

D-Band Power Amplifier

WR-6.5/110-170GHz/20dB Gain/18dBm Psat

Model: TMPA-110170-2018-06

TMPA-110170-2018-06 is a D-Band power amplifier with a typical small signal gain of 20 dB and a nominal Psat of 18 dBm across the frequency range of 110 to 170 GHz. The DC power requirement for the amplifier is +12 VDC/200 mA. The input and output port configuration offers an inline structure with WR-6.5 waveguides and UG-387/U-M anticocking flanges.

Features:

- Frequency range: 110-170 GHz
- Gain: 20dB Typ
- Output Power Psat: 18dBm Typ
- Good Power and Gain Flatness

Applications:

- Passive Imaging
- Communication Systems
- Radar Systems

Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	110		170	GHz
Small Signal Gain		20		dB
Output P1dB		12		dBm
Output Psat		18		dBm
Input VSWR		3		:1
Output VSWR		3		:1
DC Voltage		12		V DC
DC Supply Current		200		mA

Mechanical Specifications:

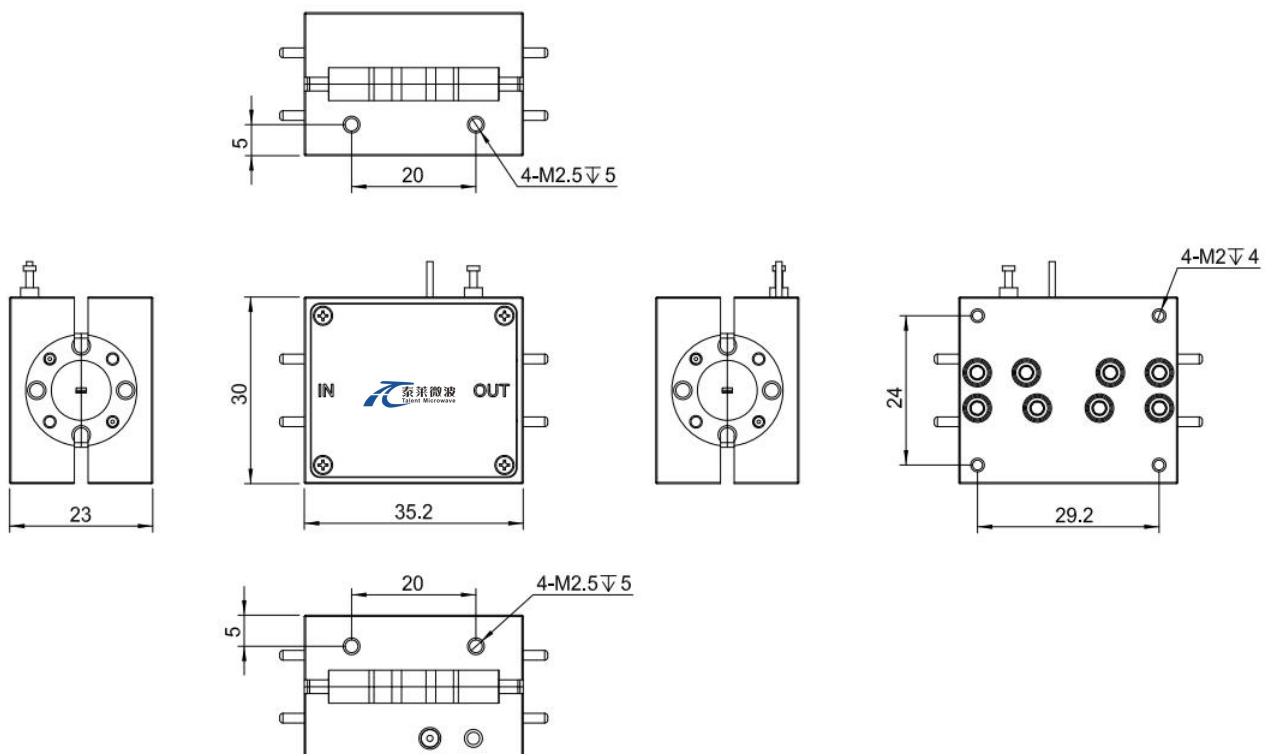
Parameter	Value	Units
Input /Output Connector	WR-6.5/UG-387/U	
DC Bias	Solder Pin	
Size	35.2*30*23	mm

