

## Power Amplifier

WR-12/80-86GHz/18dB Gain/27dBm Psat

Model: TMPA-080086-2227-12

TMPA-080086-2227-12 is a power amplifier with a typical small signal gain of 18 dB and a nominal Psat of 27 dBm across the frequency range of 80 to 86 GHz. The DC power requirement for the amplifier is +17 VDC/320 mA. The input and output port configuration offers an inline structure with WR-12 waveguides and UG-387/U-M antcocking flanges.

### Features:

- Frequency range: 80-86GHz
- Gain: 18dB Typ
- Output Power Psat: 27dBm Typ
- Good Power and Gain Flatness

### Applications:

- Passive Imaging
- Communication Systems
- Radar Systems

### Electrical Characteristics:

Parameter	Min	Typ	Max	Units
Frequency range	80		86	GHz
Small Signal Gain		18		dB
Output P1dB		21		dBm
Output Psat		27		dBm
Input VSWR		2.2		:1
Output VSWR		2		:1
DC Voltage		17		V DC
DC Supply Current		320		mA

### Mechanical Specifications:

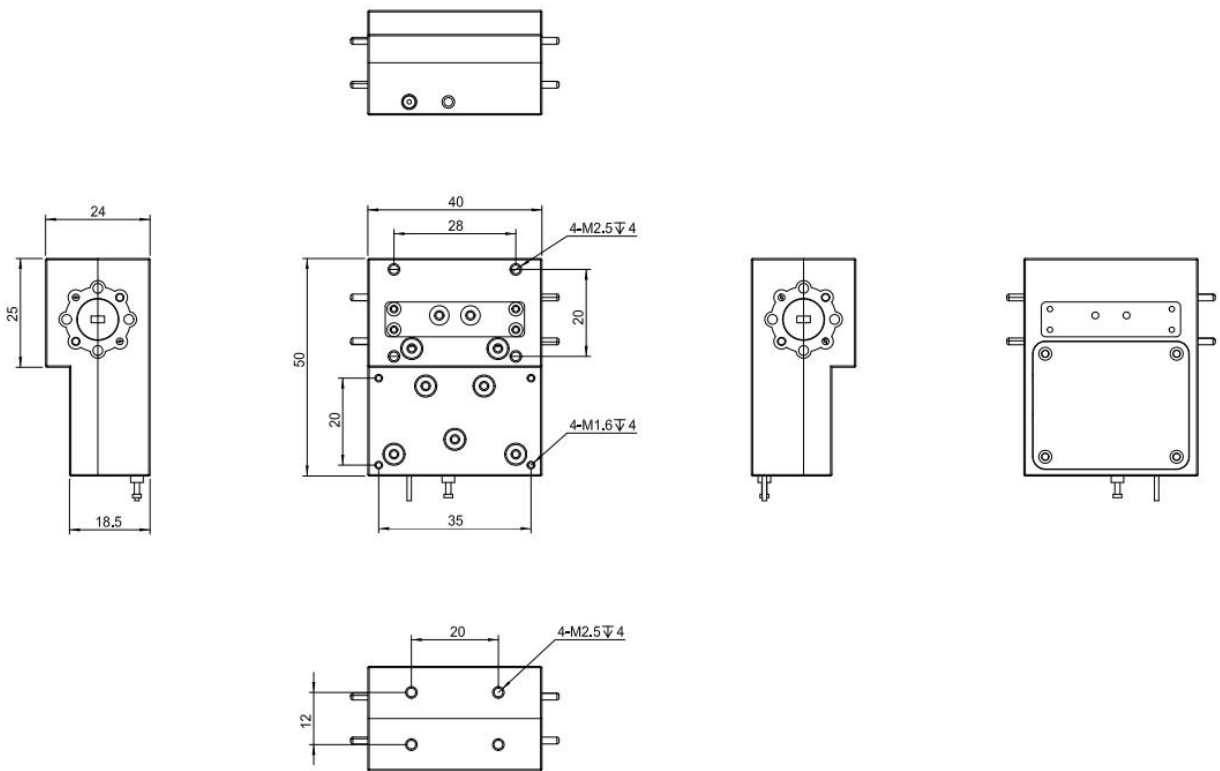
Parameter	Value	Units
Input /Output Connector	WR-12/UG-387/U	
DC Bias	Solder Pin	
Size	40*50*24	mm

### Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+19 V
RF Input Power	+15 dBm
ESD sensitivity (HBm)	Class 0, passed 150V

### Outline Drawing:

Unit:mm



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



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

### Environmental Conditions:

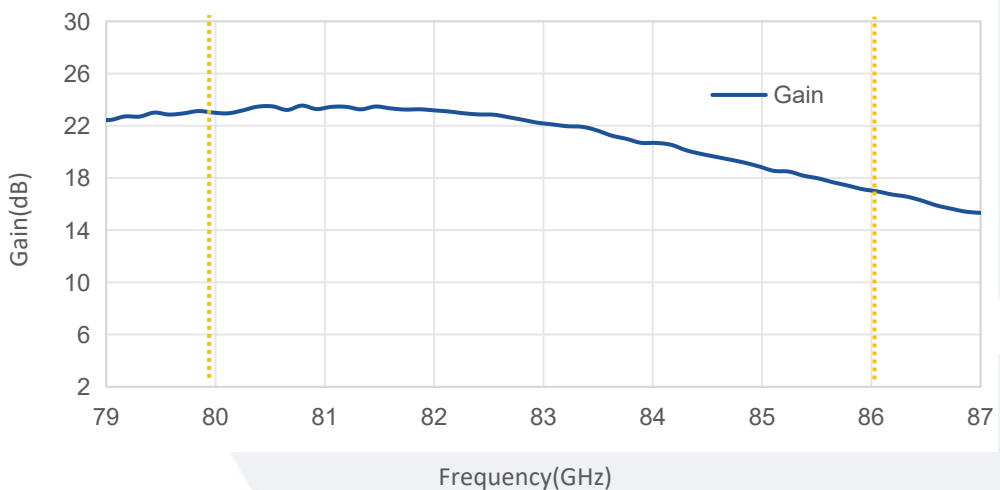
Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

