

W-Band Power Amplifier

WR-10/75-110GHz/30dB Gain/27dBm Psat

Model: TMPA-075110-3528-10

TMPA-075110-3528-10 is a W-Band power amplifier with a typical small signal gain of 30 dB and a nominal Psat of 27 dBm across the frequency range of 75 to 110 GHz. The DC power requirement for the amplifier is +16 VDC/1.2 A. The input and output port configuration offers an inline structure with WR-10 waveguides and UG-387/U-M anticocking flanges.

Features:

- Frequency range: 75-110 GHz
- Gain: 30dB 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	75		110	GHz
Small Signal Gain		30		dB
Power Gain		23		dB
Output P1dB		25		dBm
Output Psat		27		dBm
Input VSWR		2		:1
Output VSWR		2.2		:1
DC Voltage		16	18	V DC
DC Supply Current		1.2		A

Mechanical Specifications:

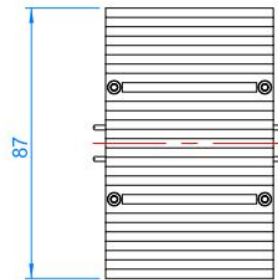
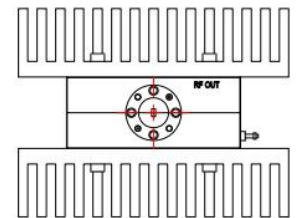
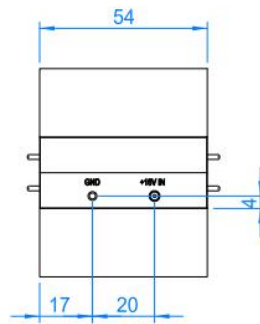
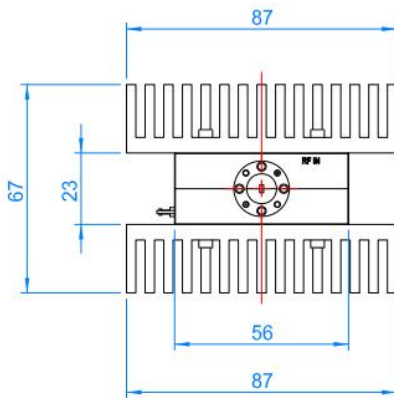
Parameter	Value	Units
Input /Output Connector	WR-10/UG-387/U	
DC Bias	Solder Pin	
Size	56*54*24(Without Heatsink) 87*54*68(With Heatsink)	mm

Absolute Maximum Ratings:

Parameter	Value
Supply Bias Voltage	+18V
RF Input Power	+10 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:

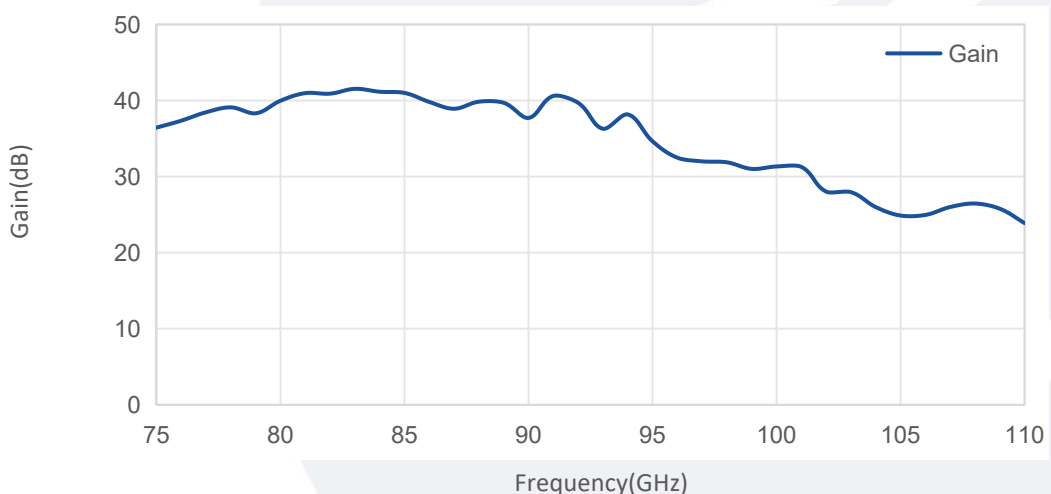
Parameter	Min	Typ	Max	Units
Operating Temperature	-10		+65	°C
Non-operating Temperature	-45		+85	°C
Relative humidity		95		%
Altitude	10,000			feet
Shock / Vibration(MIL-STD-810F)	25g rms (15 degree 2KHz) endurance, 1 hour per axis			
Shock(non operating)	20G for 11msc half sin wave,3 axis both directions			

Ordering Information:

Base Number	Description	Revision
TMPA-075110-3528-10	Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:27dBm Typ, +16V DC,WR-10,Without Heatsink	Rev.1.1
TMPA-075110-3528-10-HS	Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:27dBm Typ, +16V DC,WR-10,With Heatsink	Rev.1.1

Typical Performance Data:

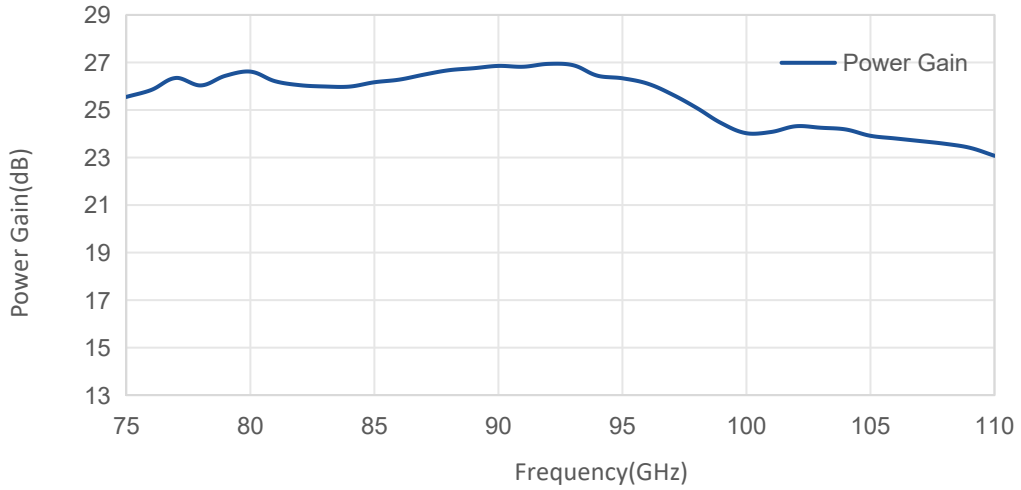
Small Signal Gain vs Frequency



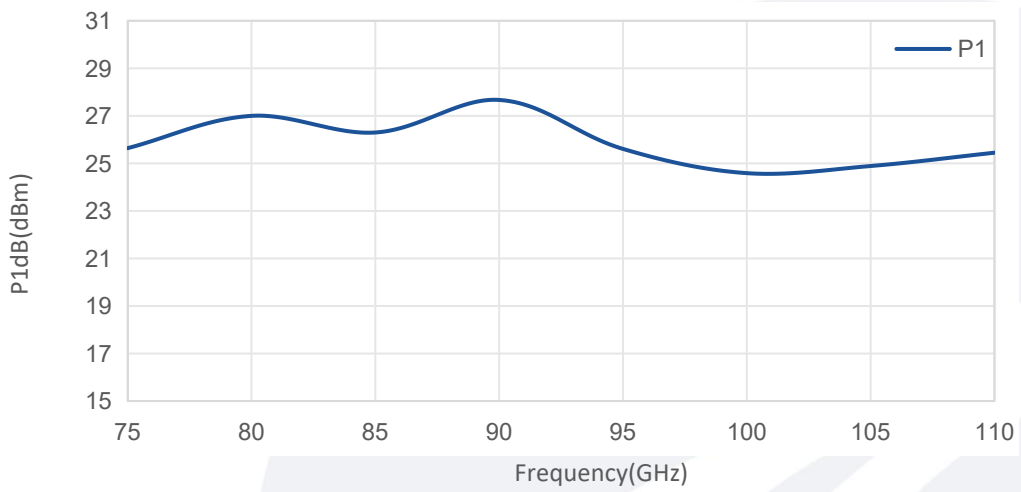
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

Typical Performance Data:

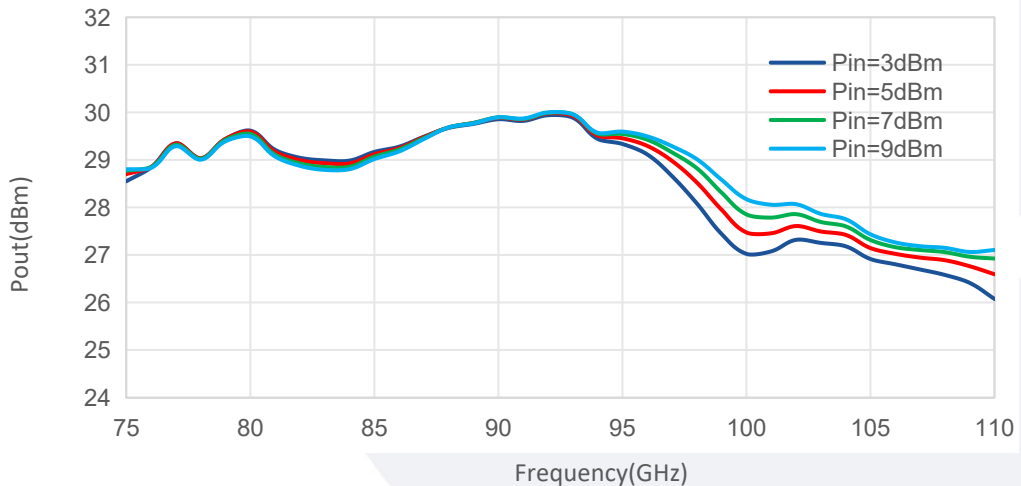
Power Gain vs Frequency



P1dB vs Frequency



Pout@Pin vs Frequency



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