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+15 V
RF Input Power	+15 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

Outline Drawing:

Unit:mm; Tolerance:±0.1mm



*****Heat Sink Required During Operation**



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

Environmental Conditions:

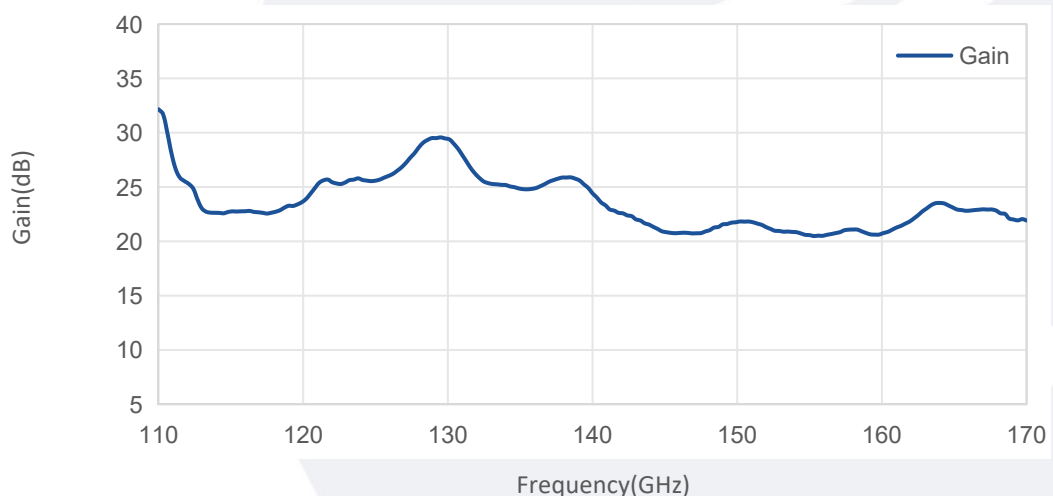
Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TMPA-110170-2018-06	D-band Power Amplifier, 110-170 GHz, Gain:20 dB Type, Psat:18 dBm Type, +12 V DC,WR-6.5, Without heatsink	Rev.1.1
TMPA-110170-2018-06-HS	D-band Power Amplifier, 110-170 GHz, Gain:20 dB Type, Psat:18 dBm Type, +12 V DC,WR-6.5, With heatsink	Rev.1.1

Typical Performance Data:

