

## W-Band Power Amplifier

**WR-10/75-110GHz/30dB Gain/27 dBm Psat****Model: TMPA-075110-3028-10**

TMPA-075110-3028-10 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 antickocking flanges.

### Features:

- Ultra Wide Band: 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)<br>87*54*68(With Heatsink) | mm    |

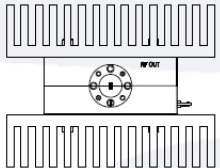
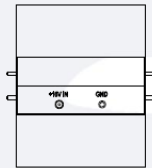
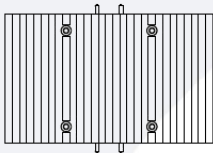
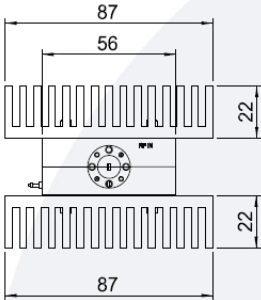
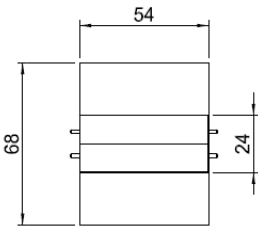
### Absolute Maximum Ratings:

| Parameter             | 指Value               |
|-----------------------|----------------------|
| Supply Bias Voltage   | +18 V                |
| RF Input Power        | +10 dBm              |
| ESD sensitivity (HBm) | Class 0, passed 150V |

### Outline Drawing:

Unit:mm

### Regulatory Compliance:



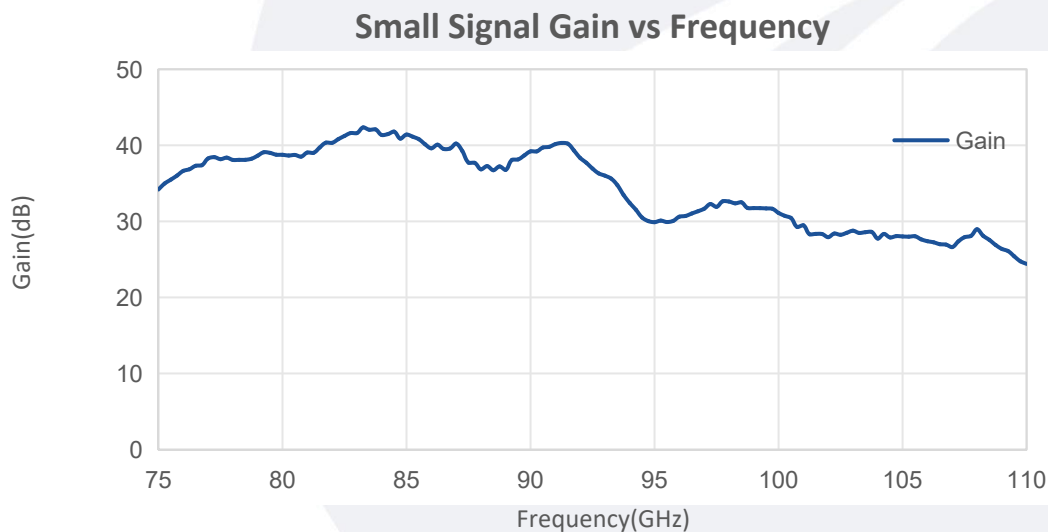
### Environmental Conditions:

| 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-075110-3028-10    | Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:27dBm Typ, +16V DC,WR-10,Without Heatsink | Rev.1.1  |
| TMPA-075110-3028-10-HS | Power Amplifier, 75-110 GHz, Gain:30 dB Type, Psat:27dBm Typ, +16V DC,WR-10,With Heatsink    | Rev.1.1  |