### Ordering Information:

Base Number	Description	Revision
TMPA-080086-2227-12	Power Amplifier, 80-86GHz, Gain: 18dB Type, P <sub>sat</sub> : 27dBm Type, +17V DC, WR-12	Rev.1.0

### Typical Performance Data:

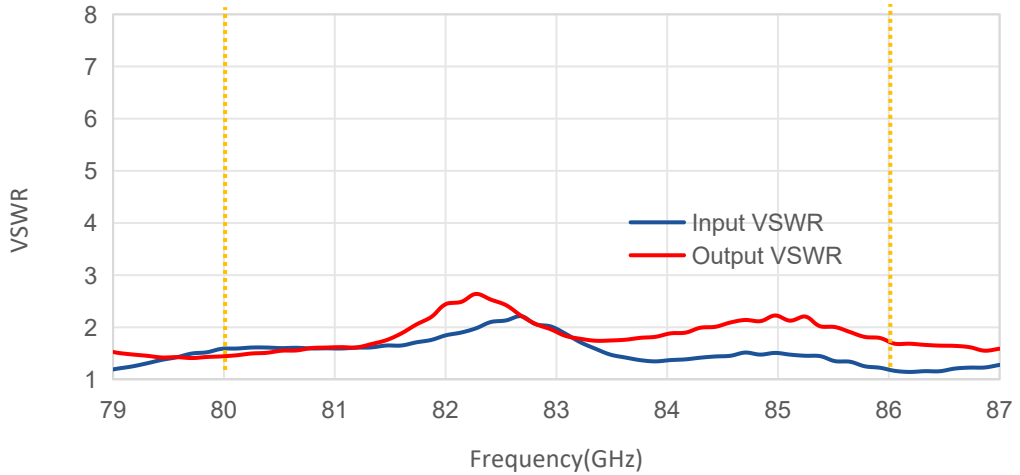
Gain vs Frequency



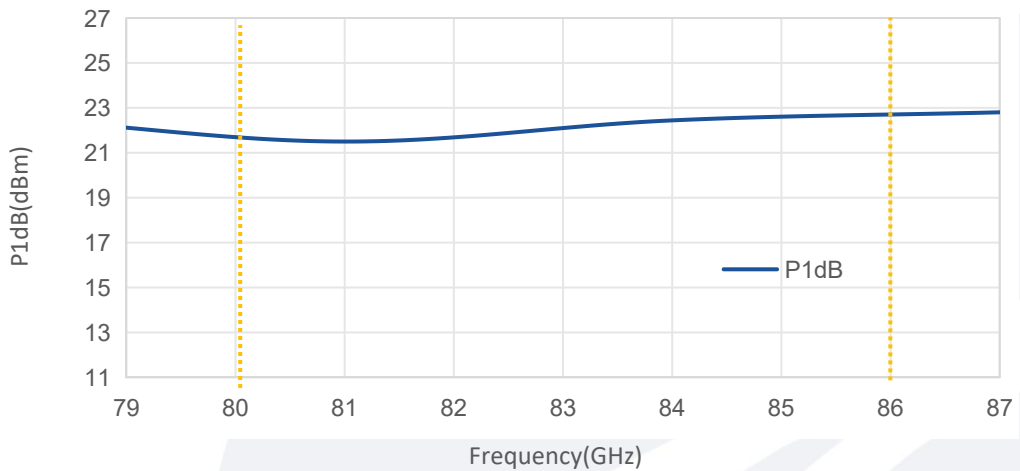
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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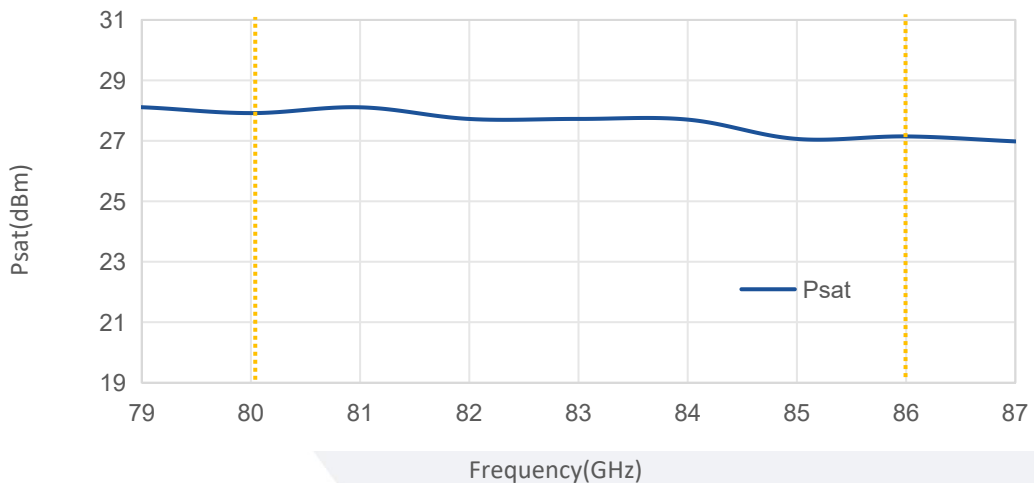
**VSWR vs Frequency**



**P1dB vs Frequency**



**Psat vs Frequency**



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