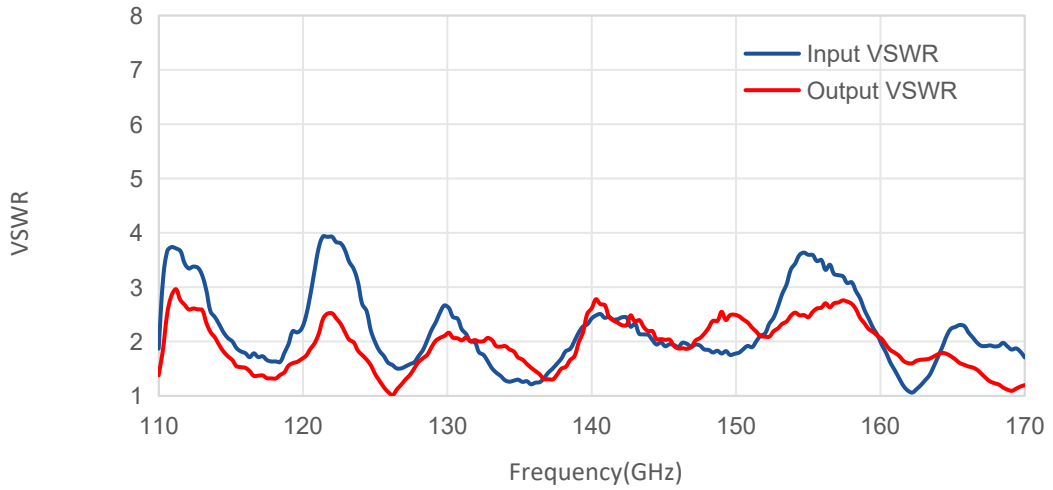
Gain vs Frequency



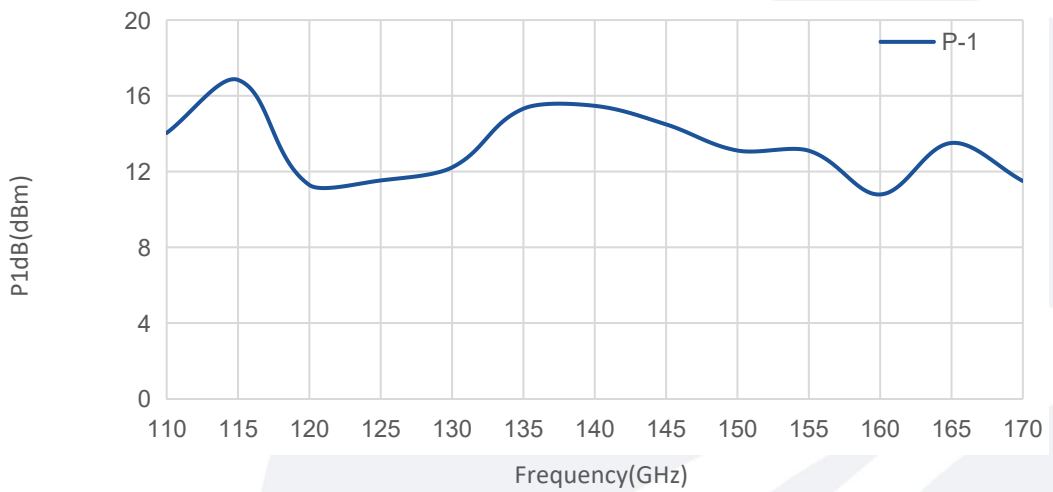
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

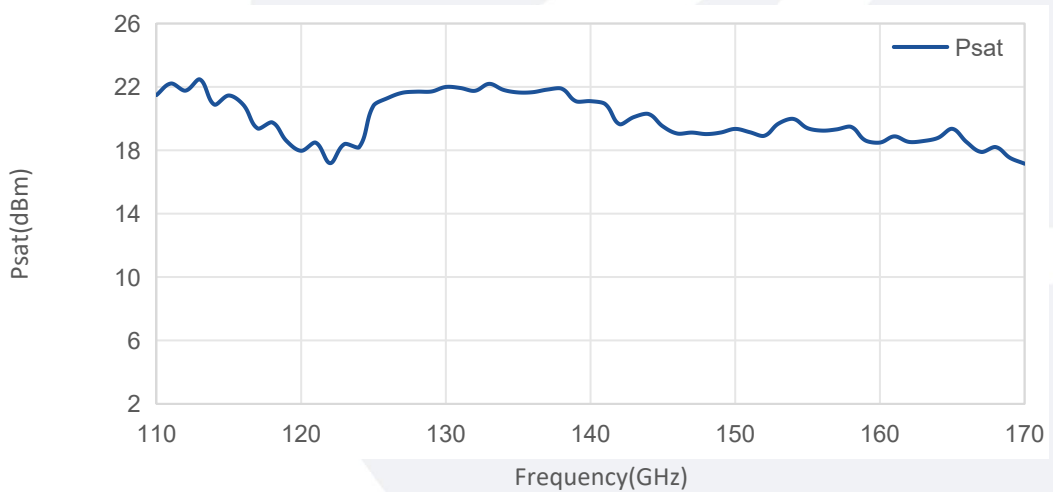
VSWR vs Frequency



P1dB vs Frequency



Psat vs Frequency



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