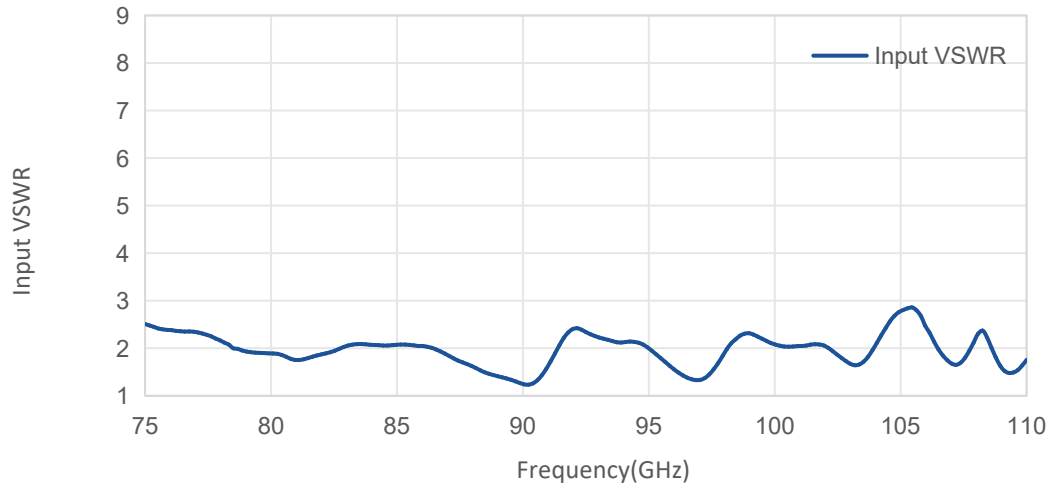
### Typical Performance Data:



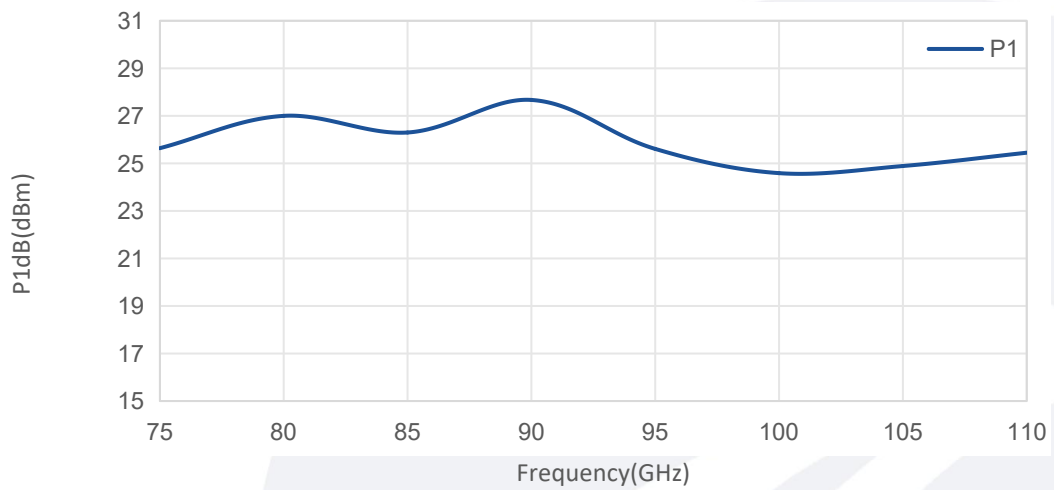
Note: Above data is for ref only, actual data may vary from unit to unit depending on operating environment and other factors like material lots etc.

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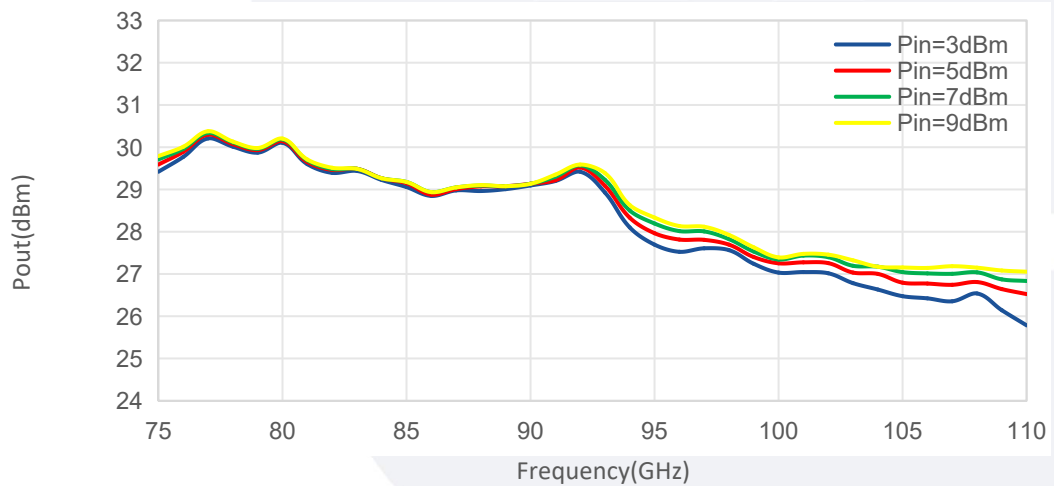
### Input VSWR vs Frequency



### P1dB vs Frequency



### Pout @Pin



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